

## Individual Comments and Theme Responses

### *Alphabetical by sender's first name*

Final Environmental Impact Statement (FEIS)  
NorthMet Mining Project and Land Exchange

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### *Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
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**Sender Last Name:** no name

**Submission ID:** 3322

3615 One thing that I have been taught is think before you act. It is the same thing with these mines in that we need to take a step back and measure up the pros and cons to see which way to go. I can see why mining companies are really intrigued especially in this economy to mine these parts of Minnesota.

G10

**Sender Last Name:** A.P. (illegible)

**Submission ID:** 3302

3596 To Whom It May Concern: I just moved to this state 2 years ago, and am a voter here. I have visited the Boundary Waters several times, and they are beautiful. The idea that the state could allow short term profits to ruin the most beautiful area of the state disgusts me. This mining project would be a travesty. Please consider future generations and do not approve this project.

EOO

**Sender Last Name:** Abernathy

**Submission ID:** 217

219 I definitely support the Polymet Mining Northmet Project. This project is needed and is necessary to the Iron Range area. The taconite mining industry has drastic up and down cycles. We currently are in a severe down cycle with two mines currently closed. The Northmet project would help the local economies deal with the ups and downs of the taconite industry. We could also keep more of our educated young people in the area instead of watching them leave and never return. My other reasons for supporting this project are as follows: - There are going to be approximately 400 jobs created at the mine sight. - There are going to be hundreds of spine off jobs created. - Polymet has the latest technology to help control any air and water pollution. - Polymet will contribute millions of needed tax dollars to the local and state governments.

EOO

**Sender Last Name:** Acton

**Submission ID:** 1348

1575 I attended the showing of "Precious Water" at the REI in Roseville this week and am disturbed to see that the mining process has already started. I recently read some thing about it, and then the Nick Coleman column caught my eye. How can the government approve such activity where there could be such a risk to our protected waters? The PolyMet people were there to talk against the discussion following the Precious Waters video. I would like to see more public hearings on this subject. and more literature.

EOO,G7B,G10

**Sender Last Name:** Adair

**Submission ID:** 1975

424 Further, wetlands are a major sink for carbon. Almost every scientist today understands the need to keep carbon out of the atmosphere and sequestered in the ground.

AQ3

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
1540	Know that I understand that the importance of using mining products. Any real wealth created comes from what the earth provides us. But wealth and jobs cannot be allowed to pollute our water with methylmercury and related compounds. You need go no farther than the Duluth harbor to see the effects of unmitigated and sloppy handling of mined products. It is absolutely critical that the long term costs of this operation are factored into any current equation. 'Superfunds' should not have to exist. Please look to northern Europe and other wealthy countries for models on how to properly assess life cycle costs.	PD4
<b>Sender Last Name:</b>	Adams	<b>Submission ID:</b> 3358
3649	I liked the video and I want to help. Tell me how sabybaby99@hotmail.com.	RFI
<b>Sender Last Name:</b>	Aeschlimann	<b>Submission ID:</b> 3303
3597	Mining always has negative unforeseeable impacts on the environment, on water, on the economy, and on people. Open pit mining is a destructive technique that impacts systems – especially of water – in uncontrollable, uncontainable ways. The Boundary Waters, the lakes, and water system of the Arrowhead region and its people are unique vital, and irreplaceable. Allowing sulfur mining in this area would be a great crime.	EOO,G2,G7A
<b>Sender Last Name:</b>	Alexander	<b>Submission ID:</b> 3268
3578	I'm writing because scientific studies have revealed that the potential negative effects of such mines were underestimated in a number of cases. In others, capitalization was not enough to pay for reclamation in case the company went belly up. I am sad to learn of potential loss of wetlands and wildlife habitat in our beautiful BWCA region, but the thing that most concerns me is this: It's not just Polymet we're talking about now. I read that Antofagasta of Chile is involved, and (from a Reuters report last year) that they are not only involved in Bolivia/Chile water wars but that they're tapping water sources there and selling the water. Do we have guarantees that this won't happen here? See <a href="http://www.minesandcommunities.org/article.php?a=9525">http://www.minesandcommunities.org/article.php?a=9525</a> Thanks for letting me comment. Please take time to look at these issues carefully before moving ahead.	G4A,G7C,G8C
<b>Sender Last Name:</b>	Allen	<b>Submission ID:</b> 133
1	I also think there has been inadequate risk assessment from noise and light pollution. I have land that's about ten miles away from the Ely Airport, and there is a light tower that rotates at Ely Airport.	WI2,VI3,N1
2	Ten miles away, in the wintertime, when we are looking at Aurora Borealis, that light is pollution that interferes with our enjoyment, ten miles away. That light is frequently a problem.	VI3
3	I also think that they haven't taken into account the advances of technology, which are going to have an impact on needing fewer people because they will have bigger machines or more efficient machines, more automation, to get work done. So I think the benefits are exaggerated.	SE3
10	The costs are being underestimated. According to the study, some of the waste from this mine will be around for 2,000 years. And I can see nothing in the project that takes into account climate change, the impact on -- the economics that are going to pay for maintaining this site for the next 2,000 years after the project is closed down.	WR2A,WR2B,PD3,PD4

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122	I am very concerned about this project. I think the benefits have been exaggerated and the risks are being underestimated. On the benefit side, I understand that the project has, basically, taken the word of PolyMet regarding the number of jobs that are going to be created. My understanding, talking to PolyMet, is that jobs are going to be created over time, as different aspects of this project go online. So I think there is an exaggeration, the number of jobs being created.	G1
715	Please extend the comment period for to 180 days for the public to comment on the Draft Environmental Impact Statement for the proposed PolyMet NorthMet open pit sulfide mine project. This is an important proposal that is worth taking extra time for the public to review and consider	PRO6
2853	The State of MN will stoop to the lowest of the low if they allow the sulfide mining in the pristine area of the Boundary Waters! How dare your state even consider this. I am not a citizen of MN, but this is a matter of a national treasure ! Please take all actions against this outrageous plan and STOP THE GREED!	EOO

**Sender Last Name:** Allison **Submission ID:** 209

209 I am writing this letter to voice my support for the NorthMet PolyMet Project in Hoyt Lakes, Minnesota. I am a life long resident of NE MN and have traveled and lived in others areas of the country. After ten years living in other areas of the country, fifteen years ago I decided to return to NE MN to start and raise a family. The decision to move back to the area I grew up was a very simple decision. I went to school, played, hunted, fished... in just the area where PolyMet resides. I have many great memories of my younger years hunting, fishing, and camping in this area as I have done in recent years with my family. I understand there needs to be a balance in the uses of the minerals & resources we are so fortunate to have. I have also lived a large part of my life in the heart of the mining, power generation, pulp & paper industries and feel strongly that the MN Department of Natural Resources has done an outstanding job monitoring and managing the minerals and resources in NE MN. The energy, resources and research that has gone into this project is exactly what I would have expected from the MN DNR and that is part of why I believe this is as sound of a project as one could find in the manufacturing world. The minimal environmental impacts that this project would create I believe are a very safe tradeoff for the long term gains NE MN will see from this project. So if we truly are concerned about the future of NE MN and its ability to remain a strong manufacturing hub not only the USA, but for the entire global economy, then the answer is clear...Support the NorthMet/PolyMet Project. Now if we want to listen to a small minority of people of which are the same people that would like to see NO manufacturing, then we have all really missed the boat. This is a sound project, not only by its economic return, but by its minimal environmental impact to the lands and air that I too love and share everyday of my life.

**Sender Last Name:** Ament **Submission ID:** 1147

1260 Please take this into consideration. It is important to many people in this area. Thanks! EOO

**Sender Last Name:** Amis **Submission ID:** 3196

737 I am concerned about the possible environmental impact of the PolyMet Project and believe, strongly, that a careful, inclusive, public process should be followed. For that reason, I respectfully request that you extend the time allowed for review of the EIS by an additional 30 to 45 days, include more public hearings in more locations than you currently have planned, and allow for public statements and discussion at the public meetings. Thank you for considering my request. Sincerely, Bob Amis PRO6

**Sender Last Name:** Amo **Submission ID:** 2262

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<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
23	-Economically this is not sustainable for the community or state of MN. Boom and Bust is mining history, and has not historically built strong sustainable economies. Economic prosperity is short lived with 20 years maximum for this mine. What about the strong outdoor and ecotourism economy this region depends on that could be affected forever. The risks could have perpetual costs, many others have! Strong sustainable economy is what MN needs. Here is a great MN mining economic report that puts benefits into perspective: <a href="http://www.mncenter.org/LinkClick.aspx?fileticket=6MOOTaRssSY%3d&amp;tabid=60">http://www.mncenter.org/LinkClick.aspx?fileticket=6MOOTaRssSY%3d&amp;tabid=60</a>	SE3,SE4
601	-Destruction of 1500 acres of valuable wetlands cannot be mitigated without having very substantial affects. This is destruction of an enormous healthy ecosystem.	WE3
901	-Polymet has proposed using a tailings basin that already has stability problems and has also predicted contamination at year 65 and other flaws in the containment of toxins.	GT2
1851	-This type of mining has never been done without causing pollution, which would pollute waters that we depend on with toxic heavy metals released by even very small quantities of sulfuric acid.	WR1E
1852	-The geology and hydrology of the area make it highly prone to spreading water contamination. Water is interconnected all over this region. Being a low grade ore body with substantial sulfide concentrations and being low in acid-neutralizing carbonates. Sulfide mining operations have polluted even very arid landscapes where this mining is more common.	WR1E
2046	-The original land agreement stated this land could not be used for mining, right? Also this is public land being used to benefit a private company, with potential to cause harm to private and public lands, as well as public health	PD1
2047	With this in mind: 100% of mines surveyed in one study said they wouldn't pollute .... 76% did. Also financial assurances for the worst case scenario should be in place ... could the company even pay these, forever?	PD3,PD4
2136	Please accept these comments on the PolyMet Mining Corp. NorthMet mining project Draft Environmental Impact Statement. I have serious concerns about the safety of this project and its potential impacts on the natural environment, the local economy, and the state of MN as a whole.	EOO
2137	Extensive environmental testing to insure that impacts are within acceptable limits, can be predicted, and can be controled without a doubt. The DEIS does not show this!	G8C,G10
2138	Mining plan should be worked out to NOT produce ANY toxic runoff or leaching...if this can be done then it is an option to consider. If not...WE are opening the door to pollution and impacts that will forever diminish what this area of Minnesota is, pristine unpolluted beauty. The DEIS does not show this either!	G7A,G8B,G10
2139	Finantial assurances that make the company front the money for any possible mitigation that could possibly be nessecary. This means they pay to have this assessed and then are held accountable for the damages they could create, before they ever begin work. The DEIS does not show this either!	G4A
2140	The public should be informed on this and get to vote on it...This affects Minnesota as a whole, and most people don't even know about it. This should be brought to public attention.	G10
2141	It is in the DNR mission statement "to provide for commercial uses of natural resources in a way that creates a sustainable quality of life". According to the facts about this type of mining, and Polymet's own statements in the DEIS; allowing this type of mining in MN would NOT create a sustainable quality of life. Until we have assurance that it will this proposal should not even be considered.	G8C

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2672	Please accept these comments on the PolyMet Mining Corp. NorthMet mining project Draft Environmental Impact Statement. I have serious concerns about human health, area economic prosperitv. ecosystem health, biotic organism' s health. "Our mission is to work with citizens to conserve and manage the state's natural resources, to provide outdoor recreation opportunities, and to provide for commercial uses of natural resources in a way that creates a sustainable quality of life." -This is the MN DNR mission statement which I thought was notable to keep in mind while contemplating the new venture of sulfide mining in Minnesota. Based on facts I wouldn't say sulfide mining "creates a sustainable quality of life".	G2
2673	Technology is only as strong as its weakest link and this involves permanent storage of toxic materials on liners which have historically failed.	EOO
2674	This mine is not a solution for a stable sustainable economy. It threatens beautiful and useful ecosystems MN citizens depend on and cherish systems the DNR is responsible to protect. Minnesotans and people from elsewhere associate our state with clean vast waters and pristine landscape. This drives a great deal of MN tourism and is something Minnesotans want to hold on to! Minnesotans just made it very clear how important clean water and the environment is to them by saying YES I will pay more sales tax to support the environment by voting in the Clean Water, Land, and Legacy amendment. How much is this mine going to do for Minnesota .... and is that worth more than our environment?	G1,G11

**Sender Last Name:** Andersen **Submission ID:** 1875

2465 PROTECT MINNESOTA NATURE FOR THE PRESENT AND FUTURE!!! EOO

**Sender Last Name:** Anderson **Submission ID:** 3747

1 3.) The DEIS acknowledges that overflow from the West Pit is predicted to exceed surface water quality standards at least initially. The DEIS does not explain what time frame is meant by “initially” nor any reason why the exceedances are expected to be finite. At closure, potentially contaminated hydrometallurgical drainage as well as waste rock stockpile drainage will be routed to the East Pit, which eventually will flow to the West Pit, which will overflow into the Partridge River. MODFLOW modeling in the DEIS predicts hydrometallurgical drainage to gradually decrease to zero by Year 34. “Waste rock stockpile drainage would continue to receive chemical treatment at least until the West Pit fill around Year 65. At that time, water quality monitoring of the West Pit overflow would determine whether continued treatment would be necessary” (DEIS pg. 4.1-67). But Dr. Chambers believes the conclusion that water treatment will be unnecessary after 65 years is not a reasonable one. “...the assumptions used in determining the scaling factors...for the release of contaminants from the waste rock piles could easily contain inadvertent errors (for example in the choice of particle size, temperature, fraction of rock flushed by infiltrating water and the upper limit of contaminant concentrations) that could cause a significant departure from the predicted contaminant loads assumed in the EIS” (Chambers 2010). The scenario that water treatment of West Pit drainage will be necessary beyond 65 years is strongly possible. In fact, analyses of mines over the past two decades have shown poor abilities in accurately predicting post-mining water quality and quantity. In a review of 25 EISs for hardrock mining, 89 percent of those that experienced AMD had predicted low AMD potential in their EISs. “Therefore, nearly all the mines that developed acid drainage either underestimated or ignored the potential for acid drainage in their EISs” (Kuipers et. al. 2006). Recommendation: The duration of “initial” exceedances for West Pit drainage of surface water quality standards must be defined in the EIS. Contingencies should be put in place to fund long-term water treatment beyond the assumed 65 year limit. Given the poor record of predicting water quality post-mine operations, financial assurance calculations should be made conservatively for water treatment.

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1	<p>2.) Another concern for West Pit overflow comes from oxidation of West Pit rock wall that is predicted to be a significant source of contaminants in the pit lake (see Comments II.C.). As the pit gradually fills with water after closure, the exposed rock wall may oxidize and release metal contaminants into the filling lake. One mitigation measure explored is to more rapidly flood the West Pit. “The likely source of water to expedite flooding of the West Pit would be Colby Lake” (DEIS pg. 4.1-166). But, as the DEIS notes, Colby Lake already has elevated concentrations of mercury. If this method were used, mercury contamination in the West Pit overflow “could make it more difficult for the West Pit overflow to meet the Lake Superior surface water standard for mercury. This potential mitigation warrants further consideration” (DEIS pg. 4.1-166). Recommendation: The EIS should study this approach further and provide information describing its findings. Measures that involve elevated mercury levels being discharged from the West Pit should be rejected. The EIS should present other methods to achieve West Pit filling without mercury contamination.</p>	PD4,WR2F,WR2A
1	<p>C. East Pit Category 4 Exposed Rock Wall When mining the East Pit is complete, approximately 5,000 linear feet of the north wall of the East Pit will consist of “Virginia Formation or other Category 4 rock material” (DEIS pg. 3-40). The DEIS notes, “If left exposed to the air, oxidation of this surface would occur, resulting in elevated concentrations of dissolved salts (sulfates) and metals entering the East Pit surface water” (DEIS pg. 3-40). The Proposed Action calls for applying a layer of limestone against the rock face to neutralize the acidity, and installing a geosynthetic membrane cover system over the rock surfaces. The DEIS, however, acknowledges that “successful application of this measure has not been demonstrated. The groundwater quality modeling discussed below assumes these mitigation measures are successfully implemented” (DEIS pg. 4.1-66). Recommendation: Relying on an untested method to contain significant pollution is not acceptable. The EIS must contain analysis of field and laboratory tests of this technique. It must also model impacts to groundwater quality should this technique fail.</p>	WR2E
1	<p>4.) The DEIS lays out several potential corrective actions should water quality of the West Pit drainage exceed standards. It does not, however, indicate which actions would be required and which are simply recommendations. It does not indicate what conditions would trigger specific corrective actions. The DEIS notes that if actions failed to improve water quality in the overflow, that “...the West Pit overflow structure could be altered to route flows to the WWTF for treatment before discharge...” and that “...it is recommended that the water quality of the West Pit be monitored regularly after Closure...” (DEIS pg. 4.1-167). Recommendation: The EIS must make it clear which corrective actions are required. Triggers for mitigation actions must be clear and outlined. Routing contaminated overflow to the WWTF must be a requirement rather than a recommendation. Monitoring overflow water quality post-closure must be a requirement rather than a recommendation. The duration of “initial” exceedances of surface water quality standards must be defined.</p>	WR1A,WR3C

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2	<p>N. Sulfate and Mercury in Water Both the mine site and the tailings basin will discharge high sulfate concentrations in seepage and overflow that could lead to the methylation of mercury. This is a process in which the biologically active form of mercury is mobilized from stored mercury in rocks, soil, peat and vegetation. This form of mercury can accumulate in fish and is toxic to humans and wildlife. “Relatively high sulfate concentrations in seepage from the Tailings Basin would be released to wetlands north of the Tailings Basin and lakes downstream on the Embarrass River that represent ‘high risk situations’ for mercury methylation. There is some uncertainty as to whether the West Pit overflow would meet the Lake Superior mercury standard” (DEIS pg. S-9). In addition to methylating mercury from high sulfate discharges, mercury can be released to water bodies by exposing rocks that contain mercury and by clearing vegetation, especially peat. “Disruption of peat deposits, such as proposed excavating and stockpiling of peat at the Mine Site...may increase the mobility of the stored mercury” (DEIS pg. 4.1-123). The DEIS notes, “The Proposed Action would result in increased sulfate loadings via groundwater to both the Partridge and Embarrass Rivers” (DEIS pg. 4.1-125). At the tailings basin, much of the groundwater seepage is expected to upwell into the wetlands complex north of it. “The sulfate transported by this seepage would have a long contact period with wetlands before actually reaching the Embarrass River. All of these factors may create favorable conditions for mercury methylation” (DEIS pg. 4.1-126.) Liner leakage from the hydrometallurgical cells “is predicted to have a very high sulfate concentration” (DEIS pg. 4.1-118). “Increasing the sulfate load from the Tailings Basin could increase the potential for mercury methylation both in the wetlands north of the Tailings Basin and at the downstream lakes” (DEIS pg. 4.1-126). Dr. Engstrom notes, “This tailings-basin leakage poses the project’s greatest risk of increasing mercury methylation and methylmercury export to downstream aquatic environments...The configuration of the Embarrass River wetland complex make it especially susceptible to sulfate-enhanced mercury methylation. Not only would these bogs/poor fens be sulfate limited (and hence sensitive to additional sulfate), but the anticipated discharge would upwell through a mercury and carbon-rich anoxic environment ideal for SRB. Such groundwater discharge at the upland-wetland margin has been identified as creating sites of intense mercury methylation...The increased ground-water and surface discharge toward the Embarrass River would also increase mercury transport from sites of methylation to the river itself where the methylmercury load could then impact downstream aquatic systems” (Engstrom 2010). Some of the tailings basin leakage is also predicted to occur toward the Partridge River. Dr. Engstrom notes that the DEIS downplays the risk of sulfate-enhanced mercury methylation to the Partridge River, but he states that the risk may be higher than portrayed in the DEIS. “...the Partridge River is described as having ‘a very well-developed floodplain along most of its reaches’ with ‘many beaver dams along the entire length...which create wide pools.’ Recent studies have shown that beaver impoundments provide conditions suitable for active mercury methylation and represent net sources for methylmercury in riverine systems...It thus seems likely that the risk of enhanced methylation from sulfate discharge into the Partridge River may be greater than is concluded in the DEIS” (Engstrom 2010). The Proposed Action calls for routing mine leachate through the artificial East Pit wetland, which may also lead to additional methylation of mercury. “...Constructed wetlands...could function as a source for methylmercury production” (DEIS pg. 4.1-123). Dr. Engstrom’s comments note that a lack of information about the proposed constructed wetland</p>	WR1E,WR3I,WR4A,WR4B

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<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
2	6.) Another concern highlighted by Dr. Siegel is that the modeling of subsurface flow assumes a flow to the Partridge River, which may be inaccurate. Unknown, for example, is if groundwater flow actually might pass below the river in bedrock. This scenario is not modeled at all, and the lack of real field data fails to provide helpful information. Dr. Siegel states, “For example, if subsurface contaminated water by passes the Partridge River, it could move north towards the larger regional lake hydrologic discharge zones within the Boundary Waters Wilderness” (Siegel 2010). Subsurface flows that might enter the federally protected wilderness would pose significant impacts that have not been modeled or analyzed. Recommendation: The EIS should include: 1. Modeling and field data to assess the risk of subsurface flows into the Boundary Waters Canoe Area Wilderness. 2. Direct measurements of head and water chemistry to provide ground truth with respect to the degree of leakage and solid transport that might occur. This should include likely retardation rates for metals. 3. Direct measurements of recharge rates through till by hydrograph separation methods to understand the potential for contaminants to enter the Partridge River through groundwater flow. 4. Direct measurements of potentiometric surfaces of the bedrock aquifer, and characterization of the degree to which groundwater moves vertically naturally. 5. Additional modeling that includes the list in Dr. Siegel’s report (pg. 23) for items to include in a groundwater or solute transport model.	WR2A
3	These and other concerns outlined in detail in our comments below are not minor. The flaws of this project pose unacceptable risks to human health and the environmental well-being of a potentially large area of northeastern Minnesota. Given this level of risk, the Friends cannot support the PolyMet project as it is currently proposed. We recommend the “No Action” alternative be the selected outcome for this project. We urge the agencies to consider the detailed recommendations provided here, which we believe would greatly improve this proposed project.	EOO,G2



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**Theme Codes**

3 D. Wildlife Impacts 1.) Canada lynx are a federally-listed threatened species. The DEIS acknowledges that portions of the mine site lie within the recently revised boundaries of federally designated critical habitat for lynx. It also acknowledges that “the Project would result in the loss of...1,454 acres of lynx habitat” (DEIS pg. 4.4-10). The DEIS also says, “Habitat loss at the Mine Site, however, would result in fragmentation of lynx habitat in a portion of its current range” (DEIS pg. 4.4-10). At least 20 individual lynx have been identified within 18 miles of the mine site. The U.S. Forest Service has designated Lynx Analysis Units (LAUs) within the Superior National Forest “that comprise landscape-scale analysis areas for lynx management” (DEIS pg. 4.4-3). The mine site is in LAU 12. About 94% of LAU 12 provides suitable lynx habitat. Critical habitat was designated for the lynx as part of a process to reverse this species population decline. The Endangered Species Act defines critical habitat for endangered or threatened species as: “(i) the specific areas within the geographical area occupied by the species, at the time it is listed...or on which are found those physical or biological features (I) essential to conservation of the species and (II) which may require special management considerations or protection; and (ii) specific areas outside the geographical area occupied by the species at the time it is listed and that are essential for the conservation of the species” (Endangered Species Act 1973 Section 3(5)(A)). The loss of critical habitat from this project’s activities is detrimental to the recovery of this species and violates the provisions of the Endangered Species Act. Maps created by the Minnesota Center for Environmental Advocacy (Maas 2010) using data published in the Journal of Wildlife Management (Moen 2008), indicate that the PolyMet mine site contains large amounts of suitable lynx denning sites (see attached maps prepared by the Minnesota Center for Environmental Advocacy). The tribal cooperating agencies note, “the tribal cooperating agencies disagree with the conclusion that the effects on statewide lynx populations would be insignificant; this analysis does not consider the possibility that the Mine Site might include critical components of lynx habitat present such as den sites” (Tribal Cooperating Agencies, DEIS pg. 4.4-10). Reclamation work at the mine site may also make this critical lynx habitat more suitable as bobcat habitat than as lynx habitat. “It is the tribal cooperating agencies’ note that this restoration of ‘lynx habitat’ initially creates good bobcat habitat. Bobcats are superior competitors to lynx and thus may prevent lynx from returning to the site” (Tribal Cooperating Agencies, DEIS pg. 4.4-11). The proposed project may therefore diminish critical lynx habitat long into the future. The DEIS also notes the increased risk of the project resulting in lynx-vehicle collisions. Nevertheless, the DEIS states that, “Although the Proposed Action would result in a loss and fragmentation of lynx habitat at the Mine Site, the effect on statewide lynx populations would be insignificant since no individual lynx or pair of lynx would be significantly affected by the habitat loss” (DEIS pg. 4.4-10). It is not clear what data support this conclusion in the DEIS. The DEIS contains no biological assessment or completed consultation with the U.S. Fish and Wildlife Service (USFWS). It does not analyze the cumulative impacts on the species. The DEIS notes that on-going consultations with the USFWS are taking place, but states that USFWS comments have not been received (DEIS pg. 4.4-9). Recommendation: The EIS must present the results of a biological assessment, consultation with the USFWS, and an evaluation of the cumulative impacts on the lynx’s survival and recovery as required by law. It is not sufficient for the DEIS to provide conjecture that the project presents no risk to the lynx’s population;

WI1

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3 C. Mitigation of Wetland Losses and Greenhouse Gas Emissions The DEIS describes plans to mitigate wetland losses and greenhouse gas impacts associated with the wetlands destruction by “restoring high quality wetland communities of the same type, quality, function and value as those impacted by the Project” (DEIS pg. 4.6-33). And yet, the mitigation plan described fails to achieve that goal. The DEIS notes that, “Given site limitations and technical feasibility, it is impractical to replace all impacted wetland types with an equivalent area of in-kind wetlands” (DEIS pg. 4.6-33). Despite the fact that most of the wetlands to be destroyed are open bogs and coniferous bogs (peatlands) the off-site mitigation acreage is “expected to exceed impacted acreage for all wetland types except for Type 8 (open bog and coniferous bog)” (DEIS pg. 4.6-33). So the type of wetland most impacted and most important for carbon sequestration, will be the least mitigated type of all. This is a significant flaw in the wetland mitigation plan. The off-site wetlands selected for mitigating the NorthMet project’s wetlands are at two distant sites near Aitken and Hinckley, Minnesota. These wetlands Dr. Glaser feels contain very different characteristics than the wetlands to be destroyed by the project. He cites five concerns about the mitigation sites selected and described in the DEIS: 1. The two sites selected for mitigation efforts have “different environmental settings with respect to climate, depth to bedrock, and glacial deposit than those at the PolyMet project site” (Glaser 2010). 2. The selected wetlands are probably significantly different from the PolyMet wetlands because the Aitken and Hinckley sites “are located at the extreme southern fringe of the boreal and mixed-conifer hardwood peatlands of the northern portions of Minnesota” (Glaser 2010). 3. The DEIS did not provide geographic coordinates for all the sites evaluated for mitigation, so they could not be located and evaluated. 4.Replacement of the mine site peatlands cannot be achieved. “It is impossible to replace a peatland ecosystem within the lifetime of human beings since it takes centennial to millennial time scales for peatlands to form and develop into raised bogs” (Glaser 2010). 5. The DEIS failed to consider restoring and protecting “an exceptional complex of wetlands north of the town of Alborn in the Saint Louis River watershed that contains peatlands and wetlands very similar to those found in the PolyMet site” (Glaser 2010). Dr. Glaser also notes that the DEIS did not provide adequate documentation of all the sites evaluated for mitigation, making it impossible to determine why so many sites within the St. Louis River watershed were rejected. The U.S. Army Corp of Engineers St. Paul District requires a wetland compensation ratio of 1.5:1. In other words, for every acre of wetland lost, 1.5 acres of wetlands must be replaced. The tribal cooperating agencies note that “the large acreage of wetlands to be directly impacted and the high quality of the wetlands warrant a mitigation ratio of greater than 1.5:1” (Tribal Cooperating Agencies, DEIS pg. 4.2-29). Recommendation: The EIS should include a table containing the geographic coordinates of all the wetlands considered for mitigation and the rationale for rejecting each of these sites. The wetland complex north of Alborn described by Dr. Glaser should be given serious consideration and analysis. Mitigation sites should be selected that are as close to the PolyMet project wetlands as possible, “because the closer sites have the highest probability of containing wetlands that are similar to those that will be directly impacted by the PolyMet mine” (Glaser 2010). Wetland mitigation should replace Type 8 (peatlands) wetlands in excess of the peatland acres to be destroyed. The EIS should consider a replacement ratio greater than 1.5:1. The EIS should include an evaluation of how the wetland mitigation plan will affect statewide g

WR2C,WR3I,WR4C

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Comment ID	Comment Text	Theme Codes
4	<p>3.) Other wildlife species are potentially at risk from the project. Bald eagle, wood turtle, heather vole, yellow rail, and tiger beetle are some mentioned in the DEIS. But the DEIS predicts no adverse effects to these species. The DEIS fails to assess impacts to many of these species from the predicted water contamination that is likely to spread from the site. For example, mercury contamination has been identified as a high risk for occurring, but no method for preventing or containing mercury pollution has been described in the DEIS. And the DEIS fails to analyze the risk of wildlife exposure to mercury. As the tribal cooperating agencies note, “impacts to bald eagles could result from eagle feeding sites within or adjacent to the project area. Contaminants from the mine site, specifically mercury and heavy metals, could affect prey species thus having secondary impacts on eagle reproduction” (Tribal Cooperating Agencies, DEIS pg. 4.4-13). When discussing the known wood turtle population downstream from the mine site, the DEIS says, “the Project would not result in exceedances of surface water quality standards in the Upper Partridge River; therefore, there would be no significant project-related changes to water quality and no indirect effects on downstream habitat where wood turtles are located...”(DEIS pg. 4.4-13). It is hard to understand how the DEIS can draw this unequivocal conclusion. The DEIS has acknowledged predicted water quality exceedances, the un-tested effectiveness of the East Pit wetland treatment system, and that untreated seepage will be released into a tributary of the Partridge River. The DEIS has failed to properly analyze groundwater flow, and has likely mischaracterized the hydrologic connectivity of the adjacent wetlands with groundwater. With these inadequacies in data, it cannot be stated that there will be no significant project-related changes to water quality. Therefore, the full impact to wood turtles and other wildlife has not been evaluated by this DEIS. Recommendation: The EIS must provide the required full assessment of impacts to wildlife from this project, including all Regional Forester’s Sensitive Species. This must consider scenarios for water quality exceedances, situations which are probable. This assessment should more fully examine impacts to more common species, such as moose, which are experiencing a statewide population decline and for which preserving wetlands may be important.</p>	WI1,WI2
4	<p>2.) The gray wolf is a federally-listed threatened species and a Minnesota species of special concern that has also been identified as potentially occurring within the project area. The project is located within Zone 2 of the gray wolf’s federally-listed critical habitat. “Radio-collared wolves were documented to the north and northeast of the Mine Site in 200, 2005 and 2008; and calling surveys located wolves south of the Mine Site in 2004...”(DEIS pg. 4.4-4). The DEIS notes, “Observations indicate the likelihood of a single wolf pack whose territory includes the Mine and Plant Sites” (DEIS pg. 4.4-12). The development of the mine site by the Proposed Action would remove 1,454 acres of wolf habitat, about 1-10% of a single wolf pack territory. Without providing supporting data or a biological assessment, or a completed USFW consultation, the DEIS arrives and this unsupported claim: “This reduction in available habitat is relatively small and is not expected to significantly affect the wolf population in the region...” (DEIS pg. 4.4-12). As with the lynx, vehicle collisions with wolves are noted as a potential risk from project activities. Recommendations: The EIS must present the results of a biological assessment, consultation with the USFWS, and an evaluation of the cumulative impacts on wolf survival and recovery as required by law. It is not sufficient for the DEIS to provide conjecture that the project presents no risk to the wolf population; conclusions about potential impacts must be based on scientific assessments and the appropriately completed consultations with the USFWS.</p>	WI1
5	<p>E. Inadequate Sampling of Fish and Macroinvertebrates The impacts of the project on fish and macroinvertebrates cannot be fully understood due to an inadequate sampling effort. The DEIS notes that the nearest known occurrence of northern brook lamprey is far from the project area. And yet, the tribal cooperating agencies note, “...no conclusion about the presence of northern brook lamprey can be made in this analysis without specific surveys in the Project Area. Tribal fisheries biologist have definitively identified this species in the Dark River, just a few miles to the west of the St. Louis River watershed” (Tribal Cooperating Agencies, DEIS 4.5-2). The creek heelsplitter, a state mussel species of special concern, was also not adequately sampled to determine its presence. “The tribal cooperating agencies position is that thee was not adequate sampling effort to determine the presence of the creek heelsplitter in the Project Area, particularly for a species that is already known to be limited in numbers or distribution. While the detection probability is low for each site, tribal fisheries biologists have sampled this species in the headwaters region of the St. Louis River, approximately a mile downstram of Seven Beavers Lake...in 2008” (Tribal Cooperating Agencies, DEIS pg. 4.5-5). Recommendation: The EIS should present the results of a more thorough sampling effort for fish and macroinvertebrates.</p>	FM2

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**Comment ID    Comment Text**

**Theme Codes**

5	A. Mercury Emissions 1.) Dr. Chambers notes the potential exists for mercury emissions to occur from the project's air exhaust of the autoclaves. He cites mines in Nevada where this has been a significant problem. While these mines have higher mercury content than the mercury content of ore in the NorthMet project, the risk for this project still must be acknowledged and addressed. "...the concern is that high temperature processes like the autoclaves can volatilize mercury..." (Chambers 2010). Dr. Chambers notes that mercury must be captured through appropriate equipment on the autoclave exhaust. "One of the major concerns with these capture systems is ensuring that they are performing as planned" (Chambers 2010). He points out that only Nevada has air emission standards for mercury, and that the US EPA is still developing mercury air emission standards. Dr. Chambers highlights a need for mercury emissions monitoring to occur with enough frequency to effectively evaluate problem emissions: "Under Nevada's standards mercury emissions from autoclaves are mostly monitored only once a year, and are sometimes based on manufacturer's specifications with no monitoring. Once a year measurements will not provide enough data to ensure statistically reliable measurements of the efficiency of mercury capture systems" (Chambers 2010). Recommendation: Dr. Chambers recommends: "In order to ensure that the mercury capture systems on the autoclaves are functioning as designed, a monitoring scheme should be required that will provide statistically reliable data on the autoclave mercury emissions" (Chambers 2010). He notes that the technology for measuring mercury frequently is available and is economically practical.	AQ5
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Comment ID	Comment Text	Theme Codes
5	<p>B. Class I Airsheds The Project is located within 300 km of four Class I regions. Under the Clean Air Act, Class I airsheds were established as areas where emissions of particulate matter and sulfur dioxide are to be restricted. Class I areas include federal wilderness areas exceeding 500 acres and national parks. These are places that are allowed only the smallest incremental pollution levels above baseline conditions. The four Class I areas within the vicinity of this project are the Boundary Waters Canoe Area Wilderness, Rainbow Lakes Wilderness, Voyageurs National Park, and Isle Royale National Park. The emissions modeling described in the DEIS for the NorthMet project, shows this project contributing 30 tons per year (tpy) of SO<sub>2</sub>, 159 tpy of NO<sub>x</sub> and 1,175 tpy of PM<sub>10</sub>. These emissions would come primarily from crushing and grinding ore, handling reagents and materials and the flotation and hydrometallurgical processing (DEIS pg. 4.6-53 and 54). The DEIS acknowledges that these emissions will cause visibility impairment for as much as 23 days a year in the Boundary Waters Canoe Area Wilderness. The NorthMet project may result in a 5% visibility impact in the BWCAW for 23 days a year, and as much as a 10% impact for one day a year (DEIS pg. 4.6-37). This is not an insignificant level of impairment from a single project. The Minnesota Regional Haze State Implementation Plan (SIP) is a plan developed by the Minnesota Pollution Control Agency as required by the Regional Haze Rule of 1999. The goal of the SIP is to reduce haze in Class I areas affected by Minnesota emissions, and to reach natural visibility conditions by 2064. The SIP was submitted to the EPA for review on December 30, 2009. The Haze SIP notes that a 5% or more contribution to visibility impairment from an entire state would be considered significant. The NorthMet project, as described in the DEIS, would contribute a 5% visibility impairment for as many as 23 days, and a 10% impairment for one day per year. Emissions contributions of this level are keeping Minnesota from making progress toward the goals outlined in the SIP. Even the DEIS concedes that the state is not likely to reach the visibility goals. "Current MPCA estimates indicate that emission reductions at power generation facilities and additional reasonably foreseeable projects in northeastern Minnesota are not enough to meet the current Regional Haze SIP goals" (DEIS pg. 4.6-54). The air visibility quality in the BWCAW shows a trend of becoming worse, not better. Between 1992 and 2006, visibility in the wilderness on the 20% worst days showed a worsening trend. The NorthMet project will add to the downward trend for air visibility quality over Minnesota's Class I Areas and impede reaching the goal of natural visibility conditions by 2064 as the Regional Haze Rule requires. Within the DEIS, mitigation measures are discussed, but many eliminated from further discussion without explanation. The DEIS mentions the use of low-NO<sub>x</sub> burners in the heaters, the conversion to electric heating, and the use of waste heat for work space heating requirements. But each of these was eliminated and excluded from modeling. Missing are explanations for why these measures were found to be "infeasible or non-viable" for the project. While PolyMet, MPCA and the Federal Land Managers continue to "evaluate additional potential control measures that may be applicable to the Project" (DEIS pg. 4.6-37), this analysis should be available within the EIS for full disclosure and public review. The DEIS also fails to adequately evaluate the cumulative effects on air quality of the NorthMet project when combined with foreseeable projects. Not included in the analysis are the impacts from on-going and future hardrock mineral exploration in and near the Superior National Forest. Nonferrous mines in advanced stages of exploration and development (including projects by Duluth Metals and Franconia Minerals) were not evaluated for their im</p>	AQ5,AQ9
5	<p>4.) The DEIS acknowledges that the NorthMet project will impact identified wildlife travel corridors. The DEIS cites a study by Emmons and Olivier Resources Inc. (2006) that identifies 13 major wildlife travel corridors connecting large roadless blocks along the Iron Range. The study considered the loss of any one of these wildlife corridors "significant" (DEIS pg. 4.4-30). The NorthMet project area includes Corridors 11 and 12. The DEIS acknowledges that Corridor 11 is already obstructed and "not likely to be heavily used by wildlife" (DEIS 4.4-31). This would increase the significance of the remaining corridors for wildlife travel. But Corridor 12 is likely to be heavily impacted by the project. "Operations at the Mine Site would indirectly impact the corridor by reducing the size of, and acting as a source of noise and activity near, the large habitat block southeast of the corridor" (DEIS pg. 4.4-31). As the tribal cooperating agencies note, "#12 will likely be degraded as a corridor by the Project; these impacts should be considered significant" (Tribal Cooperating Agencies, DEIS pg. 4.4-32). Recommendation: A biological assessment and consultation with the USFWS must be conducted to assess impacts to wildlife travel corridors. The EIS must analyze the loss of Corridors 11 and 12 under the scenario that these are long-term or permanent losses.</p>	WI1,WI5

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Comment ID	Comment Text	Theme Codes
6	Please take time to research other Gold and Copper mining. Living/working on a homestead the water would be contaminated by sulfur for me, my boss and the 45 dogs that are supplied by it. Please make a responsible decision for the people it will affect.	EOO
6	C. Noise Impacts The proposed mine is on public land in the Superior National Forest, and may generate noise that could be heard beyond the project area. While the DEIS describes “noise sensitive areas or receptors” (e.g. campgrounds, wilderness areas) in the vicinity of the project, no noise contour maps were prepared for the document. “Noise contour mapping would allow reviewers to assess the impacts of noise to all publicly accessible lands in the vicinity of the project which include large sections of the Superior National Forest immediately adjacent to the mine site” (Tribal Cooperating Agencies, DEIS pg. 4.7-2). Recommendation: The EIS should include an analysis of noise impacts that uses noise contour mapping for a more thorough assessment.	N1
7	I have a business in NE MN, Very close to Aurora that is dependent on preserving our natural resources and clean water. I am very concerned that environmental protection has not been adequately addressed. Everyone talks about Jobs! What about those of us who already live here, have jobs and pay taxes?	EOO,G2
8	The PolyMet project would use unproven technology, starting in a watershed with waters that already have too much sulfate, mercury, and other metals. It would destroy thousands of acres of wetlands and forests, put endangered species at risk and place the burdens of environmental harm disproportionately on Indian tribes who have rights to the land that would be most impacted. It is likely that the PolyMet project would increase mercury levels in fish and adversely affect wild rice growing downstream.	EOO,WR4A,WR4B,WR4F,
8	The DEIS is inadequate in many ways. The information on current water quality problems and the polluted site that will be used for dumping wastes from the processing plant is inadequate. The DEIS ignores real historical impacts of local mines, rather than admitting the risks of the project, and contains no proof that either the public interest in Superior National Forest land or tribal interests in treaty lands will not be irreparably harmed.	WR1E,PD2,G3,CR1,CR4
8	I incorporate by reference WaterLegacy comments: "The EIS Must Analyze the Cumulative Impacts of the PolyMet Project on the Functionality of Wetlands throughout the St. Louis River Watershed." As a resident of Rice Lake Township in rural Duluth, I treasure the wetlands on my own land. My understanding is that the DEIS pertaining to the PolyMet proposed mine does not adequately protect the wetlands that will be impacted if PolyMet is allowed to proceed. For one thing, the DEIS comments regarding wetlands are focussed almost entirely on areas at the mine and plant sites and wetlands immediately adjacent to these sites which make up approximately 1,522 acres. From PolyMet's viewpoint, the water in the area already violates state standards due to the LTV legacy. However, as I understand it, no modelling has been conducted for the area downstream from Cloquet, which includes Thomson Dam and the St. Louis River Estuary. Thomson Dam is a prime candidate for methylation of mercury. An even greater victim, if this PolyMet project were to go through, would be the St. Louis River Estuary because the estuary presently contains all of the nutrients needed to methylate mercury, except that sometimes sulfate is a limiting factor on methylation of mercury. (Less than 8 mg./liter is limiting for methylation.) However, the PolyMet proposal would add MILLIONS of POUNDS of sulfate to the St. Louis River watershed. Our lonely planet, our beloved Mother Earth, is under attack already from threats from every corner. How can we contemplate exacerbating planetary degradation by allowing such a destructive plan to proceed? Do future generations have no rights to a clean and livable planet?	WE5,WE8
8	I oppose the PolyMet project because it is likely that the mine and processing plant will pollute Minnesota's precious waters for hundreds or thousands of years to come and have serious impacts on the environment, human health and tribal rights. I agree with the tribal cooperating agencies and the U.S. EPA that the DEIS is incomplete and does not demonstrate that the proposed mining and processing operations could be done without harming the environment and tribal resources and without putting taxpayers at risk for substantial ongoing cleanup efforts that would be needed at such a massive disturbance of sulfide rock. The tribes and the EPA have pointed out many inadequacies of the PolyMet DEIS. Before this sulfide-mining project is even considered for permits, these gaps must be completely filled.	EOO,G3A,G4A,G7,G8

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Comment ID	Comment Text	Theme Codes
8	I am writing to you as a citizen of Minnesota concerned about the damage to northern Minnesota's environment and communities by the PolyMet sulfide mining project and the impact of not just this one, but multiple sulfide mining and taconite expansion projects being operated or planned in the region.	EOO,G8C
8	Sulfide mining would be new to Minnesota. In other locations, sulfide mining has resulted in acid mine drainage, causing extensive and expensive damage to water quality and the environment. Often, taxpayers have been stuck with the costs. The PolyMet DEIS provides no financial assurance to protect taxpayers from potentially hundreds of millions of dollars in costs to clean up pollution if the Poly Met company goes out of business, leaving seeps and wastes behind.	PD4
9	I am writing to you as a citizen of Minnesota concerned about the damage to northern Minnesota;s. environment and communities by the PolyMet sulfide mining project and the impact of not just this one, but multiple sulfide mining and taconite expansion projects being operated or planned in the region.	EOO,G8C
9	Sulfide mining would be new to Minnesota. In other locations, sulfide mining has resulted in acid mine drainage causing extensive and expensive damage to water quality and the environment. Often, taxpayers have been stuck with the costs. The PolyMet project would use unproven technology, starting in a watershed with already-polluted waters. The DEIS is inadequate because cumulative impact of proposed PolyMet activities can be accurately assessed only when the baseline pollution has been adequately characterized and the data collection done to ensure robust estimates of water-quality parameters, and when ALL of the other factors are included.	WR1E
9	I simply oppose the PolyMet project because it has not been demonstrated with certainty that the project will not pollute Minnesota's precious waters for hundreds or thousands of years to come. By the DEIS' own admission, it is highly likely that this first sulfide-mining project in Minnesota could degrade water quality, increase mercury in fish, destroy wetlands and peat bogs, fragment the habitat of endangered species, interfere with tribal rights guaranteed by Treaty and with tribal resources, like wild rice, increase air pollution that results in regional haze and create a risk of perpetual pollution without adequate financial assurance that the public won't end up paying the costs.	PD2,PD4
10	2.) Related to the inaccurate characterization of the project's wetlands, the DEIS also assumes that these wetlands have "perched" water tables that are isolated from groundwater flow systems. Dr. Glaser notes, "The basis for this assumption is not clear since the local hydrogeologic setting seems unfavorable for perched water tables to develop" (Glaser 2010). As he describes, perched water tables are more common within deep glacial deposits, such as terminal moraines and till plains. The DEIS indicates that the project area is comprised of a shallow layer of impermeable glacial deposits. The hydrologic connectivity of wetlands to groundwater has implications for the production of methylmercury. "...[T]he assumption of perching should have been based on actual field data or explained more fully" (Glaser 2010). Recommendation: The EIS should provide data to support a claim of a perched water table or eliminate references to this in the document. "Erroneous explanations for perching contained in this report (e.g. 4.2-2 'slow movement through soils causing the perched wetland water tables') should be deleted" (Glaser 2010). The EIS must include additional field tests to determine the hydrology of these wetlands, such as monitoring nests of piezometers to determine hydraulic head gradients and pore-water chemistry in response to snowmelt and precipitation. Dr. Glaser recommends a long-term monitoring plan to detect unexpected changes in the pore-water chemistry that can be related to Acid Mine Drainage and the transport of contaminants from the mine pits, waste rock stockpiles, and the tailings basin.	WE5,PD1,GT2

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**Theme Codes**

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| 10 | <p>D. Inaccurate Characterization of Wetlands and Water Table 1.) The DEIS characterizes the wetlands at the mine site as bogs that are “isolated from underlying groundwater, receiving virtually all of their water and nutrient input from precipitation. They receive essentially no groundwater inflow and have extremely low seepage rates to the underlying surficial aquifer” (DEIS pg. 4.1-4). Dr. Glaser disagrees with this characterization of the wetlands as “perched” or “raised” bogs. His assessment is based on using a standard, accepted definition of raised bog which would indicate the project’s wetlands are not, in fact, raised bogs. His analysis of the species composition at the mine site shows these wetlands to be comprised of fen indicators. The DEIS describes the wetlands as dominated by spruce, tamarack and balsam fir, with occasional occurrences of white cedar and deciduous swamp birch. It also describes the presence of speckled alder, raspberry and blue bead lily. “However, balsam fir, white cedar, swamp birch, speckled alder, raspberry, bead lily and all the grasses in Minnesota are reliable fen indicator species that are never found on true raised bogs” (Glaser 2010). Finally, Dr. Glaser’s own visits to the PolyMet site leads him to characterize the wetlands as fens. “I have made 2 trips to the PolyMet site in 2006 and 2009 to see the existing facilities, vegetation, and general environmental setting of the project areas” (Glaser 2010). Tribal cooperating agencies also disagree with the wetland characterization in the DEIS, and argue that no data support this conclusion. Correct wetland characterization is important because wetland type conveys information about the degree of hydrologic connectivity. The DEIS asserts that as perched bogs the wetlands have little to no connection with underlying groundwater. This would mean potential contamination might be less likely to spread through groundwater flow and that there would be less risk of the methylation of mercury. However, as fens, the wetlands may likely be influenced by groundwater transporting dissolved sulfate from the waste rock or tailings basin. And this additional supply of sulfate could increase the production of methylmercury. Dr. Glaser notes: “Since the species composition provided for the bog vegetation types within this Draft EIS includes species that are clearly fen indicators, it is impossible to say that these wetlands are disconnected from groundwater flow systems as stated in this report. It is also illogical to conclude that these wetlands are ‘perched’ since many of the wetlands in the PolyMet site are probably forested or non forested fens poor fens that are supplied at least partly by surface or ground waters that has percolated through mineral soil” (Glaser 2010). Recommendation: The EIS should use more generally accepted definitions for bogs, fens, marshes, peatlands and other types of wetlands “so they conform to international scientific literature and also the scheme adopted by the Minnesota DNR’s County Biological Survey’s treatise on the native plant communities of Minnesota” (Glaser 2010). Dr. Glaser’s report highlights four criteria that help define raised bogs that the EIS should use. The EIS should properly characterize these wetlands and fens. The EIS must provide supporting data for any further claims that little to no groundwater inflow and seepage rates occur in the wetlands at the mine site. Samples of surface waters in the wetlands of the proposed project should be collected and analyzed for pH, alkalinity, and dissolved solutes (particularly calcium) to help distinguish bogs from fens and to determine the ability of these wetlands to neutralize acid. Further analysis and field tests should be conducted to examine the hydrologic connectivity of the mine site wetlands.</p> | WR1E,G8,WR5A |
| 11 | <p>Warren Anderson, Hibbing, Minnesota. I’m definitely in favor of this project. It’s on a brown-field site. The environmental impact can only be positive. Down the road, turn this around to a very nice facility, provide a lot of jobs for the area. Thank you very much.</p>   | EOO          |
| 11 | <p>-Unspecified required mitigation actions for the mine operator.</p>  | PD3          |



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Comment ID	Comment Text	Theme Codes
12	<p>E. Poorly Defined Wetland Treatment System 1.) At closure, the Proposed Action calls for allowing the water level in the East and Central Pits to fill above the level of the waste rock that will have been backfilled into the pits. When the filling is complete, approximately one year after closure, “the top of the backfilled pit would be designed to function as a treatment wetland” (DEIS pg. 3-12). This created wetland is expected to passively treat stockpile drainage. It is unclear from the DEIS, if stockpile drainage would first be treated at the WWTF and then sent to the East Pit wetlands, or first discharged into the wetland and sent to the WWTF only if the discharge still exceeds limits. Two apparently contradictory statements are provided in the DEIS: Pg. 3-41: “If stockpile drainage ceases or meets water quality discharge limits via treatment through the East Pit wetland treatment system, the drainage would not be collected for treatment at the WWTF. However, as long as there is drainage that does not meet discharge limits after wetland treatment, that drainage would be conveyed to the WWTF. Effluent from the WWTF would then be pumped for final polishing to the East Pit wetland treatment system.” Pg. 3-42: “Water draining from the stockpile liners and water collected in the stockpile foundation underdrains after Closure would be monitored and returned to the WWTF for treatment if necessary, and ultimately discharged to the East Pit treatment wetlands.” The statement on page 3-42 does not mention the initial discharge to the wetland before going to the WWTF. Recommendation: The EIS must clarify if stockpile drainage after closure will first go to the wetland or first to the WWTF. Where this water goes first is important, given the lack of supporting information for the effectiveness of the wetland system (examined in sub-section 3 below). The EIS must also explain what “final polishing” of effluent means. If this means the water leaving the WWTF still needs additional treatment, then it must explain what contaminants remain post-WWTF treatment. The EIS should provide information and field tests to support the belief that the wetland treatment system is capable of removing contaminants.</p>	ALT8,PD10
13	<p>2.) The East Pit wetland system is planned to receive pore water from the Hydrometallurgical Residue Facility at the Plant Site, but does not describe the potential impacts for water quality. Recommendation: The EIS should describe what the composition of the pore water is expected to be and show supporting data for the ability of the WWTF and the East Pit wetland to adequately treat this.</p>	WR1A
13	<p>F. Waste Rock Liner and Cover Systems The permanent waste rock stockpiles will have engineered liners to prevent acid mine drainage and metal leaching. The DEIS acknowledges concerns about the ability of the liners to perform their functions long-term: “However, concerns remain regarding the ability of this liner system to permanently maintain these design criteria..., the potential for the geomembrane liner to degrade over long periods of time, and the adequacy of the proposed overliner buffer thickness...to protect the liner from accidental tears or rips during waste rock placement. These concerns suggest that the use of the low and average liner leakage rates for purposes of groundwater modeling could underestimate the rate of liner leakage and result in underestimates of the solute loading to groundwater” (DEIS pg. 4.1-75). The DEIS describes these liner characteristics in Table 3.1-9 as ranging in permeability from 5x10-7 to 1x10-5 cm/sec. Dr. Chambers raises questions about how this permeability will be achieved. “How will this specification be tested during construction? What methods will be employed if testing indicates that the target permeability is not being attained?” (Chambers 2010). He notes that achieving this permeability, especially the lower values, may be difficult unless the subgrade material consists of significant clay content. Recommendation: Maintenance of these liners must be perpetual to prevent the establishment of woody plants and rips and tears. Even with this maintenance, WWTF will likely need to be permanently functional to handle what will be on-going water contamination problems. Analyses should be based on high liner leakage rates. A thorough testing program for verifying the target permeability of the various subgrade barriers should be required. The EIS needs to outline a plan for initiating corrective measures if testing shows the specified permeability is not being achieved.</p>	WR3C,WR2E,WR2A

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**Theme Codes**

13 3.) PolyMet has not demonstrated that a created wetland system can effectively function as a water treatment system. Despite this lack of supporting data, the Proposed Action relies heavily on the assumption that it will work. The DEIS states: “PolyMet assumed wetland removal efficiencies in the East Pit passive wetland system would range from 50 to 80-90% for six parameters (DEIS Table 4.1-63). Constructed wetlands have proven effective at removing various pollutants, but the results have been variable” (DEIS pg. 4.1-112). Results at the nearby Dunka Mine, where constructed wetlands were used to remove certain metals, show that concentrations of zinc and nickel actually increased. The DEIS states, “Metal removal effectiveness of these wetlands also had strong seasonal variability. Sulfate removal was highly variable” (DEIS pg. 4.1-112). And the DEIS acknowledges that a literature review “also reveals a wide range of variability in the pollutant removal effectiveness of constructed wetlands treating mine drainage and other pollutant sources” (DEIS pg. 4.1-112). The DEIS also notes, “Constructed wetlands performance, however, is not sufficiently reliable to function as the primary treatment measure for assuring consistent year-round compliance with water quality standards” (DEIS pg. 4.1-113). Dr. Glaser notes: “The Draft EIS proposes that wetlands could be used to treat acid mine drainage that leaks from the tailings basin and/or other sources. Although wetlands are often used to consume the acidity and immobilize metals arising from AMD they are not always effective in this capacity” (Glaser 2010). Dr. Glaser’s report provides examples of mines discharging into wetlands with little effectiveness. “The term wetland covers a very wide range of ecosystems that are characterized by very different sets of physical, chemical, and biotic properties. It should therefore not be surprising that their capacity to neutralize the acidity and remove contaminants from different types of pollution sources varies depending on the type of wetland considered and its hydrologic setting” (Glaser 2010). Dr. Glaser further notes that the PolyMet proposed mine site has glacial deposits with low carbonate content, which may limit the capacity of the wetlands to neutralize acid drainage. Recommendation: Given the lack of supporting data for the effectiveness of created wetland treatment systems at removing contamination in mine drainage, it is irresponsible and unwise for this project to rely so heavily on this method as an integral component of its water treatment. The EIS must present new data to show that this method can work, or it must eliminate this method as a significant component of this project’s water treatment. Other more reliable designs or techniques should replace this method. One option is that the WWTF would remain functional in perpetuity. Given the DEIS’ conclusion that wetland systems can never be counted on as the primary treatment method of water, then de-commissioning the WWTF will be impossible as long as contamination remains in waters emanating from the mine and tailings basin. And as the DEIS notes this contamination may continue for 2,000 years, then the WWTF should be functional for this same time period. The EIS should incorporate the cost of running the WWTF in perpetuity into its reclamation plan and cost estimates. If the wetland system is used, a long-term monitoring plan should be outlined in the EIS that includes testing the system’s effectiveness at remediation of Acid Mine Drainage. The EIS should also include a contingency plan should the wetlands be ineffective at treating the drainage.

WR3I,WR3L

13 G. Non-Contact Stormwater Runoff At the mine site, any stormwater runoff that has not come in contact with sites having mining activity (undisturbed and reclaimed vegetated areas) would be routed to the Partridge River. At the processing plant (except the tailings basin), stormwater runoff would be routed to Second Creek, a tributary of the Partridge River. The DEIS acknowledges that stormwater management facilities might be needed to handle the predicted sediment that will be associated with this runoff. It does not, however, propose such a facility at this time. The lack of managing this sediment, the DEIS concedes, could lead to “increased pollutant loadings to the Partridge River” (DEIS pg. 4.1-110). The DEIS recommends, but does not require, that stormwater management controls be installed. Recommendation: The EIS should require stormwater runoff management controls. As Dr. Chambers notes, “This is good pollution prevention practice” (Chambers 2010).

EOO

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Comment ID	Comment Text	Theme Codes
14	<p>I. Problematic Transportation of Ore PolyMet plans to transport ore from the mine site to the Processing Plant by rail, using three trains consisting of rail cars with hinged sides and open tops. The DEIS acknowledges the risk of fine ore particles escaping through the hinges of the cars, and larger ore pieces falling over the tops of the cars into the environment surrounding the rail line. The tribal cooperating agencies contend that “the amount of ore that could escape from the rail cars would not be small” (DEIS pg. 3-18). Fallen ore and fugitive dust have the potential to contaminate wetlands and soils along the rail line, leading to acid drainage and metal leaching in nearby water bodies. The DEIS suggests loading finer sized ore at the center of the car, with larger pieces on the outside to inhibit the release of spillage through the hinges. It also states that track maintenance efforts would include searching for spilled ore pieces along the tracks. But the DEIS offers no supporting data to show the centerline loading method will adequately contain spillage. And identifying and recovering spilled ore pieces along the rail line will not likely be easily accomplished. Dr. Chambers also highlights concerns about the likely risk of this uncontained spillage. He finds the effectiveness of the centerline loading method “quite frankly, not good” at containing spillage. “Unless rail cars are designed to be completely enclosed, there will be spillage and most probably metals contamination along the rail haulage-line. Given time, spillage from the rail cars could be spread from the rail line across a wide area by wind” (Chambers 2010). Recommendation: The risk of widespread contamination from ore spillage during uncontained rail transport, is alarming and unacceptable. The risk of localized contamination along the line must also be prevented. The EIS must require the use of completely enclosed rail cars. This is an easily solved contamination risk through the use of properly designed rail cars. Soil monitoring along the rail line should also be required. Mine closure may need to include the removal of the top one foot of soil as part of reclamation actions.</p>	PD5
14	<p>H. Geotechnical Stability of Waste Rock Stockpiles The DEIS raises the concern about the stability of the waste rock stockpiles. “Proposed heights and slope angles in the preliminary waste rock stockpile designs are within typical mine engineering practice, however a slope stability assessment has not been completed. Further design and analysis would occur during permitting to ensure that the proposed construction meets acceptable design standards” (DEIS pg. 4.13-2). Dr. Chambers notes: “As implied in the quote...analysis of these critical questions is not being conducted as part of the EIS” (Chambers 2010). Instead the DEIS indicates that geotechnical stability will be analyzed first in permitting. A failure in stability for these enormous reactive stockpile could result in significant water contamination problems. Recommendation: Analysis of the geotechnical stability of the waste rock stockpiles is too critical to leave to permitting, and is essential in understanding the environmental impacts of the project. This is evaluation that must be conducted and the issues resolved as part of the EIS process. The tribal cooperating agencies concur with this recommendation. “The lack of a stability analysis for the stockpiles is a serious gap given the serious environmental consequences of a structural failure of a stockpile” (DEIS pg. 4.13-2).</p>	GT1
15	<p>J. Concentrate Shipping Dr. Chambers notes that the concentrate that will be produced by the processing plant and will be loaded for transport, “poses significant risk for contamination because of its high metal content and the small particle size of the concentrate material” (Chambers 2010). He notes that the pneumatically sealed rail cars or rail cars with rigid covers that are proposed are appropriate methods for transporting this material. Recommendation: Soil monitoring at the concentrate loading facility and along the rail line should be a requirement outlined in the EIS to detect any soil contamination that may occur.</p>	PD2

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Comment ID	Comment Text	Theme Codes
16	<p>K. Stability of the Tailings Basin 1.) The DEIS admits that “the NorthMet Tailings Basin and hydrometallurgical residue facility embankments would have a low margin of safety due to fines and underlying soils in the existing LTVSMC Tailings Basin” (DEIS pg. S-10). Despite this alarming and dangerous condition, the Proposed Action intends to use the existing tailings basin for the mine project’s own tailings wastes. Studies of the existing basin show the peat and clay soils under the dam have the potential to become unstable under certain conditions. “There are also layers of loose saturated slimes (fine silty tailings)...which are subject to liquefaction under certain conditions and therefore may create instability of the perimeter dam” (DEIS pg. 4.13-1). There is an especially low margin of safety for Cell 2E, the area where the NorthMet tailings would be deposited, due to extensive peat in the foundation and weak slimes close to the dam face. Also concerning is that it is not known if the weak, unstable slimes layer occurs under the Hydrometallurgical Residue Facility, the part of the tailings basin that would hold the most toxic waste products of the project. Should the tailings basin dams fail, significant and potentially long-lasting pollution would be released, entering surface and groundwater, and spreading possibly within the watershed. Dr. Chambers also raises concerns about the tailings basin construction design. “Upstream-type tailings dam construction, which was used for the existing taconite tailings, poses a long-term stability risk to the proposed hydrometallurgical residue cells. Upstream-type construction will also be utilized to contain the project’s flotation tailings, and again poses a long-term risk....” (Chambers 2010). Dr. Chambers notes that most tailings dam failures have been associated with upstream dam construction. Dams using two other methods, known as “downstream” and “centerline” methods, are much safer. Upstream construction is at high risk for “seismic and static failure of tailings dams” (Chambers 2010). Recommendation: Regarding the geotechnical stability of the tailings basin, the DEIS says further design and analysis would occur during permitting to ensure that construction would meet acceptable design standards. The MN DNR recommends that a dam break analysis and risk assessment be conducted at permitting. It is incomprehensible why the MN DNR would not insist on this analysis and risk assessment in the EIS. This is an unacceptable delay in analysis of a design already deemed dangerously flawed. The function of the DEIS is to outline potentially significant environmental impacts. The DEIS appropriately identifies an environmental risk from the failure of the tailings dam, but then does not provide information about what the environmental impacts of this would be. The EIS must include this information. Dr. Chambers notes, “a thorough analysis of the risk associated with tailings dam construction has not been done, and needs to be conducted as a part of the EIS” (Chambers 2010). The EIS needs to include analysis for a centerline design for the tailings basin, as this has been identified as a more stable design. The hydrometallurgical residue cells will contain the project’s most hazardous waste products. A failure of the dam for these cells would subject humans and wildlife to unacceptable toxic pollution. “Given the nature of the material to be stored in the hydrometallurgical residue cells, these cells should be designed to withstand the maximum credible earthquake” (Chambers 2010).</p>	GT1,GT2
16	<p>-High risk of mercury and sulfate contamination to Minnesota water bodies, with the risk of the bioaccumulation of mercury in fish, and human health implications; no identified method for preventing this contamination.</p>	WR4B,WR4C,FM1,FM4
16	<p>2.) The Tailings Basin Alternative presents an approach that incorporates certain mitigation measures. The Alternative calls for increased rock buttressing for the northern outer embankment side slope for Cell 2E to increase its stability. “Further investigations, design and analysis would occur during permitting...” (DEIS pg. 4.13-3). Recommendation: Any effort to increase the stability of the tailings dam is desirable. However, this design and analysis should be done prior to permitting. Supporting data should be presented in the EIS providing for a design in which the public can have confidence. Contingency plans should be described in the EIS for tailings dam failures.</p>	GT1

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Comment ID	Comment Text	Theme Codes
17	<p>M. Existing and Future Seepage of Contaminants at the Tailings Basin 1.) The existing LTVSMC tailings basin releases contaminated seepage into groundwater and surface waters that ultimately reaches the Embarrass River. Sulfate concentrations are high for this seepage. Monitoring data indicate that mercury levels and possibly aluminum concentrations do not meet surface water quality standards at several monitoring stations (DEIS pg. 4.1-41; Table 4.1-29). Concentrations of calcium, manganese, nickel and total dissolved solids increase as they seep from the tailings basin pond to the toe of the tailings basin. Groundwater quality monitoring at wells at or near the toe of the tailings basin show elevated aluminum, iron and manganese concentrations, as well as elevated sulfate, fluoride, molybdenum and total dissolved solids. “Based on these results, NTS (2009) concluded that groundwater has been impacted by the Tailings Basin” (DEIS pg. 4.1-14). The tribal cooperating agencies note that only limited groundwater monitoring has actually occurred, and that the full extent of existing contamination is not yet known. PolyMet would assume responsibility for 29 of the 62 identified “Areas of Concern” and “will investigate and remediate as necessary these AOCs on a schedule approved by the MPCA” (DEIS pg. 4.1-16). The MN DNR has indicated that “any associated clean up costs for the legacy AOCs would be included in the financial assurance requirements for any Permit to Mine issued to PolyMet...” (DEIS pg. 4.1-16). Recommendation: The EIS must include a remediation plan and schedule to address the existing pollution problems at the tailings basin. The EIS should include a full analysis of existing groundwater contamination that includes the results of additional groundwater monitoring. Financial assurance calculations must include clean up costs for current pollution from the tailings basin and must be fully delineated in the EIS.</p>	WR1A,WR1E
17	<p>L. Hydrometallurgical Cell Liners The hydrometallurgical residue cells at the tailings basin would be lined to minimize leaching from these cells containing highly hazardous wastes. But as Dr. Chambers notes in his comments, “There is no drawing of the ‘composite liner’ so it is assumed that this is not a double liner with leak detection, but merely a synthetic liner placed directly on top of a GCL liner. A double liner with leak detection would be the most protective liner design approach” (Chambers 2010). Recommendation: Dr. Chambers offers this excellent recommendation: “A better description of the composite liner for the hydrometallurgical residue cells should be included in the EIS. The additional cost associated with a double liner with leak detection for the hydrometallurgical residue cells is not cost prohibitive. A double liner with leak detection would provide maximum protection for the residue material, and should be required” (Chambers 2010).</p>	PD7

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Comment ID	Comment Text	Theme Codes
18	<p>4.) Groundwater seepage from the tailings basin will not be collected in the Proposed Action. Nevertheless, DEIS modeling shows groundwater seepage is expected to exceed groundwater evaluation criteria for aluminum, antimony, arsenic, fluoride, iron, manganese and sulfate, and possibly beryllium and thallium. A second model predicted aluminum exceedances for as much as 500 years. The hydrometallurgical cell liners are expected to leak, resulting in seepage from Cell 2W that is predicted to be high in sulfate concentration. "Groundwater seepage from Cells 1E and 2E would be the primary input of sulfate into the Embarrass River during low flows in all mine years" (DEIS pg. 4.1-120). The DEIS states, "the unrecovered seepage rate is predicted to increase to a maximum of approximately 3,800 gallons per minute in Year 20..." (DEIS pg. 4.1-65). The DEIS also states that, "because of the generally flat topography and extensive wetlands, much of this water would be expected to form ponds and inundate wetlands" (DEIS pg. 4.1-65). Dr. Siegel notes significant deficiencies in the DEIS' groundwater modeling that call this expectation of ponding and inundation of wetlands into question: 1. The degree to which groundwater and possible contaminants might leak from the tailings basin was not appropriately characterized by modeling due to assumptions used and "uncertainties in material properties of the porous media along the flow path" (Siegel 2010). 2. The degree to which possible contaminants from the closed mine may get into the Partridge River through groundwater flow was inadequately documented. "There was no consideration of possible migration of contaminants in bedrock under the Partridge River..." (Siegel 2010). 3. Groundwater flow is not likely to be only horizontally dispersed "given the probable subvertical and acute fracture fields which likely evolved in the tectonic setting of the emplacements" (Siegel 2010) 4. The model used in the DEIS to predict how groundwater will flow, MODFLOW, is widely recognized as "very limited in what it can do to determine how water moves in a fractured media at the scale of this investigation" (Siegel 2010). The DEIS predicted rates for seepage from the tailings basin into groundwater is high. The potential for this large quantity of unrecovered groundwater seepage to spread contamination is troubling. Recommendation: Further analysis of likely seepage rates, flow, spread and level of potential contamination should be conducted prior to permitting. More detailed field examinations of existing seepage characteristics are needed to in order to predict what new seepage from the Project might do. Dr. Siegel's evaluation of the DEIS cites the need for conducting more field tests to better understand potential environmental impacts. He notes that a major flaw in the DEIS is its reliance on models based on likely inaccurate assumptions. "...The opportunity was there to actually calibrate such a model against real field data... I have the same concerns with the modeling PolyMet did from the tailings basin as with the other groundwater models done by PolyMet: poor documentation of results, assumptions that cannot be tested very well because of insufficient instrumentation, and inarticulated logic behind the work. This is a missed opportunity if I have ever seen one" (Siegel 2010).</p>	WR2A
18	<p>3.) At closure, seepage to Second Creek, which flows into the Partridge River, would no longer be collected, and would be permitted to drain to the River. Recommendation: The EIS must provide an analysis of the water quality of this seepage that will be permitted to flow into Second Creek at closure. It must examine the downstream impacts of potential contamination in that water.</p>	WR1E
18	<p>2.) The DEIS acknowledges that when PolyMet begins adding its own tailings to the tailings basin, seepage will continue to occur. This seepage will move into the Embarrass River and also into Second Creek which flows into the Partridge River watershed. During the life of the mine, the surface water seepage will be collected and returned to the tailings basin. Groundwater seepage would not be collected. The DEIS states that at closure, surface seepage would continue at first but "seepage collection would be occurring at progressively reduced rates" (DEIS pg. 3-44). The DEIS notes it expects either the seeps to dry out, or that seepage will meet water quality limits and that drainage from the hydrometallurgical residue cells to eventually end. But the DEIS does not provide a rationale for these expectations. Cap and liner systems leak, and over time develop additional leaks. There are no data given to support the assertion that seeps will dry out or somehow meet water quality standards. Recommendation: The EIS should include an explanation for the assumptions that tailings basin seepage collection will gradually become unnecessary. It must also provide a plan for the scenario that the assumptions are wrong. And it must include calculations for financial assurance to deal with long-term contaminated seepage.</p>	WR1A,WR1A

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Comment ID	Comment Text	Theme Codes
19	5.) The DEIS assumes the average tailings sulfur content will be 0.13%. But the DEIS acknowledges the potential for this rate to be higher, with pollution consequences. "Predictions made from kinetic testing suggest that water reacting with NorthMet tailings could become acidic when sulfur content is between 0.14 to 0.17% (Day 2008). During the small scale plant testing, some of the tailings exceeded 0.13% sulfur and were within the critical sulfur range. As a result, these tailings could produce lower pH, which would increase metal mobility. Test work by both the MN DNR and PolyMet have shown increased release of nickel and cobalt as pH begins to decrease" (DEIS pg. 4.1-95). Dr. Chambers notes that it is commonly understood that even neutral or basic pH conditions can produce metal leaching contamination. The risk of Acid Mine Drainage and metal leaching from the tailings basin is not fully explored and analyzed in the DEIS. Recommendation: "More discussion and verification should be given to the findings that the sulfide sulfur content of the tailings is and will remain under 0.13% and non-acid producing" (Chambers 2010). The EIS must include scenarios for AMD and metal leaching from the tailings basin.	WR2E
20	-Lack of useful data on which to base predictions of methylation risk. Sampling of lakes, wetlands, and streams was inadequate.	WR1E
21	-Predicted water pollution lasting possibly 2,000 years.	WR1E
21	-Inadequate sampling done of the water chemistry of area lakes to assess existing sulfate leaking; an adequate sampling effort is needed to use as a comparison and predictive tool for the NorthMet project. Dr. Engstrom notes about Barr Engineering's sampling methods, "It is one of the unfortunate outcomes of Barr's stream sampling scheme that no water samples were apparently collected within the wetland complex north of the tailings basin (except at its toe). Such sampling would have provided a picture of current (legacy) groundwater discharge and associated sulfate and mercury levels by which a better understanding of the effects of increased groundwater discharge might be derived" (Engstrom 2010).	WR1E
22	-The assessments of mercury methylation risks by PolyMet's consultant, Barr Engineering, are scientifically biased and use inappropriate models and incorrect assumptions.	WR4A
22	-The DEIS fails to examine the methylation risk from sulfate discharges to key locations in the watershed, including the St. Louis River estuary, the wetland complex north of the tailings basin, the bottom waters of the Embarrass River chain of lakes, and beaver impoundments along the Upper Partridge River.	WE8
23	-The DEIS lacks a contingency plan for effective monitoring and adaptive management.	WR1E
23	-The DEIS provides little in the way of mitigating sulfate discharges and the mercury methylation potential. No consideration is given to alternatives that might sequester sulfate.	WR3I,WR4C
24	-The plan for monitoring focuses on water samples, without including sampling biotic communities such as fish as indicators of mercury in the system.	WR4C,FM4

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Comment ID	Comment Text	Theme Codes
25	<p>O. Tailings Basin Alternative 1.) The DEIS provides a Tailings Basin Alternative as a modification to the Proposed Action. The main focus of the Tailings Basin Alternative is that, unlike the Proposed Action, it would attempt to capture groundwater seepage and improve surface water collection. It proposes to capture 95% of the seepage from the tailings basin by installing a series of vertical wells on the lower-most bench of the tailings facility. But captured seepage would not be treated at the WWTF, but instead discharged directly to the Partridge River. The DEIS states that “Based on current water quality modeling, the discharge of seepage would meet all surface water quality standards and no treatment would be needed” (DEIS pg. 3-13). But apparently contradicting this conclusion that no water treatment would be needed, the DEIS describes modeling that identifies 9 parameters as having the potential to exceed groundwater evaluation criteria: aluminum, antimony, arsenic, beryllium, fluoride, iron, manganese, sulfate and thallium (DEIS pg. 4.1-152). Additional modeling showed aluminum exceeding groundwater evaluation criteria. And the wild rice standard for sulfate is predicted to be exceeded. Discharging untreated tailings basin seepage to the Partridge River when this discharge has been modeled to contain contaminants exceeding water quality standards, is not acceptable. The tribal cooperating agencies agree, noting “...discharging untreated tailings basin water to the Partridge River will have significant adverse impacts” (Tribal Cooperating Agencies, DEIS pg. 4.1-153). They note the presence of several wild rice beds immediately downstream of the proposed discharge point. Sulfate concentrations above 10 mg/L can adversely impact wild rice (see Comments I.N.). The DEIS contends that, “if it were determined upon further analysis during permitting, or during operational monitoring, that pre-treatment were necessary prior to discharge, a treatment facility would be installed” (DEIS pg. 3.52). But it does not state what conditions would trigger the requirement for pre-treatment or what water quality standards the discharge would need to meet. The U.S. EPA in an August 2009 letter also indicated its concern about discharging tailings basin water into the Partridge River. “...The effects of these discharges to the Partridge River are not clear. We recommend the DEIS describe impacts to the Partridge River from this discharge. . . We have several concerns about the discharge of this water to the Partridge River or to the unnamed creek also mentioned. We recommend that impacts from discharges and mitigation discussions be evaluated as part of this decision-making phase and not deferred to some later discussion outside the NEPA process” (U.S. EPA August 2009). Recommendation: The Tailings Basin Alternative is an improvement from the Proposed Action in that attempts to collect groundwater seepage are made. But discharging this untreated seepage directly to the Partridge River should not be permitted. The EIS must present an alternative that both captures and treats this discharge. The EIS should clearly state what levels of contamination would trigger discharge treatment and what standards the treated water would need to meet prior to final discharge into the Partridge River. Sulfate discharges resulting in concentrations exceeding the wild rice standard should not be permitted.</p>	WR2C,WR3I,WR4C,WR4F
25	<p>Recommendations: The EIS must provide a better approach to address issues of mercury and sulfates that may enhance the production of methylmercury. It is clear from Dr. Engstrom’s report that a much more thorough sampling program must be enacted to fully understand existing and future discharges. The full geographic extent of potential impacts – all the way down to the St. Louis estuary – must be examined. Alternative approaches should be explored to deal with potentially dangerous mercury and sulfate discharges. Dr. Engstrom in his report suggests exploring the potential for using the mined-out pits as sinks for mercury and potentially in removing methylmercury. Sampling of fish and other biotic indicators of mercury should be included in any monitoring program. Wild rice mercury standards should be adhered to in developing this project, and wild rice waters protected from increased levels of sulfates. Contingency plans should be included in the EIS for situations when mercury and/or sulfate concentrations exceed what is expected. A rigorous monitoring plan should be outlined in the EIS.</p>	WR1E,WR3I,WR4C,WR4F
25	<p>Dr. Engstrom believes the discharge of sulfate-laden waters from the PolyMet project is “among the most serious environmental risks posed...Based on a large body of experimental and observational evidence, it is my view that these discharges are likely to increase the microbial methylation of mercury somewhere in the watershed of the St. Louis River, either in wetlands or lakes proximal to the mining/processing operations or possibly downstream in its estuary with Lake Superior. This increase in methylmercury production will be transferred up the food chain to increased levels of mercury in game fish, with the attendant increase in human and wildlife exposure” (Engstrom 2010).</p>	WR4B,WR4B
26	<p>P. Omissions in Data Collection and Disclosure Please see Comments I.F. for our concerns about the water pollution risks from gaps in data collection and disclosure.</p>	WR1E



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26 Q. Hydrologic and Geochemical Issues Dr. Siegel’s report on the hydrologic and geochemical issues in the DEIS should be read in its entirety for a full description of these issues. Several of these have been noted in Comments I.F. in Omissions in Data Collection and Disclosure. Others of Dr. Siegel’s observations are highlighted below: 1.) The DEIS describes recharge rates of precipitation and snowmelt through till using calibration of mathematical models. But Dr. Siegel contends that these values for recharge “seem many factors less than probable as determined by the USGS. . .The amount of water calculated to potentially discharge to the mine may be factors too low, which could lead to unanticipated mine discharges to streams” (Siegel 2010). Dr. Siegel laments the missed opportunity for PolyMet to have “directly determined the order of magnitude of the amount of recharge to both bedrock and surficial groundwater systems from changes in the water levels in their observation monitoring wells, coupled to appropriate specific yields of the materials” (Siegel 2010). Recommendation: Recharge rates should be directly determined from hydrograph analysis in monitoring wells installed in glacial till at the mine site.

WR2F

26 -Repeated omissions in data collection and disclosure that prevent a full understanding of the risks of the project.

G8

26 2.) The DEIS notes that under the Tailings Basin Alternative, a demonstration test will be conducted of a “Passive Reactive Barrier” (PRB). During mine operations at a location north of the tailings basin, the PRB would be installed to determine its effectiveness in reducing constituents of concern such as sulfate, antimony and arsenic, from the tailings basin seepage. If effective, “a PRB could be built as a vertical unit and/or horizontal surface (i.e. constructed wetland) through the flow path of the seepage from the Tailings Basin” (DEIS pg. S-13). The DEIS states this PRB would be installed to provide final treatment of the groundwater seepage, if needed. . .” (DEIS pg. 4.1-148). The PRB is an untested water treatment system. While the demonstration test will be important in determining the effectiveness of the PRB, the EIS provides no contingency plan for if it is not. If unsuccessful in the demonstration test, it will clearly no longer be an option for large-scale, long-term treatment of the tailings basin seepage. And if the PRB tests succeed, the PRB itself would need to be replaced and maintained at regular intervals for as long as water treatment is needed, possibly hundreds or thousands of years. This is long-term maintenance that does not comply with Minnesota’s goal of a maintenance-free closure.

WR1A

27 2.) PolyMet failed to collect important hydrologic information needed to characterize the mine site. “Without this data, no direct means can be used to characterize groundwater flow in the vertical direction, up or down, from the water table or surface waters under natural or perturbed conditions. As a result, there is no means to determine the accuracy of the broad results of PolyMet’s groundwater modeling efforts” (Siegel 2010). Recommendation: Additional piezometers should be installed in “clearly isolated within presumed hydrostratigraphic units in bedrock” (Siegel 2010). The results of this additional data gathering should be presented in the EIS.

WR1E

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Comment ID	Comment Text	Theme Codes
27	<p>A. Indirect Wetland Impacts The DEIS concedes that the NorthMet Project would result in the direct destruction of 854.2 acres of wetlands and 667.9 acres of indirect impacts to wetlands. Indirect impacts are likely to result from hydrologic changes in the project area from activities such as pit excavation, pit dewatering, and the development of dikes and ditches. As described in Comments I.D., there is strong evidence to suggest that the DEIS has mischaracterized the wetlands in the project area. If the wetlands are not perched bogs but rather fens with connectivity to groundwater, there is a great likelihood that indirect impacts to wetlands could be greater than described in the DEIS. In addition, the tribal cooperating agencies point out that no reliable groundwater model for groundwater drawdown impacts of the project have been provided. “The estimates of groundwater drawdown are currently based on anecdotal observations and analysis of historical aerial photography. Therefore, there is not quantitative assessment of mine related drawdown of the regional water table. This serious data gap has prevented an adequate indirect impact assessment for wetlands from being conducted” (Tribal Cooperating Agencies, DEIS pg. 4.2-18). Dr. Siegel also found groundwater modeling and data collection that was insufficient to properly analyze groundwater flow. “I found that PolyMet installed insufficient ground water monitoring wells and piezometers in bedrock to either characterize where and how ground water moves across the mine site, or how it interacts with the Partridge River” (Siegel 2010). Dr. Glaser disagrees with the assumption in the DEIS that the wetlands within the project area have perched water tables and are isolated from the groundwater flow system. “The hydrology of representative wetlands should be determined by monitoring nests of piezometers...It should not be assumed that the wetlands within the entire project area are isolated...” (Glaser 2010). The lack of collected field data to measure hydrologic connectivity of the wetlands and groundwater and the mischaracterization of the mine site wetlands are serious flaws that could lead to a much greater impact on the hydrology of nearby wetlands than has been projected in the DEIS. Recommendation: The indirect impacts to wetlands from the project are likely to be much greater than portrayed in the DEIS. The EIS must re-characterize the project’s wetlands as fens, and then re-evaluate the indirect impacts to wetlands. Included in this analysis should be reliable groundwater modeling and filed data collection.</p>	WE1,WE2
27	<p>4.) The DEIS models force all subsurface flows to the Partridge River, an assumption Dr. Siegel finds unsupported by data. A lack of supporting data means the potential remains for this flow to pass below the river in bedrock. Dr. Siegel notes, “...knowing the true flow path directions and if groundwater in bedrock flows under the river may be important. For example, if subsurface contaminated water bypasses the Partridge River, it could move north towards the larger regional lake hydrologic discharge zones within the Boundary Waters Wilderness” (Siegel 2010). While Dr. Siegel states that the volume of water in this scenario would likely be slight, the possibility of this occurrence should still be analyzed and addressed. Recommendation: Knowing subsurface flow from this proposed project is critical. The EIS must include an appropriate level of collected field data, analysis, and consideration of all possible flow paths. Contingency plans should be included for if there are deviations from expected flow paths.</p>	WR2A
27	<p>3.) When modeling aspects of groundwater flow, PolyMet failed to provide important information to provide a proper analysis. “PolyMet produced no water table maps or potentiometric surface maps during the mining operations, no MODPATH simulations to show groundwater velocities and flow paths before or during mining, and no hydrogeologic cross sections showing vertical flow directional and velocities” (Siegel 2010). Dr. Siegel notes, “Given these modeling uncertainties in recharge rates, flow rates, flow velocities, effective porosity, dispersivity, and calibration points...the modeling does not provide certainty in forecasting. In the absence of proper and multidisciplinary field calibration using chemistry and water levels, there can be no assurance the models, in fact, worked” (Siegel 2010). Recommendation: The EIS must include the results of additional data collection. The models in the EIS should be supported with enough information for the public to do a proper analysis. The models should be calibrated to field data.</p>	WR2A

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Comment ID	Comment Text	Theme Codes
28	<p>B. Loss of Peatlands and Global Warming 1.) Over 900 acres of the wetlands at the mine site are coniferous bog and open bog peatland communities. If the project projections are correct, about 586 acres of peatlands will be directly impacted (destroyed) at the mine site by operations. Another 266 acres of peatlands are projected in the DEIS to be indirectly impacted, although as described in Comments III.A. above, the indirect impacts are likely to be higher than this figure. Combined, at least 852 acres of peatlands will be destroyed by the mine's operations. Peatlands are wetlands that form over hundreds and thousands of years. They consist of the decayed remains of plants, accumulating in stagnant, low-oxygen conditions that prevent the normal decomposition of vegetation. Peat bogs function as a natural water filter, preventing flooding. Many support rare plants and animals. Peatlands are important terrestrial environments in the sequestration of carbon that would otherwise contribute to climate change. These are wetland systems that take millennia to form. And the peatlands at the mine site have already been identified as part of the "100 Mile Swamp," an important natural area within its landscape. There can be no mitigation of the loss of these peatlands. Recommendation: The EIS should highlight that these are wetland systems that can never be replaced by mitigation actions. Their value and loss should be placed in a statewide and regional context within the EIS.</p>	WE2,WE3,WE5,AQ5
29	<p>2.) As noted above, peatlands have been identified as crucial ecosystems in storing carbon that would otherwise contribute to global warming. The destruction of peatlands can release large quantities of previously sequestered CO<sub>2</sub> into the atmosphere. The PolyMet project's peatland impacts would be at a minimum nearly 900 acres, and likely much higher (see Comments III.A.). Scientists have calculated that the loss of 1,000 acres of Minnesota peatlands translates to a release of approximately 2.7 million metric tons of CO<sub>2</sub> to the atmosphere. This is an increase in Minnesota's total annual emissions of CO<sub>2</sub> by approximately two percent (above 2005 levels) (Anderson et al., 2008). PolyMet's impacts on Minnesota's carbon emissions are likely to be close to this level, given their peatland impacts are nearly 900 acres and perhaps higher. In 2007, the Minnesota State Legislature requested that the University of Minnesota produce an assessment of the potential capacity for carbon sequestration in Minnesota's terrestrial ecosystems. The Minnesota Terrestrial Carbon Sequestration Project, an interdisciplinary research group, was organized to produce that assessment. The team analyzed existing scientific literature, land existing in broad land use categories, and the role of current state policies and programs on carbon sequestration potentials. In February 2008, the Project produced a report titled, "The Potential for Terrestrial Carbon Sequestration in Minnesota." Some of the key findings and recommendations of that team of researchers are: - Peatlands in Minnesota contain the largest carbon stocks in the state, in excess of 4 billion metric tons - Release of this carbon to the atmosphere as CO<sub>2</sub> can result from peatland drainage and conversion - Release of this carbon to the atmosphere would accelerate global warming and require greater reductions in CO<sub>2</sub> emissions elsewhere - Destruction of 1,000 acres of peatland in Minnesota from mining or other activities would increase the state's total CO<sub>2</sub> emissions by 2% over 2005 levels □ The top recommendation of this research group: "Preserve the existing large carbon stocks in peatlands and forests by identifying and protecting peatlands and forests vulnerable to conversion, fire, and other preventable threats" (Anderson et. al 2008). In December 2006, Governor Tim Pawlenty announced the state's "Next Generation Energy Initiative," including the development of a comprehensive plan to reduce Minnesota's emissions of greenhouse gases. The Minnesota Climate Change Advisory Group, a broad-based group of Minnesota citizens and leaders, was created to develop state-level policy recommendations to the Governor. In April 2008, the Advisory Group released its report titled, "Minnesota Climate Change Advisory Group Final Report: A Report to the Minnesota Legislature." Some of its key findings and recommendations include: □ - "Wetlands have among the highest potential carbon-sequestration capacities for any type of land cover in Minnesota. Peatlands are likely Minnesota's largest single carbon sink, containing 37% of all carbon stored in the state..." (Minnesota Climate Change Advisory Group 2008). - Recommendation: "Protecting these enormous carbon reservoirs (peatlands)...is critical" (Minnesota Climate Change Advisory Group 2008). The policy goals from the Advisory Group included: - Protect and restore northern peatlands. - By 2015, identify peatlands at risk of releasing greenhouse gases because of lowered water table or industrial uses such as mining. - Design policies to protect peatlands and wetlands from drainage and other carbon-releasing land uses. The destruction of the peatlands at the PolyMet mine site runs counter to the recommendations of both of these government-initiated studies. The DEIS acknowledges the impacts in CO<sub>2</sub> emissions from wetland losses and other destruction of vegetation. "In addition, secondary emissions from the change in the existing land cover are projected. CO<sub>2</sub> emissions fr</p>	AQ3

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
38	why would the state risk the huge losses? And why does a large company get to come in and kill our renewable economy(tourism)? We know the waters(surface and groundwater) will be polluted, and we know we will lose far more jobs and money than this mine will ever produce. Please oppose this mine so we can still find life in our waters, and drink the water without heavy metals. Please listen to real Minnesotans and the facts, not companies and	EOO,SE4
273	How can you guarantee the tailings basin will not leak given the “liner” may fail or tear – even from the unstable existing tailings present.	GT1
292	We are writing, as Iron Range business owners, to support PolyMet's mining and production efforts. The lengthily environmental review process that PolyMet has gone through, with both the Federal and State regulatory agencies has not only been thorough but offers the potential environmental impact and how to mitigate it. PolyMet has proved that they will mine and produce copper, nickel, platinum, palladium, gold and cobalt in an environmentally sound way. Income generation to the potential 400 employees plus hundreds of spinoff jobs will not only lift up the depressed state of the Iron Range but it will provide millions of dollars in local and state taxes. All the affected areas need this type of financial boost in order to support the communities and educations systems. It is very clear that the people of PolyMet are Minnesotans committed to living, playing and protecting our state's environment. We cannot ask for a better business model in our state, at this time, at this place and in our state's future.	EOO
315	Recently is has come to my attention that the Polymet Northmet permitting process is in review. I wanted to make sure you understand that I support this project moving forward. I believe Polymet is taking the required steps to protect the environment while creating more than 300 jobs and \$15 million in state tax revenues per year.	EOO
357	Another health issue that has not been adequately addressed is air quality. Some of our family members, who live on the Iron Range, have had life-threatening asthma attacks. This project would add to the particulate and nitrogen oxide load and further degrade their air quality and quality of life. As a nurse in this area, I am all too familiar with the horrible damage of mesothelioma. The EIS cannot adequately address the project's contribution to this epidemiologic nightmare until the study of the topic is completed by the on going study at the University of Minnesota.	AQ4C,AQ6
546	What happens when these “pit” (they are ugly!) fill (To overflow) with groundwater like the canister pit in Bosey-Coleraine? Overflow or seep into the Partridge or Embarrass River would be devastating.	WR2C
556	9. What is the impact of the increased methyl mercury in the St. Louis River (resultant from both the new mercury released into the air and water by the mine and the increased sulfates released by the mine into the river) on fish throughout the watershed, specifically catfish in the Brevator area of the St. Louis River between Brookston and Cloquet? As the fish and waters in this area are already impaired with excessive mercury levels why is the release of additional mercury into this watershed legal under environmental law? Why is there no analysis of the effects of this increased mercury in the St. Louis River on fish found in all the communities downstream of the proposed project (Forbes, Floodwood, Brookston, Brevator, Cloquet, Thompson, Gary, Duluth)?	RF1,WR1E,WR4B,FM1,FM
617	Next, I want you to consider the duck hunting family I have on the Iron Range. They love duck hunting and eat everything they shoot. Some of the best hunting on the Range is the wild rice stands at Norway Point on the St. Louis River. Norway Point is just a few miles, as a duck flies, from the lake which will be perched on top of the tailings basin. Because of the toxic combination of heavy metals in that lake and the chain link fence around the whole area to keep people out of it, local people have already named it the "Embarrass River Toxic Wildlife Refuge". During the heavy hunting pressure of fall season, (duck season starts for these kids in the middle of September and ends in the middle of November), the resting areas for waterfowl will be the "Refuge" of this toxic lake. The feeding areas will be the wild rice stands where the hunters gather to unknowingly reap a toxic harvest. I can't imagine that this issue was not even important enough to be given one paragraph in this EIS. How can we mitigate this potential public health problem?	WI2,WI3

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
1162	The impact of this mining project on migratory waterfowl must be addressed in this environmental impact statement. A particular concern is the impact of this project on the black duck. The impacted lands associated with this mine reside within the black duck migratory and nesting range within the state of Minnesota. The Minnesota DNR has recently published an article in the conservation Volunteer detailing the special concern for the northern boreal forest and associated animal and plant species residing in this habitat. This forest type is at risk for fragmentation, degradation and elimination under certain long-term climate change predictions. The Northeastern Minnesota boreal forest provides some of the only nesting habitat for the black duck in the state of Minnesota. Therefore, the degradation, fragmentation and elimination of this habitat is of special concern for this species.	WI2
1163	Specifically, the EIS should include an assessment of the following potential impacts on the local and migratory black duck populations. 1. What is the toxicologic and pathophysiologic effect on black ducks landing on, and ingesting, the surface water encompassing the proposed mine pit lake and tailings pond? 2. What is the toxicologic and pathophysiologic effect on humans handling and ingesting the meat of legally harvested (hunted) black ducks that have resided on and ingested the water of the proposed mine pit lake and tailings pond? 3. If this water is unsuitable for black duck habitation and contact what strategies will be employed to keep these ducks from directly contacting this water? If deterrent strategies will be employed what will be the impact of these strategies on other animal species and humans that reside in the vicinity of this site? 4. What is the long-term impact of carbon generated by the mining process released into the atmosphere, on the habitat of the black duck? 5. What is the long-term impact of the loss of carbon sequestering peat bogs on atmospheric carbon dioxide and the subsequent effects on the habitat of the black duck? This extent of this specific habitat is not going to be replaced in the proposed project. 6. What is the effect of this mining project on the migratory routes taken by the black duck?	WI2,WI3
1164	My entire family fishes and hunts in parts of the entire St. Louis River watershed. There is nothing we like better than the traditional "shore lunch" of catfish fillets. With the mercury in the fish presently so high, this project must not be approved if it raises the mercury level in the fish of the St. Louis River or its tributaries. My sons and husband are of the age where increased mercury in their system raises the risk of heart disease, which is a problem in our family. (Salonen et al. 1995, as cited in USEPA 2001a).	WR4B,FM1
1164	7. In addition, what is the effect of this mining project on wading shore birds? Will variations in the water levels in the proposed tailings pond result in the generation of mud flats attractive to wading birds? What will be the impact of contacting contaminated water in the mud flats/shore or eating food living in the contaminated water have on these birds?	WI3
1165	8. What are the toxicologic and pathophysiologic effects on blue herons, bitterns, osprey, kingfishers, Canada geese, hooded mergansers, wood ducks, ring neck ducks and other birds landing on, and ingesting, the surface water encompassing the proposed mine pit lake and tailings pond?	WI2
1166	10. On page 4.4-1 second paragraph second sentence reads "Most of these species are relatively common in Northern Minnesota and would likely relocate to other, nearby habitat; therefore, loss of tribal access to Project lands would not affect use of these species." This sentence is without factual basis and is an embarrassment to the Department of Natural Resources wildlife personnel who supposedly read and approved this document. Unless proven otherwise the surrounding lands are already at carrying capacity for the animal species that will be displaced by the mine site. Therefore, while the animals will certainly move off the site once the land is destroyed, the overall numbers of these animals in Northern Minnesota will not stay the same, rather they will be reduced, as the carrying capacity of the surrounding lands will be exceeded once the displaced animals move in. Please correct this significant inaccuracy in the EIS and revise any predictions concerning impact of the mine on wildlife that were dependent on this incorrect assumption. Do the applicants know what the carrying capacity of the surrounding lands are for each species of wildlife that will be displaced by this project? If not, the cited statement must be amended and the analysis of carrying capacity performed.	WI5
1272	How many jobs will be taken by Canadians?	E00

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
1858	Finally, as a consumer of ground water by way of our drilled well, it seems to me an inherent right to expect clean water from our water well. This is not the case for many homeowners caught in the poisonous plume of ground water emanating from the old LTV tailings basin. In December of 2008, Barr Engineering sampled residential wells north of the old LTV tailings basin. (Technical memorandum to Stuart Arkley, January 27,2009). Granted, this is an inherited ground water problem from the previous owners, but the Polymet plan is to pile further waste on top of this basin. In these well tests, manganese concentrations were high and exceeded evaluation criteria at eight of the sampled wells and I quote, "Manganese concentrations ranged from 0.66 ug/L in sample 4488 to 4,710 ug/L in sample 4400 and exceeded NorthMet DEIS evaluation criteria at eight of the sampled wells. The current MDH HRL for manganese is 100 ug/L and the EPA sMCL is 50 ug/L". A further confirmation of the 50 ug/L standard is found in the journal article by Xenophon G. Kondakis, M.D. et al. "Possible Health Effects of High Manganese Concentration in Drinking Water", (Archives of Environmental Health, May/June 1989 vol. 44, No.3, page 178). They say, "Manganese concentration in drinking water may be harmful to health. Given the information to date, the limit of 50 ug/L established by EEC seems to be correct." Manganese has been associated with neurological symptoms and schizophrenia.	WR2C
1859	I also noted a troubling quote from the RS31- Pit Water Quality Model, Executive Summary in paragraph 5. It says, "Virginia Formation exposures along the north wall would have a significant effect on water quality. Therefore, these walls will be treated with lime during the flooding phase". The Virginia Formation contains arsenic sulfide. In the journal article in Geochimica et Cosmochimica Acta, Vol. 69, "Geochemical modeling of arsenic sulfide oxidation kinetics in a mining environment", 2004, Lengke and Temple say this in conclusion: 4. "Prevention of AMD by mining arsenic sulfide-containing rocks with limestone may not be an effective method of limiting the release of As from arsenic sulfide because the presence of limestone increases solution pH. At higher pH values, As release rates from arsenic sulfide solids are higher". Please address the relationship between arsenic solubility and limestone. The US Agency for Toxic Substances and Disease Registry has listed arsenic as a chemical of concern.	WR3G
2100	The PolyMet DEIS describes significant environmental issues associated with this proposed mine. These issues should be resolved before this mine is approved by the Minnesota Department of Natural Resources and the U.S. Army Corps of Engineers. I would also like to add that I have been enjoying the Northern Minnesota area for over a decade now and it is very important for me to be able to continue vacationing/exploring in the Northwoods and to share this wonderful area of Minnesota with my children and in the future with my grandchildren. I believe we need to weigh both the pros and cons of the new mine proposal, but we also need to realize that any project of this size will absolutely cause a serious negative impact to all areas whether it be water/air quality, pollution, wildlife, tourism, or whatever. I do realize that a project of this magnitude would generate great revenue for the area and create many jobs, this is really the only good thing I can see coming out of this. We need to take care of our people and economy, but we also need to take care of the environment.	EOO,G8C,G11
2617	MR. ANDERSON: I am a business representative for Roofers Local 96. The reason I support the PolyMet project is because of all of the stuff that they have looked into as far as reducing the air pollution and groundwater pollution and I like the way they are going to take care of the property after they use the minerals, I mean filling it back in and replanting and that type of stuff. I am also for it because of the economic impact it is going to have in the northern area; 400 jobs. The construction jobs, that there will be close to 1500 construction jobs that year. The spin-offs, close to 500 other people getting hired as spin-off jobs. Let's see. I like the fact that the tax base will be improved in the area, more money for schools, for the townships, cities in the Iron Range area. (Continued on next page...) Let's see. I like the fact that they are using a plant that was shut down 10, 12 years ago; the LTV plant. It used to be an LTV plant is where it is at. And using the railroad line system that was in place at that time when that business was running. They will actually be probably cleaning up some of the water in that area. There is a high mercury content in a lot of our lakes up there already and they will be reusing a lot of this water and doing a lot less in the lines of pollution compared to the stuff that is done in Russia or some of the other countries that pollute so heavily right now, which probably causes a lot of our mercury -- I mean our mercury related air up there right now. I guess that's about all I have got right now.	EOO,G2,G6

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
3128	I am a 45 yr old nurse from Glenwood,MN who has been going to the BWCA for 15 yrs. My kids are 10 and 13 yrs old. They are old enough to enjoy and learn how to perserve this great resource of ours. I have pounded in the statemnet, "cleaner than when we arrived", for years. I don't see any of this attitude in regards our northern Minnesota land. Please reconsider and have more study of the 'long term effects" mining near this area we love. Thanx for your time and consideration on this matter.	G6
3181	I have a deep admiration and love for the state of Minnesota as it has been my home all of my life. I especially have respect and love for the North Shore-Duluth area and I think the proposed mine by PolyMet Mining Corp. would greatly harm the beautiful wilderness areas of Northern Minnesota. Our neighbor Wisconsin has already banned such mining practices in which this corporation wishes to conduct and I think that we shouldn't allow this type in Minnesota as well. Minnesota is known for our beautiful lakes, wetlands, and forests and to ensure their survival a mine would not be in the best interest for our state's natural resources and especially the Northern Minnesota area in St.Louis County. Keep Minnesota beautiful by not allowing such mining practices here, The PolyMet DEIS describes serious environmental issues associated with this proposed mine. These issues should be addressed and resolved before this mine is approved by the U.S. Army Corps of Engineers and the Minnesota Department of Natural Resources.	EOO,G2C,G7,G12
3213	Page 4.1-24 Comment: Draft EIS indicates evaporative loss via cooling towers at Laskin. Minnesota Power operates once-through cooling only at Laskin Energy Center. The only evaporative loss driven by plant processes would be those water volumes exiting via the stack. Page 4.1-37 Comment: Draft EIS states exceedances observed for copper and arsenic at Laskin. Minnesota Power monitors Lamella clarifier discharge water for both parameters as part of our NPDES permit; however, our records show no permit limit exceedences for either copper or arsenic.	COR
3771	To Whom IT May Concern, I am a retiree who lives, camps, canoes, fishes, breaths, drinks tap water, [and tap beer for that matter] in and from northern MN! I worked in the late 60's at the US Steel mill in Duluth as a lab tech. in the chemistry lab.[another long gone boom bust job.] I am totally against this "experiment" with sulfide mining in a region that is the source of so much of the midwest's UNPOLLUTED !!!!!,FRESH!!!!!! Di-hydrogen oxide!!!! Please include a copy of the letters on page3 of LABOR WORLD WEDNESDAY JAN 6 2010 as exhibit A and B. THANK YOU, Wm J Andersen	EOO,RFI

**Sender Last Name:** Anderson and Pastika **Submission ID:** 1317

1357	As stated in the attached Resolution from the Babbitt City Council, the City of Babbitt supports the proposed PolyMet Mining Project and Draft EIS. The proposed PolyMet Open Pit Mine will be located in Township 59N, Range 13W, within the Babbitt Corporate City Limits and will directly affect the City. The proposed project will bring several hundred construction jobs and 400 full time, high paying jobs to Babbitt and the surrounding communities. The City of Babbitt will receive direct tax revenues from the operation in the form of a percentage of the net revenue tax to be imposed on the operation. In addition Babbitt will receive propoerty tax revenues from PolyMet for lands that are currently tax exempt. The Draft EIS is adequate in scope and detail and sufficiently demonstrates that the proposed PolyMet operations at the Mine, Plant and Tailings Basin can be done in an environmentally safe manner. The City urges the respective agencies to issue a determination of adequacy for the PolyMet Draft EIS.	EOO
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**Sender Last Name:** Anderson Brown Dusher Penrod **Submission ID:** 3638

1	Some paint and chemicals have the potential to be recycled, and usually for cheap or free. Is PolyMet considering this as an option?	HM1
1090	2). PolyMet also needs to especially watch wetlands that are near the mine and plant, not just the ones within their site perimeters	WE1,WE2

*Alphabetical by sender's first name*

<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
1091	The DEIS states that review of historic aerial photos and visual observation have proven that the dewatering of the nearby Peter Mitchell pit has had little, if any, impacts on the nearby wetlands and Mud Lake. Visual observation is not sufficient to see the actual impacts such as water quality and soil quality. Also, how long ago was the Peter Mitchell pit dewatered? If it was five years ago, it might not have been sufficient time to see the potential effects that the dewatering can have on the surrounding water and environment (4.1-62).	WE2,WE5
1092	LTV waste rock seepage is already affecting the groundwater in the area and is draining into the wetlands. Has there been any impact from these tailingsseepages on the surrounding wetlands? Any significant changes that impact wildlife, aquatic life, or water quality?	WE2,WE5
1093	Have results from these tests been reported and do these results conclude that these technologies do indeed decrease leaching of metals and AMD?	WE2,WE5
2000	LTV waste rock seepage is already affecting the groundwater in the area and is draining into the wetlands. Has there been any impact from these tailingsseepages on the surrounding wetlands? Any significant changes that impact wildlife, aquatic life, or water quality?	FM1
3341	The EIS needs to address the aquifer and bedrock more because of the high potential of acid mine drainage (AMD) and metal leaching. When referring to the groundwater transport model, the DEIS used three evaluation points along one flow path north from the tailings basin (4.1-91). This is only one direct flow path of groundwater that was evaluated. If there is a steadier, faster groundwater flow path from the tailings basin, this flow path should be evaluated as well. If a higher concentrated flow path is examined, high concentrations of leakage would be found and seen, and the issue can be dealt with in a timelier manner. From examining Figure 4.1-4 and Figure 4.1-26, the areas of concentrated flow seem to be to the west of the tailings basin as well as to the south. Also, looking at Figure 4.1-13, the past and current seepage from the tailings basin is shown to be concentrated directly to the west of the tailings basin and to the southwest. If current and past seepage from the tailings basin (Cell 2W especially) is concentrated in these areas, then a groundwater flow path to the west and to the southwest should also be included in the groundwater transport model when examining dissolved constituents. PolyMet can then watch for plumes of seepage (if they do occur) and neutralize them before they do any irreparable damage (4.1-	WR1E,WR2A
3342	The DEIS states that from “reports” the contours do not show any high permeable outwashes that could serve as groundwater conduits (4.1-4). What reports and who is reporting? If there are groundwater conduits in the area,	WR2A
3343	The DEIS states that seepage from Pit 6 has very high sulfate concentrations and that Pit 6 will be dewatering into First Creek, Second Creek and then joins with the Partridge River to increase the sulfate concentration. The DEIS states that sulfate concentrations at Partridge River start at 30.4 mg/L, flows through Colby Lake, and downstream to the confluence of First and Second Creek where the sulfate concentration is 475 mg/L (4.1-39). Increased concentrations of sulfate in the Partridge River could influence wild rice and promote AMD. Mitigations should be taken for the increase of sulfate concentrations	WR4F
3344	The DEIS does not have firm conclusions based on the results of the deterministic modeling and the conflicting Uncertainty Analysis. Modeling of the solute loading estimates from stockpiles and mine pits does not carry forward certain contaminants because their exceedance of groundwater evaluation criteria is attributable to high baseline concentrations (Table 4.1-44). The DEIS does know for sure that several solutes (antimony, manganese, nickel, and sulfate) will exceed groundwater evaluation criteria (4.1-84). These solutes should still be carried through detailed transient flow modeling as to not overlook potential	WR2E
3345	Colby Lake experienced large fluctuations during the LTVSMC mining operations. More explanation should be noted as to how the NorthMet project will affect Colby Lake water level fluctuations and the amount of water that the project would require from this reservoir with regard to inhabitants on the lake and the ecology of the lake (4.1-26).	WR3F



*Alphabetical by sender's first name*

<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
3346	Under the tailings basin alternative what would be used for the criteria to decide if water is sent back to the tailings basin for reuse or if it is discharged into the Partridge River with regard to all possible impacts on the river system and wild rice (4.1-148)? The recycling of this water for use in processing plant operations would have a large impact on the amount of water needed from Colby Lake over the lifetime of the mine. What would make this water unsuitable for make up water in the processing plant but would also allow for the safe discharge of this water into the Partridge River?	WR3F
3347	There has been no testing of the bedrock in the tailings basin area. If there are fractures and connections of aquifers, leakage of solutes and water from the tailings basin could increase.	WR2A
3348	The DEIS states that LTV tailings will be dug up and compacted as to create a dike around the proposed tailings basin for the NorthMet project. When digging up and moving the LTV tailings, the rock will be introduced to higher	WR2D
3349	The DEIS indicates under the proposed action that tailings would be deposited to tailings basin cells in slurry form by gravity flow over discharge beaches when necessary and subaqueously via diffusers throughout the pond (3.1.5.3). Deposition of the tailings slurry onto a discharge beach creates a significant opportunity for the sulfide-containing tailings to contact air and oxidize. The deposition of the slurry into the tailings ponds also provides significant opportunity for the slurry to cause turbulence and upwelling of the subaqueous material. This could possibly increase oxidation of the tailings and surrounding rock.	WR3A
3350	The DEIS states that review of historic aerial photos and visual observation have proven that the dewatering of the nearby Peter Mitchell pit has had little, if any, impacts on the nearby wetlands and Mud Lake. Visual observation is not sufficient to see the actual impacts such as water quality and soil quality. Also, how long ago was the Peter Mitchell pit dewatered? If it was five years ago, it might not have been sufficient time to see the potential effects that the dewatering can have on the surrounding water and environment (4.1-62).	WR2I
3351	The DEIS states that seepage from the proposed tailings will go through the LTV tailings and that water quality will improve, but there is no presented evidence that this will happen. There is potential that the water quality will get worse. There is no evidence or tests cited to support this conclusion. The DEIS	WR1E
3352	What interactions within the tailings basin will cause the addition of NorthMet tailings to LTVSMC tailings to have improved water seepage quality? The accuracy of the modeling used to reach this point is not discussed so the actual water quality of the seepage will not be known until NorthMet tailings are added to the existing tailings basin. The potential for the seepage to have lower quality than predicted should be accounted for so that the seepage can be treated accordingly and prevented from entering surface or groundwater systems (4.1-54).	WR2D,WR3A
3353	LTV waste rock seepage is already affecting the groundwater in the area and is draining into the wetlands. Has there been any impact from these tailingsseepages on the surrounding wetlands? Any significant changes that impact wildlife, aquatic life, or water quality?	WR5A
3354	With the reuse of LTVSMC tailings basins, how much will surface seepage and groundwater seepage increase and will this seepage be harmful to the	WR2D,WR3A
3355	The DEIS does not clearly state the quantity of untreated groundwater that will be seeping from the tailings basin. Figures 4.1-18 and 4.1-19 only indicate that the amount will be greater than 1000 gpm.	WR2E
3356	The DEIS does not address the potential effects of floatation frother and collector chemicals on groundwater due to untreated seepage from the tailings basin.	WR2E
3357	The DEIS has limited data that says little degradation has occurred to residential well groundwater quality from 50 years of LTV tailings disposal. The DEIS states that limited data was obtained. The DEIS does show some increases of concentrations and exceeds concentrations of aluminum, beryllium, iron, mercury, and manganese (4.1-15).	EOO
3358	What chemicals are entering the groundwater system by this seepage and what are the potential impacts? How will the seepage and impacts be monitored both during and after mining operations?	WR1B,WR2E

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
3359	If this water loss from the mine is found to have a harmful impact on the environment what will be done to mitigate the effects and stop further seepage (4.1-147)?	WR1A
3360	During small scale plant testing, the DEIS states that some of the tailings exceeded the critical sulfur range, which in turn can produce a lower pH and increase metal mobility (4.1-95). This is also seen in the waste rock seepage from the LTV waste rock piles, which are composed of the same rock proposed to be mined. Other mines with similar sulfide content and less sulfide content were also found to produce sulfuric acid and acid mine drainage. What will PolyMet do to counteract this? What mitigations, if any, will be used?	RFI
3361	Have results from these tests been reported and do these results conclude that these technologies do indeed decrease leaching of metals and AMD?	RFI
3362	Water that has come in contact with disturbed surfaces will be treated using membrane separation and chemical precipitation technologies. What exactly will PolyMet do? The DEIS is unclear about the amount of residue being chemically precipitated from this process	WR2G
3363	The DEIS is not clear on the effectiveness of the wastewater treatment process. Has this technology been used in other mining operations and how successful was it at reducing environmental impacts?	WR2G
3364	What will be done with the water that washes the electrolyte cathodes?	RFI
3365	Are there any contaminants that the WWTF will need to take into special consideration?	RFI
3366	For how long will the water level of the tailings basin be monitored after closure to reduce oxidation of sulfates?	WR1A
3367	If water quality standards are still not met by the time PolyMet closes down operations at the WWTF, will PolyMet continue to process water? Will PolyMet have adequate money allocated to continue processing wastewater?	WR3I
3368	How long after mining ceases will water levels be maintained and monitored? This includes water levels in nearby rivers and streams, the tailings basin, and groundwater on and around the site after the West pit overflows (3-47).	WR1A
3765	The DEIS indicates under the proposed action that tailings would be deposited to tailings basin cells in slurry form by gravity flow over discharge beaches when necessary and subaqueously via diffusers throughout the pond (3.1.5.3). Deposition of the tailings slurry onto a discharge beach creates a significant opportunity for the sulfide-containing tailings to contact air and oxidize. The deposition of the slurry into the tailings ponds also provides significant opportunity for the slurry to cause turbulence and upwelling of the subaqueous material. This could possibly increase oxidation of the tailings and surrounding rock.	PD2
3766	Why was the lined tailings basin removed in the January 2007 revised project description? Since little data is available on the reactivity and potential environmental damage that tailings from the NorthMet project could produce, it seems reasonable that a liner would be used initially on the tailings basin until more data can be collected (2-4).	PD5,PD11
3767	Category 1 waste rock should be treated as having potential to producing ARD.	PD2
3919	All areas of the mine site will be subject to a Fugitive Dust Control Plan, for managing dust generated at rock dumping and loading locations. How will PolyMet be implementing this plan, and what does PolyMet exactly propose to do?	G2B

**Sender Last Name:** Anderson.pdf

**Submission ID:** 3442

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
3664	Summary of my comments on the poly met project. It appears that significant disagreement exists based upon the hydrologic and hydrogeologic modeling. Assumptions of hrdrogeologic parameters can have large impacts on the modeling results, therefore, it does not appear that the confidence exists for permitting such a large facility. For example, if the vertical hydraulic conductivity is much greater in actuality than what is modeled many more wetlands will be affected than is shown and reported. Impacts to the Partridge river are significant especially during low flows which may only be exacerbated with Climate Change. The huge impact to wetlands will have a profound impact in the area. Due to this impact the underground alternative should have explored farther than it was and not dismissed due to cost without additional analysis. Long term and short term assurance and monitoring is unclear as to how the water treatment and environmental performance of mitigation and treatment technologies will be handled. This has potential to create a long term public liability that may greatly exceed the short term benefits. It appears that during the operation that the staff allocation is very minimal for environmental performance inspection and monitoring.	ALT3,ALT8,WR1A,WR1E,
<b>Sender Last Name:</b> Andresen		<b>Submission ID:</b> 3639
18169	Save Our Sky Blue Waters introduces our comments on the PolyMet DEIS with reference to the above law. The DEIS unequivocally shows that the former LTVSMC mine site being purchased by PolyMet is already leaching contaminants into the watershed, and that PolyMet's operations will add to the load of contaminants. (Tables spread throughout Chapter 4.1) The DEIS, however, has no plan in place to prevent this pollution. The regulatory agency responsibility as set forth in the DEIS is to monitor mining operations. There are no alternative treatment or mitigation plans, and no means of enforcing what is laid out in the DEIS.	EOO,WR1A,G9
18171	The DEIS does not adequately address public health concerns regarding mercury in the St. Louis River watershed, the cumulative health impacts of metal and other contamination due to mining (past, present, and the future opening of a sulfide mining district) in both the water and the air, and potential health impacts of asbestiform fibers.	WR5A,FM3,AQ4C,AQ6
18174	The DEIS does not address a land exchange with the USFS that would be required for PolyMet's proposed open pit strip mines. Any possible Federal land exchange with PolyMet should be part of PolyMet's EIS. NEPA and MEPA require that all potentially significant impacts be addressed in the EIS (National and Minnesota Environmental Policy Acts).	PD1
18175	The DEIS does not adequately address the instability of the LTVSMC tailings basin, especially considering the large amount of tailings that would be added from mining a less than 1% ore body, The DEIS does not adequately address the instability of waste rock pile slopes, especially considering the size due to mining less than 1% ores.	GT1,GT2
18176	The DEIS does not include the Hoyt Lakes – Babbitt Connection Project roadway. This project is currently on hold while waiting further funding. The impacts of this roadway on wildlife habitat and environmental quality need to be addressed as part of the impact of the PolyMet proposed mining project.	G9
18177	Arsenic, cobalt, selenium, copper, nickel, aluminum, beryllium, iron, manganese, and thallium from PolyMet's operations may exceed water quality standards. The DEIS would allow this to happen. The DEIS does not address the cumulative or synergistic impacts upon fish, wildlife, or humans as we ingest water containing all of these pollutants. The DEIS does not address possible hormone disrupters that reach the water supply from plant process chemicals.	WR3I,WR5A
18179	The St. Louis River watershed is already contaminated with sulfates, and the watershed is impaired for mercury. Leaching from PolyMet's tailings would increase the sulfate load within the watershed, resulting in further fish consumption adversaries. The DEIS does not address how the St. Louis River watershed will be able to attain TDML (Total Daily Maximum Load) standards, as required by law.	WR4B,FM1

*Alphabetical by sender's first name*

<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
18180	Plant closure plans do not account for acid mine drainage and heavy metal leaching that can last for hundreds to thousands of years, requiring “perpetual” treatment. Experience with the Dunka mine site, where LTVSMC stockpiled sulfide bearing rock that it extracted in order to mine taconite underneath, proves that this mineralized complex of rock will leach into the watershed, and that the mining companies and state agencies have not found an efficient or cost effective way to prevent water contamination. The Dunka site has been leaching toxic heavy metals into the watershed for the past 30 years, and has been granted a variance, allowing pollution to continue. Acid mine drainage is the greatest liability, nationwide, when mining sulfide ores. The PolyMet DEIS has ignored mention of this legacy, misleading the public as to the true liabilities of not just PolyMet, but of opening a sulfide mining district in the Duluth Complex of mineralization.	WR1E,WR3I
18181	Determination of the amount of financial assurance that will be required for closure and perpetual water treatment should be included in the DEIS. Bonding is one of the most critical aspects of mine permitting, and one that is least understood and examined by the public. Many of the measures that will be taken to avoid environmental impacts depend on adequate bonding. For instance, the DNR will not be able to assert that a particular remediation plan will be instituted when the mine closes unless bonding is sufficient to ensure the remediation. Bonding is crucial to any determination that potential environmental effects will be avoided. This DEIS is inadequate by its omissions.	PD4
18182	The DEIS allows for loss of open and coniferous bogs within the state, contrary to law. The DEIS allows wetland mitigation to occur out of county and out of watershed. The wetland mitigation plan allows for total loss of wetlands, as wetlands in Aitkin County would be preserved while wetlands in St. Louis County would be destroyed.	WE2,WE3
18183	The most significant lack within the DEIS is neglecting the cumulative loss of wetlands due to taconite mining expansion that is permitted (Mesabi Nugget, Essar Steel), or proposed (Minntac, Keetac, HibTac United Tac, Northshore, and Minorca).	WE5
18184	The DEIS does not adequately evaluate the loss of carbon sequestration by the destruction of over 1000 acres of wetlands. At the same time, mining operations would spew out 767,648 metric tons of CO2 per year (Table 4.6-18).	AQ3
18185	The wetlands at PolyMet’s proposed mine site have been identified as worthy of protection by the USFS and the DNR. This is not addressed in the wetlands mitigation plan. Because PolyMet’s required land exchange with the USFS is not addressed in this DEIS, nor in a separate USFS EIS, the value of these wetlands are not adequately addressed anywhere.	WE1,WE3,WE7
18186	First of all, PolyMet would be mining 99% waste rock. So all of the greenhouse gas emissions from energy sources, vehicles, and plant processes would be attributed to producing 99% waste. If governmental agencies are seeking to reduce CO2 and other greenhouse gas emissions, the DEIS needs to explain how the mining of 99% waste rock can be justified.	AQ3
18187	PolyMet also has a much larger footprint than energy, vehicle emissions, and plant processes. The production of mining equipment has a huge greenhouse track of its own. Truck tires that need to be replaced regularly have their own carbon trail. PolyMet plans to import 200,000 tons of limestone a year. Both limestone and the bentonite clay used in liners have their own mining history, leaving behind their own greenhouse gas trail.	AQ3
18188	In addition, PolyMet’s hydromet produces a semi-finished product which will require further processing at a third party site. There will be an additional greenhouse gas trail left behind as these semi-processed metals are railed to Lake Superior and then shipped to some unknown destination for final processing. The metals must then be shipped somewhere for manufacturing, and shipped again for sale as part of a product.	AQ3

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Comment ID	Comment Text	Theme Codes
18189	An additional greenhouse factor in regard to PolyMet is the destruction of approximately 1200 acres of wetlands. The DEIS presented a figure of 23,000 tons per year of CO2 equivalent emissions due to sequestration loss. However, the DEIS does not explain how Barr Engineering reached this figure. The DEIS instead claims that its wetland mitigation plan will mitigate these impacts. There does not seem to be a basis for this claim, given that the wetland mitigation plan would preserve existing wetlands in Aitkin County while destroying wetlands in St. Louis County. The Aitkin County wetlands would be in an entirely different watershed and would be of a different type. The bottom line is that the total amount of wetlands in the area/state would be destroyed, which goes against the Wetlands Conservation Act. European studies claim that the retention of wetlands helps to reduce climate change impacts on a local level by sequestering CO2, helping to moderate warming and giving plant and animal species more time to adapt. Based upon this, the destruction of wetlands in what is now Superior National Forest would have considerable impact because it is an area that has been preserved for its ecological resources.	WE2,WE3,WE7,AQ3
18191	The public expects that our regulatory agencies, such as the DNR and the USFS, are documenting and studying climate change effects in our regions. Such studies need to be included in this DEIS, rather than figures produced by Barr Engineering for PolyMet. The ecological division of the DNR is not holding its own against the DNR Lands and Minerals Division. While Lands and Minerals have spent 30 years studying the local geology and promoting mining, the ecological division does not have an equal amount of information documenting changes or threats to the biodiversity of our forests, wetlands, and watersheds.	AQ3
18217	I wish to also incorporate by reference the Draft EIS comments submitted by Minnesota Center for Environmental Advocacy, Friends of the Boundary Waters Wilderness, Save Lake Superior Association, the Indigenous Environmental Network, the Sierra Club, and Wetland Action Group.	G15
18219	The DEIS is inadequate in many ways. The "No Action Alternative" is the only legal alternative. This EIS is perhaps one of Minnesota's most important ever and the DEIS is filled with speculation and assumptions, many not based on science or past history. The LTV site is	ALT8
18220	currently in violation of federal and state water quality laws. How can putting metallic copper waste on top of leaking iron/taconite tailings basins, clean the site up? It is bad public policy to permit new pollution on top of old. Legacy contamination at the site must be cleaned up before	EOO,WR5A,PD2,G9
18222	We need another regional copper-nickel study to address new and emerging issues related to methyl mercury, wetlands, global warming, etc. The cumulative analysis of the PolyMet project is deficient and fails to address past, present and future issues related to PolyMet and the ecosystem where it is proposed.	PD3
18223	We cannot simply allow a company to do what they wish with Minnesota resources because they have paid money for an environmental review. The NorthMet deposit has been mapped and explored for many years. United States Steel originally planned for an underground mining operation at the NorthMet site. More recently PolyMet plans to mine the deposit in the cheapest way possible, which is to strip mine. The underground option has been eliminated from the DEIS purely because of economic reasons. A DEIS is required to address all reasonable alternatives. Because the company does not wish to spend the added money to have an underground mining operation, is not sufficient reason to exclude other alternatives that would be far less damaging to the environment. The DEIS is inadequate because the underground mining option has been left out of the alternatives, contrary to NEPA.	ALT8
18224	The DEIS is also inadequate because our federal land managers, the USFS, have not fulfilled their statutory responsibility to do an environmental review of the project, which is located mostly on USFS lands. The NorthMet site currently has Weeks Act protections against destroying the surface by strip mining. The USFS has stated that, as their official position in the DEIS, it is postulated that a land exchange will occur sometime in the future which would give PolyMet the surface rights to strip mine. The land exchange is a connected action and the DEIS should include the environmental impacts from such an exchange taking place. The EPA's position is that the land exchange should be addressed in PolyMet's DEIS. The severed estate of the land, with its accompanying environmental restrictions, should have defined the project as an underground mine. Instead we have politicians and federal land managers pretending that this is not the case. The public, as well as PolyMet stock holders, deserve to know that current environmental laws protect this land from strip mining.	PD1

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
18225	Impacts to endangered and threatened species are not adequately addressed in the DEIS. The project's potential harm to Lynx, Wolf and Moose are inadequately addressed. This is critical Lynx habitat, yet there seems to be no real plan to protect the Lynx and their habitat. Moose have had catastrophic population declines. One of their main habitats is wetlands and bogs. The Minnesota DNR should have, as their priority, saving Minnesota's moose instead of permitting the destruction of their habitats. The effects on the plant species, such as the Botrichium, are inadequately addressed in the DEIS. It is assumed that there will always be another colony of plants, or that the Lynx can go around a mine pit. At what point can the wildlife no longer adjust to the monumental changes to their surroundings with one project after	WI1,WI2
18227	This would be the single largest destruction of wetlands ever permitted by the ACOE in Minnesota. Wetlands (especially peat) sequester CO2 and their destruction has not been adequately addressed in the DEIS. When Marty Vadnis was questioned at the 2008 MN sulfide mining legislative hearings , he was asked why this fact was not addressed in PolyMet's scoping documents. He replied "because no one brought it up during the comment period". The use of wetlands as treatment of metals and sulfates sequestering, is speculative and not supported by the science or past history at the Dunka Mine site. The peat contained in the wetlands will require periodic "recharging". This would involve mining peat and replacing the contaminated peat with fresh peat, and it would need to be done virtually forever. What is the carbon footprint of the destruction and use of wetlands (and peat in particular) in the manner PolyMet proposes? Other treatments proposed to control for Acid Mine Drainage and heavy metal leachate, such as adding limestone as a buffering agent, is also speculative and their lasting efficacy is unproven.	WE2,WE6,AQ3
18229	Using wetlands to sequester metals is an economic and political "solution" to metals pollution from mining. When the MDNR and MPCA first started studying using wetlands as metal sinks, as well as constructing wetlands for treating mine waste effluent, there was dialogue in the agencies as to whether it should be allowed (such as at the Dunka Pit sulfide overburden).It was looked at as mitigation at sites that had legacy pollution. Now the agencies are permitting mines and using wetlands as metal "mops". Should we be allowing this, is this acceptable as a precedent for the permitting of a new sulfide mining district? Also, these wetlands need to be maintained and charged, for a very long time. It is sort of a cheap perpetual treatment option, which is heavily supported by the MDNR. The state agencies do not want active treatment because they realize that ultimately, it is the state that will be responsible for these sites. To be able to use wetlands on the cheap, makes it more palatable to permit these mines which will require near perpetual treatment.	WE2
18230	Groundwater and surface modeling, done by PolyMet, is illogical and incomplete. The Tribes have made important comments on the inadequacy of the DEIS on water modeling and predictions. It seems that PolyMet got the answers that it was looking for in its modeling. The effects to groundwater (and eventually surface water) are perhaps the most troublesome of the project. Hydrological connections and the effects that PolyMet would have on the water resources is not adequately understood, studied, or addressed in the PolyMet DEIS. Heavy metal pollution in violation of federal laws and compacts is predicted to occur as a result of the project. Tribal comments suggest that the heavy metal and sulfate pollution will be much more extensive and persistent than is admitted in the DEIS. The potential for Acid Mine Drainage is virtually ignored in the DEIS. Rock characterization predictions (guesses), are replacing any evidence that would show the project will do irreparable harm to the State's resources. To the	WR1E,WR2A,WR2E,WR2F
18231	Metal, Fiber, and Mineral dispersion into the ecosystem is not adequately addressed in the DEIS. Areas such as Libby, Montana have seen toxic dispersions of asbestos for 20-30 miles beyond the original contamination source. Possible effects to humans, wildlife, fauna, as well as aquatic life, have not been adequately addressed in the DEIS. The probability that various toxic materials, including Amphibole Fibers/Particles or asbestiform fibers, will be dispersed into the surrounding environment and possible negative consequences is not being adequately addressed. It appears that it is the position of the permitting agencies that monitoring for, in lieu of actual protections from, harmful occurrences will be allowed to suffice in the project.	AQ4C

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
18232	Mercury and methyl mercury. The DEIS does not adequately address mercury release from the project, both from the tailings piles and mine pits. Not only is the St. Louis River watershed already impaired from mercury, the sulfates from the project will greatly exacerbate the methylation of past, present and future mercury. Exceedances of aluminum and mercury already exist in the Embarrass River. PolyMet will add to this, contrary to EPA rule (40 C.F.R. § 122.4(i).	WR4B,WR5A,FM1,FM3,A
18235	The permitting of PolyMet would be a violation of the Great Lakes Compact of zero discharge of Mercury to the basin. The claim that the project will not contribute mercury to the Lake Superior basin is unfounded and not supported in the DEIS.	EOO,WR4D
18236	Sulfates released into the ecosystem are inadequately addressed in the DEIS. the effects to the areas below and downstream from the project assume there will be little effect from mercury, other pollutants and sulfates. This assumption is speculative and is not supported in the DEIS. Recently the Duluth-Superior harbor has had its steel infrastructures eaten away at the water level It has been speculated that it is from sulfate reducing bacteria from an industrial source of sulfate. It would seem reasonable to assume that legacy taconite mining, with its documented release of sulfates, has contributed to this unexpected and unintended consequence. Who will be responsible for the unintended consequences from permitting a new highly toxic industry in the already impaired system?	PD3,PD4
18237	The Economic model in PolyMet's DEIS is inadequate. It appears to have just addressed any possible benefits without any of the true costs to the region and the state. Mining is historically a boom and bust industry, that is the best you can say about mining economies.	SE3
18238	the Range was booming. Planning for more workers to come into communities and destabilize the existing communities, just makes the bust even more traumatic. The DEIS does not adequately address the potential for the negative social or economic impacts to the area.	SE3
18239	The opening of a new industry, such as copper sulfide mining, in areas that depend on tourism and the natural resources of the area, communities such as Ely, will have a devastating and long lasting effect upon their economic base. In areas that have seen mineral exploration, the real estate market has been destabilized. People do not want to live near a copper mine. North eastern Minnesota is believed to be highly mineralized, much of it by low grade sulfide ores. Most of the ores found here are fairly common. What the mining companies like, is the mining friendly regulators charged with permitting their projects. Although many of the metals are quite common, there are only so many places where you are allowed to so utterly destroy the land and alter the hydrology of an ecosystem. The value of Sudbury, Ontario and Appalachia, to mining interests, is that there are only so many places where you are allowed to forever alter the land and in the process impoverish successive generations.	SE4
18240	Dr. Tom Powers compiled a report on Minnesota's mining economy. Those findings should be included in the DEIS. It is a simple observation that mining communities tend not to be prosperous.	EOO,SE3
18241	Other sulfide mining projects and the planned sulfide mining district is not addressed in the DEIS. The USFS is currently doing an EIS for hardrock mineral prospecting in the Superior National Forest. While the USFS has been slow to address hardrock mining in the SNF, it has begun the environmental review process. The state of Minnesota (MDNR lands and Minerals, NRRI, IRR) is promoting metallic sulfide mining in the state through technical assistance, grants, leasing, etc. The MDNR is the lead permitting agency for the PolyMet NortMet Project, yet they are also the lead promoter of metallic mining in the state. This presents a conflict to those charged with fulfilling the environmental review, this dual mandate to protect and develop the resources should be addressed in the DEIS.	G9
18242	Companies are exploring across NE Minnesota. Those in the advanced stage of exploration and mining near the PolyMet Project should be addressed in the DEIS. That would include Teck Cominco, which just conducted an EAW for a large scale sample project next to the NorthMet site. Franconia Minerals, Duluth Metals, Encampment Resources and Kennecott all are leasing and exploring for mineral targets that the state of Minnesota has spent years geologically defining. The DEIS is inadequate in not addressing the State's own plans for a sulfide mining district.	G9
18243	If Duluth Metals is not a "real" project, why is the responsible party status at the Dunka being transferred to them?	G9

*Alphabetical by sender's first name*

<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
18244	PolyMet is proposing to permit for a third (32,000 tpd) of the plant's 100,000 tpd processing capacity. PolyMet has been touting, in their corporate presentations, the potential for processing adjoining ore bodies in their excess capacity. The planned future use of PolyMet's excess capacity must be addressed in the DEIS. To allow the project to be misrepresented in the environmental review in order to under evaluate the potential for harm, is unacceptable.	G9
18245	Accurate descriptions and predictions of mine closure timelines are not adequately addressed in the DEIS. How long is treatment expected to be required? In the CPDEIS there were numerous references to perpetual treatment. It appears those unpopular references have been removed from the DEIS. In reality the PolyMet Project, if permitted as proposed, is expected to require perpetual treatment. The DEIS must state that fact in order for the public to get an accurate description of what will be required. PolyMet is not expected to be in existence beyond the project's permitted life. That means the burden of perpetual maintenance will fall upon Minnesota taxpayers. If PolyMet follows the path of many metallic sulfide mines, there will be no responsible party and Superfund status will fall on the site with the accompanying public liability for clean up and treatment. Nowhere in the DEIS are the potential financial liabilities discussed. The possible catastrophic economic scenarios are being left out of the DEIS. The DEIS is inadequate by failing to address financial assurance and liabilities for the project.	PD3
18246	It is stated, in the DEIS, that the project will provide the USA with needed supplies of metals. This is not correct and is not supported by the DEIS or PolyMet's own claims to the contrary. PolyMet has joint ventured with and has off take arrangements with international mining giant Glencore to send 100% of the metals from the project out of the country. If the metals at PolyMet's NorthMet site are strategic to our national interest, then they should remain at the site for our own national security and emergency needs. It is disingenuous to argue that the metals are strategic to our national interests and then allow them to be sent out of the country for speculative gain to international commodities traders. The claim that we need these metals is also untrue. The project degrades the very things that we do need, air, water and sustenance. It has been postulated that there are not enough metals in the world to satisfy our perceived "needs". The DEIS is woefully inadequate in its analysis of our needs vs. wants.	G1
18247	There are several key assumptions in the deterministic modeling and Uncertainty Analysis for the Mine Site that warrant further evaluation, including: 4.1-85 "Humidity cell testing is continuing and changes in dissolution rates that may occur over time could affect the accuracy of the groundwater quality predictions." "...the amount of mineral surface area contacted by water passing through the full height of a waste rock stockpile is much greater than the surface area contacted by water passing through a humidity cell." "Clarification is required regarding the methods and data used by PolyMet in determining the acidification factor." p. 4.1-123 "PolyMet proposes to construct an approximately 160 acres wetland at the East Pit once filling is completed, which would receive and further treat effluent from the WWTF (further reduce concentrations of metals). There is very limited data regarding the effectiveness of constructed wetlands in removing mercury. ...Based on the scientific literature, the constructed wetlands would be expected to be variably effective in removing total mercury, and could function as a source of methyl mercury production. From p. 4.1-107 The Proposed Action may affect the water quality of the Partridge and Embarrass rivers and their tributaries that drain the Mine Site and Tailings Basin....several potential pathways for surface water quality impacts remain, including non-contact stormwater runoff, seepage from rock stockpile liners, the hydrometallurgical residue storage area, the Tailings Basin, and pit lake overflows.	WR2E,WR3L,WR4A,WR4
18248	There is an unacceptable level of uncertainty in the project, including but not limited to: rock characterization, hydrology, impoundments, efficacy of long term treatment options, effects upon endangered species, heavy metal dispersion into the environmental, persistent pollution and Acid Mine Drainage, long term ground and surface water quality degradation.	PD2,PD3,PD8,PD10,CR1
18249	In the CPDEIS and the DEIS, there are unanswered questions pertaining to the stability of the LTV tailings basin, this has not been adequately addressed. Tribal and agency comments voice their concerns over the tailings basins, why has the DEIS been released when questions remain as to the safety of the tailings basins? In 1991 the MPCA approved a compliance plan for coal ash disposal site that failed and spilled coal ash over Highway 61 and into Lake Superior.	EOO



*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
18250	The Hoyt Lakes-Babbitt Connection Project has not been cancelled and must be included and assessed in the DEIS, as part of PolyMet's Cumulative Impacts. Millions of dollars have been spent on the design of the project and environmental review has begun, it has been temporarily placed on hold while further funding is sought (according to St.Louis County). During scoping there was a lot of public attention drawn to the project because of the connection to the PolyMet NorthMet project. While funding may be an issue, undoubtedly public scrutiny played a part in the decision to place the Hoyt Lakes-Babbitt Connection Project on hold, at least until the expected permitting of the PolyMet NorthMet project. The PolyMet DEIS does not adequately address the Cumulative Impacts from the Hoyt Lakes-Babbitt Connection Project.	G9
18251	PolyMet's DEIS should get a determination of inadequate and the no action alternative is the only legal option for the NorthMet Project. It would be a violation of state and federal laws, including the Clean Air Act, the Clean Water Act, NEPA, and MEPA if the PolyMet project were allowed to proceed.	PRO7
<b>Sender Last Name:</b> Andrews <b>Submission ID:</b> 147		
138	Basically, I support the mine for a lot of economic reasons, but also, I believe that we need the products, we can produce them here, and we can produce them here with environmental controls. If we don't produce them here, they'll produce them in a third world country, no guarantees on environmental controls. The product'a here, produce it here, keep the jobs here.	EOO,G5
<b>Sender Last Name:</b> Androff <b>Submission ID:</b> 2056		
2491	We already live in a cess pool of toxins and should not be asked by yet another corporation to add to their cummulative effect. Clean water is becoming so scarce that we cannot in clear conscience add to its pollution.	G7
<b>Sender Last Name:</b> Anonymous <b>Submission ID:</b> 3625		
3907	I hope the DNR issuance of PolyMet permits will not reflect an acrobatic accounting of costs and benefits but will include the value of the stream of environmental services currently provided by the 6700 acres of land in question. Some of those [illegible] priced (extractables) and others non-priced (carbon sequestration in living and nonliving biomas, water retention and cleansing, atmospheric gascycling, nutrient cycling, photosynthetic energy [illegible] to the atmosphere ect.) These services yield essential value that is lost in perpetuity. To contrast the benefits of this mine are fintite and of short duration while the external costs of sulfide mining are potentially also in perpetuty. I fully expect that the permits will be issued, reflecting the myopic social choice of sacrificing our sustainable resources for non-renewables in order to power our current demographic/economic binge.	EOO
<b>Sender Last Name:</b> Apter <b>Submission ID:</b> 3013		
3425	Please move forward with this mining project. These resources are critical to the region and the nations future. It would be improper to delay these efforts because of people who have no interest in economic development. I would hope you would see that this is a sound proposal that will help our area. Thank you for your consideration of this project.	EOO,G1
<b>Sender Last Name:</b> Armstrong <b>Submission ID:</b> 222		

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
225	I would like to express my support for the North Met project. With 35 years of mining experience at Minntac I saw firsthand how our state and federal agencies were able to effectively regulate mining in Northern Minnesota. I know some of the management at Poly Met and I find these people to be very responsible. I feel that with government oversight and with responsible people at the helm this project can be environmentally responsible and economically rewarding.	EOO
<b>Sender Last Name:</b> Arneson		<b>Submission ID:</b> 3748
1	I object to the inadequacy of the DEIS to demonstrate that the proposed mining and processing operations could be done without polluting and without putting taxpayers at risk for extensive and expensive cleanup efforts that would be needed at such a massive disturbance of sulfide rock.	PD2,PD4
2	I live on the Iron Range of Northern Minnesota and have been following the PolyMet project. I am in support of this project.	EOO
2	I also believe that we need 120 days for a comment period, and we need to have more open meetings where we are able to speak our concerns for the rest of the -- I'm trying to think of the right word. Do -- do you have to put that in too? THE REPORTER: Sure. I write everything down. MS. CARLA ARNESON: Oh, funny. I think it's important to have open meetings where people are allowed to say what their concerns are so the rest of the audience is aware that there are other concerns out there and what they are. And it helps when you write the EIS comments to bring up new information, so I -- I really don't think this was a good idea to have closed comments. As I said, I'd like to have more meetings. I'd like to have 120 days so we have time to really look at this. As I said, I've researched it, and it's still daunting. I intend to read the EIS from cover to cover, and it's going to take quite a while, especially for people who have day jobs. You know, I have a little more leeway because I am retired. I have a little more time to be able to read it during the day, but most people are working, and for them to try and do this in 120 days with all the scientific information is literally impossible. So thank you.	PRO6
3	For several reasons, the DEIS Northmet 2009 is arguably the most important mining project to be considered for north eastern Minnesota. The Project reflects a major departure for Minnesota, from traditional iron ore and taconite mining to hard-rock (Sulfide) mining: “.the first large-scale non-ferrous metallic mineral mine in the State of Minnesota.” (DEIS Northmet: Chapter 3.1, Proposed Action) The DEIS Northmet proposes a form of mining that is highly controversial in Minnesota, the U.S. and globally. (Precious Waters. <a href="http://www.preciouswaters.org/resources/polymet-mining-activity-minnesota/">http://www.preciouswaters.org/resources/polymet-mining-activity-minnesota/</a> ; Sulfide Mining: <a href="http://bwcaboard.com/board/viewtopic.php?f=88&amp;t=1698">http://bwcaboard.com/board/viewtopic.php?f=88&amp;t=1698</a> ; OK Tedi Mine: <a href="http://archive.wri.org/biodiv/pubs_content_text.cfm?cid=1860">http://archive.wri.org/biodiv/pubs_content_text.cfm?cid=1860</a> ; Environmental Impact of Mining: <a href="http://rainforests.mongabay.com/0808.htm">http://rainforests.mongabay.com/0808.htm</a> .) This controversy is fueled in part by a consistent pattern over decades of hard-rock mining companies overstating the benefits of hard-rock mining while understating the true aggregate costs and adverse impacts on the environment and health. (Power TM. Economic Role of Metal Mining in MN, 2007: <a href="http://www.cas.umn.edu/econ/documents/faculty/power_econRoleMetalMining.pdf">http://www.cas.umn.edu/econ/documents/faculty/power_econRoleMetalMining.pdf</a> ; Boulanger A, Gorman A. Hardrock Mining: Risks to the Community, 2004: <a href="http://www.womenandenvironment.org/newsreports/issuereports/Mining_Health_Report_final_lo%230.pdf">http://www.womenandenvironment.org/newsreports/issuereports/Mining_Health_Report_final_lo%230.pdf</a> . For these reasons, the DEIS Northmet should provide clear and convincing evidence that the proposed Project will provide citizens of MN with benefits that exceed the risks. In light of the well-documented deleterious impacts on the environment of hard-rock mining in the U.S., the Project proposers should offer detailed evidence as to why the predictable and often devastating effects of hard-rock mining witnessed at mining sites over the decades will not occur with the Northmet Project. To achieve this goal, the DEIS Northmet should be a transparent and clearly science-based project proposal. The goal of transparency should be advanced by providing detailed information regarding the respective roles of the lead federal and state agencies. The unique, separate and at times, conflicting roles of the Forest Service and Bureau of Land Management regarding oversight and management of the Superior National Forest and mineral resources should be elucidated. The focus, mission and legal underpinnings of these entities are different and goals, objectives, and expected outcomes related to this Project and related projects should be provided.	PD3

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
4	While much effort has gone into the preparation of this DEIS Northmet, there are major deficiencies: The DEIS does not clearly demonstrate that Project benefits outweigh the risks; there are major gaps in transparency of the Proposal, with no information provided on disclosures or potential conflicts of interest; and finally, each section of the Draft EIS Northmet contains statements and conclusions that lack supporting documentation of the assumptions upon which these statements and conclusions are based. Profuse generalizations often mask the lack of specific evidence-based answers to critical questions. Much data in this DEIS was provided by consulting organizations, whose science expertise, and relationship with the lead agencies and mining company are not included.	G8
5	4.4.3.1 Proposed Action (Environmental Consequences): It is stated that the Final EIS will include results of consultation between USACE and USFWS regarding potential effects on Canadian Lynx and other federally listed species. I suggest that this consultation summary as well as the “process” be included with specific findings from research, assumptions and methodologies used. What specific efforts have been made at the Project site to identify Lynx? Have trail cameras been deployed? Have there been searches of the site for Lynx den sites. Or are statistical data being used to describe the potential impacts of mining on these species?	RFI,WI1
6	4.4.5 Approach (Wildlife Travel Corridors): The list of projects identified as potentially impacting wildlife corridors does not include the Franconia; Duluth Metals; Encampment and Tech Cominco projects in the nearby Ely area. Please include these projects in your analyses. It is inconceivable that further development of mining in these areas is not relevant to the cumulative impact of the Northmet Project and other human activities in animal corridors in northeastern MN. Will Table 4.4-9 be revised to reflect these projects?	WI5
7	Finally, the cumulative effects analyses are few and incomplete with little information provided about the broader implications of this Project and other hard-rock mining activities in various phases of development and in the queue in the Arrowhead. It is vital that Minnesota take both a focused view of the impact of such projects but also a broader view of the context in which these projects are taking place in northeastern MN. The aggregate effects must be critically examined since science tells us that our current rate of human activities affecting land use are unsustainable. (Foley et al. Our share of the pie. Science, 2005: <a href="http://www.pnas.org/content/104/31/12585.full">http://www.pnas.org/content/104/31/12585.full</a> ; Boakes et al. Extreme contagion...Proc R Soc B, 2009: <a href="http://rspb.royalsocietypublishing.org/content/early/2009/11/25/rspb.2009.1771.abstract">http://rspb.royalsocietypublishing.org/content/early/2009/11/25/rspb.2009.1771.abstract</a> ; Foley et al Global Consequences..Science, 2005: <a href="http://www.sciencemag.org/cgi/content/abstract/309/5734/570">http://www.sciencemag.org/cgi/content/abstract/309/5734/570</a> ; Haberl et al. PNAS 2007: <a href="http://www.pnas.org/content/104/31/12942.full.pdf+html">http://www.pnas.org/content/104/31/12942.full.pdf+html</a> )	CR1
8	4.5.4: Mercury and bioaccumulation in Fish: The DEIS does not include important science regarding metal contamination from hard rock mining and toxicity in fish and macroinvertebrates other than mercury. Cadmium (Cd), lead (Pb) and zinc (Zn) in water and streambed sediment have been found to exceed Ambient Water Quality Criteria (AWQC). This deficiency should be corrected. (Maret TR et al. Fish Assemblages and Environmental Variables. .Trans Am Fisheries Soc 2002;131:865-84. <a href="http://afsjournals.org/doi/abs/10.1577/1548-8659(2002)131%3C0865:FAAEVA%3E2.0.CO%3B2">http://afsjournals.org/doi/abs/10.1577/1548-8659(2002)131%3C0865:FAAEVA%3E2.0.CO%3B2</a> )	FM1
8	4.5.3.1 Proposed Action (Environmental Consequences: Fish): Water Quality Effects p4.5-15: Was the conclusion reached in this paragraph informed by the most recent Climate Change data regarding disruptions in normal cycles of extreme weather events? (WHO; UNEP Intergovernmental Government Panel on Climate Change: <a href="http://www.ipcc.ch/">http://www.ipcc.ch/</a> ) Do the assumptions regarding lack of impact even under extreme low flow conditions include changes predicted by Climate Change forecasts? This question applies to all other sections that have reached similar conclusions.	G14,WE1,WE2
9	Even in MN’s two Class I areas (BWCAW and Voyageurs NP), visibility impairment is being quantified. New construction and development, including mining companies on the Iron Range, threaten to add to the problem. Global sources of air pollutants are increasing. The projected added air pollution from the proposed activities in this DEIS and subsequent proposed sulfide mining must be evaluated in the context of such changes. Fine particles (which have serious human and environmental adverse effects) will clearly be generated from multiple sources associated with this Project including forest disruption, soil erosion, road building, mining, vehicular traffic, etc.	AQ4B,AQ9

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Comment ID	Comment Text	Theme Codes
9	4.6.1.1 Existing Conditions: Regional Climate and Meteorology: Surface data are reported from the Hibbing Monitoring Station with estimates of the wind direction, etc. Why aren't other closer monitoring data provided. For example, wind roses for MN and surrounding cities ( <a href="http://climate.umn.edu/wind/windRoseClimatology.htm">http://climate.umn.edu/wind/windRoseClimatology.htm</a> ) provide data from Ely, MN Municipal Airport.	AQ4,AQ5
10	The Indian tribes working on the EIS and the United States Environmental Protection Agency have provided helpful information on the inadequacy of the PolyMet draft EIS. Before this sulfide-mining project is even considered for permits, these gaps must be completely filled. Please take the time and do the scientific research to add supplements to the draft EIS and give people in Minnesota a fair chance to know what impact the PolyMet project actually would have on our State.	EOO,G8
11	According to the DNR's Mission statement, if you are to allow this mining, by this or any other company or agency, and the like, you do not believe in your own mission statement, and what the DNR was created to do. If this is so, being as my tax dollars help pay for the DNR's services, please quit so people who do believe in the sustainability and the preservation of our natural resources can do the job and represent us properly.	EOO
11	I am in support of the Polymet mining Project. I think that the DNR has done a through job on insisting that the project be done in an enviromentally sound method. I believe that the people in the DNR are very qualified. I have read quite a few anti-letters to the editors of papers and I don't believe they have done any studying as to how the project will be done and what regulations are being installed to see that the project will be done environmentally sound. Mining is the life blood of Northeastern Mimmesota. Our people and our schools are suffering. We can also provide minerals that currently must obtained from other countries. We are sending our money overseas. From the DNR studies we can do this mining environmentally sound, so lets get at it!	EOO
12	I worked as a guide in the BWCAW for 4 summers and strongly oppose this mine!	EOO
12	• I support the PlyMet Mining's NorthMet Project, and the adequacy of the draft EIS. • I am employed in the construction industry - the project would bring good construction jobs to the area. • Polymet has demonstrated it's ability to comply with Environmental requirements. • The positive economic impact is of significant benefit.	EOO
13	Mining has a tremendous public health and environmental impact.	EOO
13	We support the new project (Polymet Mining's NorthMet Project). It will be nice to see the old LTV site used and to keep the Iron Range productive and benefiting the state of Minnesota's employment and economy. The DEIS has been a long time coming and at a very high price. It is a very long and comprehensive document and we can only scratch the surface but, it seems to cover all the environmental items we can think of. So let's start construction in 2010 and not wait another 10 years.	EOO
14	It is feared, and has been noted in the DEIS, that there will at some point be problems with the release of toxic materials at some level at this project. To me it seems that the risk dwarfs the rewards. There is nothing there, no mineral or metal, that cannot be gotten elsewhere. As a matter of fact, the only reason this project was even proposed by PolyMet was because the price of the metals had gotten high enough to warrant the project. There are many mines around the world that can produce the same metals with much less environmental risk. Nothing there will change the world because we have more of it. Therefore, why take the risk on something where there is such a great chance of failure? Not only PolyMet, but the other companies who are just waiting to see how this comes out so that they, too, may jump in and proceed with their own projects--each with their own unique risks. My worry is that this project is going forth not on the basis of what is right, what is best for Minnesota, what is best for the conservation of the precious wilderness, but simply because permits have been applied for, draft environmental impact reports have been filed and reviews are in progress. It seems from the PolyMet press releases that this is all a done deal and it is just going through the motions to begin their project. Where is the hard look at this project that should be taking place, where is the real concern about the consequences should this project go bad?	G8,WE5,WE8

*Alphabetical by sender's first name*

<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
15	I understand that the water leaching from waste rock piles at the site is expected to exceed water quality standards for up to 2,000 years. That alone should worry everyone involved with this project, should raise a red flag that makes every last person in this chain of decision making stand up. The fact that there must be huge sums of money up front to take care of what has already been deemed the inevitable clean up should alone disqualify this project from going forward. It is unacceptable to proceed with a mine that already predicts these kinds of pollution outcomes.	EOO,G8C,WR1E
15	I support Polymet's NorthMet project. It is good for all of Minnesota.	EOO
16	I believe that our natural resources have far greater economic value if preserved than the return from this form of mining. I think the DNR must be pro-active in preventing the environmental impacts that have been experienced in almost all locations of sulfide mining and are especially risky in the water sheds and geological nature of this area.	EOO
16	I want to continue to enjoy the clean water, the quiet and the natural beauty of this area during my lifetime. More importantly, I want future generations to be able to enjoy these natural resources and for the State of MN and local communities to share in the economic benefits that derive from preserving these resources.	G11
17	My main concerns are for water quality both in near term and for decades to come, for destruction of vital wetlands, fish, and other wildlife, for the disruption to the BWCAW and State Forests as key recreational areas, and to the negative economic impacts to local areas as well as the Minnesota taxpayers.	PD10,G1
17	I whole heartedly support the PolyMet Mining NorthMet project!	EOO
18	I am a former long-time resident of the state of Minnesota and an ex-employee of a mining company on the Iron Range which was shut down by one of the typical Minnesota economic maladies. I have worked in the mining industry most of my life and have closely followed the progress made by PolyMet over the past eight years. It is enlightening to see a spark of life showing up again in the North, especially after seeing other areas in the state reap most of the benefit of good years past. The current worldwide economic situation makes it look quite bleak for the area I used to call home. Housing slumps which have always seemed to hit the Range area hard seem to be gearing up again, and PolyMet has the means and momentum to significantly support the area with jobs, tax revenues and business opportunities. This project needs to get as much support as can be provided. The potential sources of commodities produced in the state of Minnesota, and especially in the North, are not particularly numerous anymore, and the continuing worldwide need of the specialty metals produced by PolyMet will provide a state revenue stream for many future years. I would like to see my friends and relatives share in the good times to return to the Range. Allowing Canada, Russia and China to control the world supply of these metals, when you have them sitting untouched in your back yard, is not an option. You have the good fortune to have a responsible company who has shown the best integrity in identifying and addressing the methods for keeping Minnesota's resource development and production in harmony with the environment. After recently reading about how some of Northern Minnesota schools face extinction due to lack of revenues, I would suggest favorable and timely action to avoid start-up delays at North Met. The solid, dependable work force of the mining areas of the state need to be granted more jobs and the opportunity to assist in the coming economic recovery. Let's help the North get back on track!	EOO
19	I SUPPORT THE POLYMET MINING NORTHMET PROJECT	EOO

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Comment ID	Comment Text	Theme Codes
20	<p>"One of the biggest factors in the dark history of sulfide mining is how frequently mining companies are wrong about what their impacts on water quality will be. One peer-reviewed study found that, while all projects that were reviewed predicted they would not pollute, at least 76 percent of the time they still did. The same study found that 89 percent of mines that have polluted said they would not. "The industry's track record of not paying to clean up its messes is long and shameful. A few examples include: □ Zortman-Landusky Mine, Montana – \$33 million and counting □ Summitville Mine, Colorado – \$185 million and \$1.5 million/year □ Grouse Creek Mine, Idaho – \$53 million" (-- from Friends of the Boundary Waters' Sulfide Mining page) These and other factual horror stories on the damage already being done by acid mine drainage are welldocumented. For one national source, see EARTHWORKS website search on 'acid mine drainage'. Policymakers should be very careful to guard against repeating these mistakes. In our region, there are few if any examples of successful pollution prevention, especially long-term. □ On Michigan's Keweenaw Peninsula, copper mills discharged an estimated 200 million tons of coppercontaminated waste directly into Torch Lake, reducing its volume by 20 percent and leaving a toxic threat to fish and anyone who eats the fish. Information can be found in the Mining Waste National Priorities List Summary Report, Torch Lake, Houghton County, Michigan. □ In Ontario, the Geco and Willroy mines, owned by Noranda Minerals Inc., near Manitouwadge generate acidic runoff laced with heavy metals that must be treated in perpetuity. Metal loadings will steadily increase downstream over time. Geco operated from 1957-1995 and Willroy from 1955- 1977. According to reports in 1995, Inco's Shebandowan Mine west of Thunder Bay contributes nickel loadings from the minesite (including mine drainage to creeks on site) that are ten times higher than background inputs. From: "under Mining Superior: A Report on Mining Activities and Impacts in the Lake Superior Basin," by Northwatch (Summer 2001). northwatch@onlink.net Flambeau Mine In Wisconsin, the Flambeau Mine has been held up as an example of a clean sulfide operation, but after partial closure, it is sitll polluting the Flambeau River. In July, Wisconsin Resources Protection Council filed a lawsuit to force the Wisconsin DNR to enforce water quality regulations and monitoring requirements. The lawsuit holds the agency and company accountable for ongoing pollution at Kennecott's Flambeau Mine in violation of Wisconsin law as well as the federal Clean Water Act. (Note: Kennecott is exploring heavily in Aitkin County, Minnesota.) Press Release June 18, 2009 Flambeau Mine Causing Illegal Water Pollution Conservationists announce intent to file lawsuit over water pollution from Flambeau Mine</p>	WR5A
20	<p>And relating to air -- air quality, they were talking about the -- the dust generated within the mining operation is going to be pretty much confined to an impact zone. When that dust settles in that impact zone and we have a lot of wind and everything up here, that dust does carry with it a mercury component, so when the wind carries that to another watershed, what is -- what is being done to address that impact of -- of airborne particles outside of the actual mining operation? We have a lot of times when the Boundary Waters, you know, the fires and everything else there, we get a lot of fallout ash and dust and whatever from that, so -- and that's miles and miles away, so it's -- it's a concern that I have in terms of mercury that could be airborne, you know, from the mining operation, what -- what's being done.</p>	AQ4,AQ6A
20	<p>Even though there are no metallic (copper or nickel) sulfide mines in Minnesota, we have our own acid mine drainage (AMD) or acid rock drainage (ARD) hot spot near Babbitt. At the Dunka open-pit taconite mine, LTV Steel removed some sulfide overburden to get to the orebody of interest. The sulfur-bearing waste rock was piled up and ignored at first. For decades, known AMD has been produced by the waste pile and pit walls, polluting Unnamed Creek, which flows into Bob Bay of Birch Lake, which flows into the Boundary Waters Canoe area. Despite mitigation efforts of the company and Minnesota DNR "studying" the site, it is now under an expired Minnesota Pollution Control Agency (MPCA) permit and water quality variance for some of the known seeps. These seeps release lethal concentrations for certain aquatic species, which exceed water quality standards. Yet, for several years, the Commissioner has not required the existing water treatment plant to operate, even during the warm months, citing cost considerations. The U.S. EPA has emphasized that contamination levels at the Dunka Pit are due to Duluth sulfide rock formation, like that in a copper or nickel mine. "The mine waste rock may be, therefore, more analogous to a copper-nickel mine, rather than an iron ore mine." ( Tech Res. Doc. Extraction and Beneficiation of Ores &amp; Minerals, Vol. 3 1994). WaterLegacy members are concerned that if companies are allowed to operate under such variances, there is little point in establishing permit conditions to protect the water quality. WaterLegacy has requested of the MPCA historical and background information on the Dunka pit.</p>	WR1E

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Comment ID	Comment Text	Theme Codes
21	I am a mother who is very concerned about the proposed PolyMet sulfide mine on public land in the Superior National Forest. As well as being a mother, I have been living long enough to know that corporate interest in extracting the minerals is based solely on the bottom line. The corporation is only interested in what their actions do or leave behind in so much as they are required to be for gaining the permission to mine. I have no say in the corporation's business, but I would like to share my opinions and concerns with you, who will have a say in whether this company is given special permission to extract from and pollute our environment. If you say, "They will not pollute," maybe you should spot yourself in a passing glass window or bathroom mirror to see if you believe yourself or not.	EOO
22	If history and reality speak the truth, the proposed mine will significantly raise methylmercury levels in the Partridge and Embarrass Rivers, due to leaching of sulfates which will increase mercury methylation. It may pollute immediately, or 20, 30, 50, 100 years from now, but it will undoubtedly pollute someday. Raising the levels of methylmercury in the Partridge River and the downstream St. Louis River, which are already impaired by the unsafe levels of mercury, is contrary to Minnesota State Law. The idea of allowing additional water quality challenges to this river system is confusing to me. The impact of sulfate pollution will be on wild rice, the Fond du Lac Band that lives downstream, healthy fish habitat, and ultimately the ground water. I have entrusted you, through our government, to protect our waters. This is your unique role and one that can hold the muster of time, since you should not be tempted with concerns for jobs, profits, "progress" or other short-term potential results from this mine at the expense of the priceless value of clean water. I do believe that the test of time will determine that water is more important than copper.	WR4B,WR4F,WR5A,WR5
23	I ask you to deny the PolyMet mine until a truly pollution free mining option is proven. Minnesota, with its water rich environment, should not be the state to experiment with new untested mining systems. Please consider my plea.	EOO
24	I am extremely concerned about mercury and sulfate pollution associated with the proposed PolyMet mine, which will compromise the wild rice beds, the Partridge and St. Louis Rivers, fish habitat, and eventually the ground water. The St. Louis River is already considered impaired by unsafe levels of mercury. Yet the DEIS does not adequately address this impact, even though Tribal Agencies have raised serious concerns about it.	WR4B,WR4F,FM1
25	There are a lot of environmental concerns for the PolyMet mine, but my concern I would like to bring to you today is about the electrical load. Yes, it will be less than the site used many years ago. And yes, all the wires and equipment are in place, but in 2007, the state of MN passed several energy laws to produce 25% of its power from renewable energy, and to also reduce the electrical load of MN over time. Reduce! My understanding of this legislation is that if we are going to add any electrical service/loads to the grid that a greater level of energy consumption needs to be reduced to allow that load to be added. I am strongly opposed to any additional loads, especially a load of this magnitude. We will never get to a sustainable level of electrical consumption/production if we blindly move forward with projects, not even thinking about the other legislation that has been passed before. Have you considered this in your deliberation? I am asking you to put a moratorium on any new electrical hook ups of this scale until greater clarity can be agreed upon with the legislation because, where I am sitting, this hookup would be a violation of MN state law.	PD8

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
26	Dear Mr. Arkley and Mr. Ahlness: I am extremely concerned about mercury and sulfate pollution associated with the proposed PolyMet mine, which will compromise the wild rice beds, the Partridge and St. Louis Rivers, fish habitat, and eventually the ground water. The St. Louis River is already considered impaired by unsafe levels of mercury. Yet the DEIS does not adequately address this impact, even though Tribal Agencies have raised serious concerns about it. There are a lot of environmental concerns for the PolyMet mine, but my concern I would like to bring to you today is about the electrical load. Yes, it will be less than the site used many years ago. And yes, all the wires and equipment are in place, but in 2007, the state of MN passed several energy laws to produce 25% of its power from renewable energy, and to also reduce the electrical load of MN over time. Reduce! My understanding of this legislation is that if we are going to add any electrical service/loads to the grid that a greater level of energy consumption needs to be reduced to allow that load to be added. I am strongly opposed to any additional loads, especially a load of this magnitude. We will never get to a sustainable level of electrical consumption/production if we blindly move forward with projects, not even thinking about the other legislation that has been passed before. Have you considered this in your deliberation? I am asking you to put a moratorium on any new electrical hook ups of this scale until greater clarity can be agreed upon with the legislation because, where I am sitting, this hookup would be a violation of MN state law. Before PolyMet can be considered for permits, along with the serious problems in the DEIS, please deny the permit until they can fully meet the environmental standards of MN and the clean water act AND establish that adding this new electrical load will not increase the electrical demand, adjusted for conservation goals established in the 2007 legislation.	EOO,WR1E,WR5A
26	The Polymet issue is not really about jobs or money. It is about survival. Prince Phillip, a person apart from politics, gave a 13 minute speech at the Copenhagen Climate Change Conference (may be seen on Utube) in which he points out that "as our planets life support system begins to fail, our survival as a species comes into question". You can help. Copper-nickel mining is a disaster in the making. Please use your influence to stop its development.	EOO
27	Please help stop the Polymet project. Copper-nickel mining is always a disaster. We are no longer in the 19th Century. We know better now.	EOO
27	We are asking that you make something our state has been doing well even better. A new kind of mining is being discussed in Minnesota. But are current regulations strong enough to protect our taxpayers and our lakes, rivers and streams?	EOO
28	Minnesota needs stronger financial assurance rules for non-ferrious mining, not only to protect taxpayers from being forced to pay for polluters' messes, but to ensure the state can respond to threats to our clean water. Needed improvements to financial assurance requirements include: * Financial assurance should be in cash or cash-equivalent forms and deposited in the state treasure - to be beyond the reach of bankruptcy courts. * Determination of the form and amount of financial assurance should involve not only the Minnesota Department of Resources, but also the Minnesota Pollution Control Agency and the Department of Management and Budget.. * Parent or affiliate mining corporations should be held accountable for clean-up costs. * The public should have a chance to review how financial assurance figures are obtained and adjusted as a necessary protective measure for an industry with high pollution risks.	PD4
29	Please do everything you can to stop the Polymet mining proposed to mine sulfide ore minerals that include copper and nickel found in the Duluth gabbro complex formation. This would be an environmental disaster for this important natural area. This area provides for programs which have affected hundreds of thousands of youth with the opportunity to experience a wilderness where there is clean air and water pure enough to drink. To allow this development in any form would be a mistake that would affect the very soul of our nation!	EOO
29	We believe in paying taxes, but NOT FOR THE YEARS it would take to clean up the irreparable damage that will occur after the mining interests have taken what they can and then leave. What remains is the run off of waste which creates sulfuric acid. That in turn leaches out toxic metals and will pollute nearby lakes and streams.	G7A



*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
30	2.3.1: Potentially significant Issues: It is noted that the “Final SDD determined that the EIS would also address the potential cumulative impacts associated with the combined environmental effects of the Project and of past, present, and reasonably foreseeable future actions relative to: Air Quality; Biological Resources; Water Quality; Economic Impacts and Social Impacts. Nowhere in the DEIS, including Chapter 4.0: summary of the cumulative effects (Section 4.14) are the nearby proposed hard-rock mining operations of Franconia; Duluth Metals; Encampment; and Tech Cominco referred to, yet each of these proposed projects—within <25 miles of the Northmet Project site—are expected to have potentially major impacts in the region. To the extent that all these areas are bound together in regional linked ecosystems, the failure to include reference to these projects as noted in the Final SDD is surprising and suggests that Project proposers do not accept the premises embodied in NEPA and/or the heightened legal protections of BWCA and Voyageurs National Park which will clearly be impacted by hard-rock mining.	G9
30	2.3.4: Issues Incorporated into EIS after Scoping: It is noted that the DEIS will have “greater emphasis” on several areas not anticipated at the time of the Final SDD: these include methylation of mercury; fine particulate emissions and greenhouse gas emissions and climate change, among others. The current DEIS provides inadequate information for judging the validity of assumptions and conclusions regarding these critically important issues. (see below)	PRO3
31	3.2: Project Alternatives: Paragraph 3, p 3-50 states that “NEPA requires that a “range of alternatives” must be discussed...This includes all reasonable alternatives which must be rigorously explored and objectively evaluated...” It is questionable whether either the rigor or objectivity of the project alternative analyses meets the intent of NEPA. For example, failure to include in any analyses in this DEIS Northmet data/information regarding Franconia; Duluth Metals; Encampment and Tech Cominco is problematic.	ALT8
32	3.2.1: No Action Alternative: It is stated that: “This alternative would avoid the environmental impacts associated with the proposed Action; however, the social and economic benefits from the Project would not occur.” Extensive data accumulated over decades indicates that this statement should be modified to include that fact that the highly predictable “bust” cycle that is part of “boom” and “bust” mining cycles would cause “social and economic” hazards as result of this Project.	ALT8
33	4.1.1.2 Groundwater Resources (see 1.6.1 above): The lack of hydrologic data for the Northmet Project that would allow clear characterization of current bedrock groundwater, flow directions at the mine site and tailing basins is outlined. My review of the supporting data does not provide such detail. Question: Do the DEIS Lead Agencies have a disagreement regarding the facts of available data upon which key hydrological estimates can be made? The data is either available for such analyses or it is not available. There should be no “difference of opinion”. Also, on p4.1.5 footnote a similar “difference of opinion” is noted regarding the “underlying surficial aquifer.” If it is the tribal cooperating agencies’ position that any conclusions “..based on this aquifer test data have a great deal of uncertainty given the variability in the results” do the DEIS lead agencies have data that refute the “uncertainty given the variability in the results?” It would seem that variability can be quantified and the degree of uncertainty ascertained. Isn’t it the responsibility of the DEIS and lead agencies to clarify this?	WR1E
33	3.2.3: Tailings Basin Alternative: (1) Vertical wells (to capture and pump Tailings Basin seepage): in this and other sections the term “seepage” is used but not defined (under Definitions iv). The term “surface seepage” is used. It would seem that “seepage” could occur at the “surface” or below the surface from hard rock fractures resulting from drilling, blasting, and other mining operations. While surface seepage could be recognized and recovered, how does this Draft EIS Northmet propose to 1. Detect subsurface “seepage” and 2. Determine the rates, location, directional flow; and ultimate destination of groundwater in aquifers; bogs; streams; rivers; lakes?	WR2A

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
34	On p 4.1-8: Groundwater Quality: a quote from MN Rules, pt. 7060.0600 states: “The groundwater may in its natural state have some characteristics or properties exceeding the standards for potable water supplies. Where the background level of natural origin is reasonably definable and is higher than the accepted standard potable water and the hydrology and extent of the aquifer are known, the natural level may be used as the standard.” It is not clear in the accompanying tables and text how this applies to the current DEIS data. How frequently has this been observed in data collected for this DEIS? The definition of “natural state” would be critical since polluted water left to resume a “natural state” could still be polluted and thus require remediation. This raises the question: What is the position of the proposers and lead agencies for managing water quality not in conformance with state quality standards and prior to approving a new mining operation. Shouldn’t the existing water quality variances from standards be corrected before approvals are given for new mining projects?	WR4C
34	On p 4.1-3 note is made of fractures and joints in the bedrock and groundwater flow through fractures. If fractures occur at deep water levels, one could expect potentially contaminated mine waste chemicals to reach areas other than the Partridge and Embarrass River watersheds and perhaps distant sites such as Birch Lake. The geology of this region could allow this scenario. Have analyses been done to explore such possibilities? Contaminated pits will be present for many years during which time extremes in weather will occur; thus a plausible scenario would involve entry of mine contaminants into adjacent watersheds (see Fig 4.2-9). Please clarify this question.	WR2A
35	The goal of transparency should be advanced by providing detailed information for public review of Project principals: the corporation; staff, collaborators; consultants; affiliated organizations, agencies, and universities who participated in all phases of the Project proposal. There should be public review of potential conflicts of interest and/or disclosures of interest. The relationship between Project funding entities and researchers should be known in full. The DEIS Northmet should provide evidence that science-based data and information from independent research institutions were used in preparing the Project proposal. And the project should provide data regarding the extent to which this Project will impact the growing, collective adverse impacts of human activities in the Arrowhead of MN.	PRO3
35	4.1.2.4 Mercury Impact Criteria: Note is made of the relationship between sulfate and production of methyl mercury. MPCA (2006) policies relevant to this issue are outlined and recommendations are to “avoid or minimize the discharge of water with elevated sulfate concentrations to methylmercury “high risk” situations.” It is not clear, however, to what extent the Northmet Project incorporates these recommendations into their operating plans. No details are provided and “high risk” is not defined. This should be clarified.	WR1E,WR4B

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
35	4.1.1.3: Surface Water Resources: Mercury in Water: (p 4.1-48). It is noted that “PolyMet is conducting additional sampling in wetlands, streams, and downstream lakes in the Embarrass River watershed under an MPCA approved plan to help better understand mercury dynamics.” It should be noted that mercury is an important water hazard but the MPCA should broaden its project to include detailed quantification of acid mine drainage; sulfates; and other heavy metals. Focusing only on mercury provides an incomplete assessment of impacts of hard-rock mining. Since baseline and current mercury and methyl mercury concentrations in watersheds of this Project are critical to assessing virtually all priority categories of this EIS (Water; Fish; Humans; etc) it is surprising that such data are not available to better inform the water assessments and resulting conclusions. The MN Regional Copper-Nickel Study prepared by the MN Environmental Quality Board (EQB) addressed water quality from mineral mining as a concern in 1979 study of Filson Creek, S Kawishiwi River and environs. Increased metals levels of Nickel, Copper and Zinc were found. Related studies of Unnamed Creek and Birch Lake at Bob Bay related to taconite mining (Erie Mining Company’s Dunka Pit ) documented increased concentrations of sulfates and nickel. Specific information should be included in the final EIS regarding: who is doing the sampling, who will do the measurements and what will be the timetable for accomplishing the assessments. The details of this MPCA plan should be appended to the DEIS. Such attention is needed for this matter given the hazards of mercury, particularly methyl mercury on fragile ecosystems and also the consequences for bioaccumulation of mercury and implications for human consumption of fish. MN has a growing problem with mercury in water and has existing statewide mercury fish advisories that limit human consumption of fish: see <a href="http://www.health.state.mn.us/divs/eh/fish/index.html">http://www.health.state.mn.us/divs/eh/fish/index.html</a> . Seemingly “low” concentrations of mercury in water do not necessarily reflect mercury in the biota and fish tissue concentrations which may be logs higher and directly toxic to humans and on wildlife who feed on fish. The critical importance of these issues has led to creation of proposed national mercury monitoring network: see: <a href="http://toxics.usgs.gov/highlights/mercnet.html">http://toxics.usgs.gov/highlights/mercnet.html</a> . Tables such as 4.1-97 (p 4.1-190) and text (eg, p 4.1-189 and 4.1-193), throughout the Draft EIS Northmet, contain measures of mercury and methyl mercury concentrations. Since there are significant methodological issues involving such measurements of mercury, the question is whether the analyses reported reflect recognized causes of and degrees of variation in mercury concentrations. For example, significant daily variations have been noted by researchers: <a href="http://toxics.usgs.gov/highlights/mercury_streams.html">http://toxics.usgs.gov/highlights/mercury_streams.html</a> and <a href="http://toxics.usgs.gov/highlights/metals_variation.html">http://toxics.usgs.gov/highlights/metals_variation.html</a> . Have models used to project methylmercury concentrations included estimates of expected variation in measures under varied conditions? Please clarify.	WR1E,WR4B,FM1,FM2
36	4.1.3.5 Mitigation and Monitoring Measures. On p 4.1-172, Mercury monitoring is noted the MPCA Mercury Strategy (2006) that recommends water monitoring for sulfate releases and effects on methylmercury production and establishment of five monitoring sites on streams draining wetlands...” The language in this paragraph and the next paragraph where it states: “PolyMet should develop a similar mercury monitoring plan for the Mine Site...” are ambiguous. What specifically is the responsibility of PolyMet for achieving the MPCA 2006 recommendations and what does the word “should” mean? Please clarify.	WR1E,WR4C
36	4.1.3 Environmental Consequences: Note is made of Uncertainty re key assumptions and the use of “Uncertainty Analysis” for selected contaminants. Since uncertainty analysis requires a variety of objective and subjective data inputs, such simulations may produce highly variable outputs. It is stated that the analyses were approved by the resource agencies? Could the methodology, data input and analyses be appended to this EIS?	WR1E
36	4.1.3 Environmental Consequences: It is stated: “The mining, ore processing, and tailings disposal operations associated with the Project may cause changes to the quantity and quality of ground and surface water in the Project area.” The word “may” should be changed to “will”. Has there ever been a circumstance reported in the peer-reviewed literature when such mining operations have not caused such changes? Hard-rock mining causes clear predictable and adverse acid and metal-rich drainage. This DEIS focuses primarily on mercury but as noted above numerous metals leach from mining sites with toxic consequences for the biota. (Kimball BA. Assessment of metal loads in watersheds affected by acid mine drainage..Applied Geochemistry; 17; 2002:1183-1207)	WR1E

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
37	4.1.4.2 Water Quality: Northern MN, including the area of Northmet Project, has significant existing mercury impaired waters. (Fig4.5-4 and p 4.1-189 re Colby Lake) Almost 1,500 waterbodies in MN require Total Maximum Daily Load (TMDL) list. Remarkably a TMDL pollution reduction study has not been performed for Colby Lake to address this impairment. It would seem reasonable that this Draft EIS Northmet address when this will be accomplished and by whom. Is this planned prior to the projected operation of the Northmet Project?	WR4B
37	4.1.4 Cumulative Effects on Water Resources: It is most disconcerting that there is “.existing seepage from the LTVSMC Tailings Basin” and that the Draft EIS suggests that the duration of these impacts would be extended. Why have the seepage problems not been corrected? The law requires polluting offenders to comply with remediation plans. The current problems should be corrected before any new mining operations are approved. As noted earlier, shouldn’t the Cumulative Effects summaries in this and other Chapters include major projected mining activities of Franconia; Duluth Metals; Encampment; and Tech Caminco? If not, please provide rationale.	WR5A
38	Note: Please clarify: Throughout the DEIS statements are made that recommendations have been made after study (such as the above by MPCA.) I am unclear as to what the disposition is on such statements. Are these all included in the final EIS? Are these negotiated with Polymet? Who makes the decision and what is the process? The current DEIS does not provide information to answer this question.	WR4C,WR1E
38	On p 4.1-196 it is noted that MPCA (2006) “recommends avoiding “discharges” of sulfate to “high risk” situations, which include wetlands, low-sulfate water...where sulfate may be a limiting factor in the activity of sulfate-reducing bacteria...re the potential for methylmercury production.” Has Northmet Project accepted this recommendation? Who will be responsible for ensuring that the recommendation is followed?	WR1E
38	4.2 Wetlands: It would seem reasonable that “non-field” and field analyses be used to determine wetland locations unless there are scientific data that confirm that “non-field” analyses provide as much information as “non-field” plus “field” review. This DEIS states that only “non-field” analyses were used. Why?	WE1,WE2
39	4.2.1.3 ; 4.2.1.4; Wetland Classification System: The question is whether the Wetland Classification System Descriptors (see Table 4.2.1 and 4.2-2) may be ascertained by only “non-field” analyses or whether a more accurate description would result from both non-field and field assessments as noted above.	WE1
39	4.2.1.2 Wetland Delineation: Since wetlands in MN are protected by both federal and state laws, it would seem critical that precise definitions of wetlands, including their characteristics be included in the Draft EIS. This is especially true in light of the fact that 70% of the wetlands are “high quality.” (p4.2-25)	WE1
40	Potential Indirect Wetland Impacts: It is not clear in the DEIS that robust methodology exist to quantify the changes in surface or groundwater flow rates and patterns needed to project wetland impacts from the Project. What specific methodologies have been used and have they been validated?	WE2
41	4.2.4.3: Monitoring: A wetland monitoring plan is not included in the DEIS. But such a plan “should” be implemented. Such a plan has apparently been initiated by Barr 2005 and “may need to be expanded.” Several features of this plan are suggested (p4.2-37). Since wetland monitoring is arguably the most important element of the Project’s role in ensuring minimum harm to wetlands, it would seem critical that this plan be included in the EIS. This deficiency should be corrected.	WE3
41	Note: Dynamical systems analyses have apparently not been used in preparation of this and other Chapters and Sections of the DEIS. As complex systems, ecosystems lend themselves to such modeling and simulation. The ACE and DNR should incorporate such tools into the EA/EIS process and make the findings public.	G8,G14

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
42	4.4 Wildlife; The fact that numerous species are deemed fragile in MN: federally and state listed endangered, threatened, and species of special concern (ETSC—7species); MN Species of Greatest Conservation Need (SGCN-58 species); the USFS Regional Foresters Sensitive Species (RFSS—23 species), indicates that, while conservation and environmental policies in northern MN have merit, there are major threats to this region from human activities, including mining, proposed sulfide mining and logging and industrial development. It is in this context that this DEIS must be viewed with the plausible likelihood that the Northmet Project will only add to these environmental burdens and threats to wildlife. I found no evidence in the DEIS that the proposed Northmet Site was monitored over time for evidence of the species noted above. This deficiency should be corrected.	WI2
43	Under NEPA and CEQ regulations, cumulative effects must be evaluated for project proposals, including alternative proposals, along with direct effects and indirect effects. It is therefore critical that a comprehensive assessment of the current and proposed mineral mining impacts on Lynx and snowshoe hare populations be conducted for the areas under consideration for mining and adjacent areas of Lynx habitat. Snow compacting from current and proposed activities and temporary roads and human activities are now and will continue to impact the lives of these creatures. The question is: How and to what extent will proposed Project activities affect these species and other species, in the context of all changes in human development in northeastern MN that may compound the adverse effects of mining?	WI5
43	Canada Lynx: on p4.4-3 it is stated that “.portions of the Mine site lie within the revised boundaries of federally designated lynx critical habitat. A recovery plan has not yet been issued for the Canada Lynx.” Will specific responsibilities for the Northmet Project regarding protecting Lynx habitat be included in the final EIS? Has PolyMet physically inspected the proposed Project site for lynx dens?	WI1
44	Road density has been found to directly affect predators high in the food chain: elk, wolves, wolverines, bears and lynx. (Switalski TA. How many is too many: A review of road density thresholds for wildlife. Wildlands CPR Newsletter, RoadRIReporter, 2006). Although the extent of proposed road development in this DEIS NorthMet may not suggest a deleterious effect on Lynx, it is the combination of multiple seemingly small changes across Lynx range and habitat that must be assessed, since seemingly minor effects in a complex system may in aggregate cause profound and deleterious, often unforeseen, adverse impacts. (Emmons & Olivier Resources. Cumulative effects analysis on wildlife habitat loss/fragmentation. ...Prepared for MN DNS, May 15, 2006; Fed Reg 2003 vol 68, No. 128. Part III. Dept of Interior: Fish and Wildlife Service. 50CFR Pt 17: Endangered and Threatened Wildlife and Plants; Notice..re Canada Lynx. Final rule. Pp 40076-40101; Hickenbottom JR et al USDA Forest Service Biological Assessment (Canada Lynx) Lynx biological Assessment, Dec. 1999). The current DEIS Northmet does not provide sufficient information to clarify this issue?	WI5
<b>Sender Last Name:</b> Arpi		<b>Submission ID:</b> 3719
20627	Resources are available to the DNR and ACE to assist them in determining financial assurance requirements for the NorthMet Project as part of the environmental review process.11 By failing to include a comprehensive description and analysis of closure and reclamation activities and the associated amount and viability of financial assurance required for the NorthMet Project, the NorthMet DEIS fails to provide the public with essential information to determine the environmental impacts associated with the NorthMet Project. Without this critical information, the NorthMet DEIS fails to follow established practice as part of the environmental review process for hard rock mines or meet the requirements of NEPA.	PD3
20628	In addition, the DEIS must also provide an analysis of the potential negative impacts from the Project on the tourist industry and sustainable economies in Northeastern Minnesota and include a discussion of mitigation measures which would be available to address the negative socioeconomic impacts from the Project.	SE4

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
20628	As noted by Dr. Chambers, the type of dam construction used for both the existing taconite tailings and proposed flotation tailings impoundments is upstream-type construction, which is the most unstable of the dam construction types. <sup>94</sup> The instability of the tailings dam is of particular concern in light of the fact that the waste with the most potential to impact water quality is the hydrometallurgical waste, which will be stored in lined cells built on top of existing taconite tailings in cell 2W. However, it appears that the potential stability of the tailings in cell 2W is not known. <sup>95</sup> As noted by Dr. Chambers, the long-term integrity of both the flotation and hydrometallurgical tailings storage facilities is necessary to protect water quality.	GT1
20628	In addition, the NorthMet DEIS fails to recognize the socioeconomic benefit associated with tourism from maintaining wildlife habitat and wildlife corridors which ensure that populations of endangered species are maintained or increased. For a specific example, reintroduction programs indicate that the return of the wolf will benefit the local economy by bringing in more tourist dollars. For instance, in northern Minnesota, the town of Ely (population 5,000) has seen nearly \$3 million in new annual economic activity and as many as 66 new jobs result since the launching there, in 1993, of a wolf educational facility. <sup>92</sup> Wolf reintroduction has also improved the economy of Cooke City, the small town just outside Yellowstone Park's northeast gate. Id. Cooke City's traditionally slow season, the month of June, became a peak season because "it is a good month for sighting a wolf." These reports are consistent with other endangered species restoration efforts around the country. For example, in Nebraska, the annual migration of the sandhill crane and whooping crane brings 80,000 tourists and \$15 million to the State's Platte River region each year. <sup>93</sup> Likewise, at Tennessee's Reelfoot Lake, bald eagle tours alone generate more than \$2 million annually. Id. For the residents of these areas, the existence of endangered species provides more than just attractive scenery, it is a vital economic resource that must be protected. Id.	SE4
20630	The NorthMet DEIS discussion on this subject must include an analysis of "direct effects," which are "caused by the action and occur at the same time and place," as well as "indirect effects which . . . are later in time or farther removed in distance, but are still reasonably foreseeable." 40 C.F.R. § 1508.8.	G10
20630	The NorthMet DEIS indicates that "[f]urther design and analysis would occur during permitting to ensure that the proposed construction meets acceptable design standards." <sup>96</sup> In light of the potential significant environmental impacts associated with instability of the tailings facility and waste rock piles, the DNR and ACOE must provide an analysis of geotechnical stability of the tailings facility and waste rock piles as part of the environmental review. Delaying the stability analysis until permitting is not acceptable because it would prejudice one possible outcome, i.e., the possibility that safely depositing the hydrometallurgical waste on top of the existing tailings basin is not feasible. If, in fact, other tailings alternatives need to be considered because of stability problems, they must be disclosed and analyzed during environmental review. Moreover, the public needs to have an opportunity to understand the potential environmental implications of the proposed designs and weigh the environmental risks and any potential alternatives or mitigation measures to these designs which could minimize environmental impacts as part of the environmental review process. Geotechnical stability is an issue that must be addressed in the DEIS, and is a major flaw of the DEIS.	GT1
20630	However, significant questions still remain to be addressed regarding the long-term vulnerability of the waste storage facilities to seismic events. Dr. Chambers also notes that similar concern for the waste rock piles also exist.	GT1,GT2
20631	MCEA appreciates that the issues of greenhouse gas (GHG) emissions and climate change were incorporated into the DEIS after scoping, and notes that the DEIS may do a better job than many of its predecessors at identifying channels of GHG emissions resulting directly or indirectly from the Project and describing recent significant developments concerning climate change policy. Given the widely acknowledged scale of the threat posed by anthropogenic climate change and its direct link to GHG emissions, the preparing agencies have a duty under the National Environmental Policy Act (NEPA) to address the Project's GHG emissions more thoroughly than the DEIS currently does. <sup>97</sup>	AQ3

Sender Last Name: Asmussen

Submission ID: 1191

*Alphabetical by sender's first name*

<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
1306	Dear Mr. Arkley: As an environmental steward and public servant, I implore you to take steps necessary to protect watersheds adjoining and comprising the BWCAW. Please do what you can to prevent sulfide mining operations in areas even remotely adjacent to this inestimable natural resource.	G7A
<b>Sender Last Name:</b>	Ault	<b>Submission ID:</b> 1164
1279	We pride ourselves as Minnesotans that we maintain integrity of our peoples land and have it cared for! This is an honest test of our land stewardship!! We must have hearings!! And we must insist on protection for pristine areas. The people must be listened to!!	EOO
<b>Sender Last Name:</b>	Avaloz	<b>Submission ID:</b> 3087
3472	THERE IS NO PROJECT WORTH MORE THAN THE SUPERIOR NATIONAL FOREST. PRESERVATION HAS A MORE LASTING AND IMPORTANT IMPACT ON THE FUTURE THAN ANY SMALL, SHORT TERM PRODUCT FROM THE POLYMET PROJECT. THEY SHOULD BE DENIED PERMISSION TO MAKE MONEY AND DESTROY THE PEOPLE'S LAND. A citizen	EOO
<b>Sender Last Name:</b>	Bach	<b>Submission ID:</b> 319
335	Think of our childresn, children! I invested my life savings into this cabin we build in 06 for the future. Sulfide mining is BAD! It's just so WRONG! Poly Met will put and end to Gods Country - and please stop them!	EOO
<b>Sender Last Name:</b>	Backstrom	<b>Submission ID:</b> 210
210	I strongly support PolyMet's NorthMet project. The EIS has covered the factors which I consider necessary to preserve our water and air quality. That is why we live and work here in Northern Minnesota. PolyMet plans to reuse a brownfield site and reuse an existing plant, thus minimizing the impact on wetlands. It is not in the BWCA nor does it border that wilderness area. The PolyMet project will provide a domestic source for some critical metals. Rather than mining these metals in another country and transporting them to the US for use in products such as cell phones and computers and catalytic converters, we will be able to produce them here for use here. The business and job situation in our communities is not good at this time, and we need the new construction jobs and the permanent jobs which will come as the mine is developed. The mine will have the effect of many spin-off jobs in our region. As a small business person, our business will improve if the NorthMet mine is built. I cannot emphasize enough what the positive impact it will have on the suppliers and small businesses in this area. As a positive factor for the State of Minnesota, we will see PolyMet tax dollars contributing to the state and local governments' budgets. We need this mine to be developed in accordance with the EIS. It is a great project. Let's go forward!	EOO
310	I am very pleased to support and endorse PolyMet Mining's NorthMet Project. The mining of Copper and Nickel as well as the precious metals from this project is vital to the economic growth and stability in northeastern Minnesota. The safeguards for the environment, which the state has in place, will make our state mining industry safe and exemplary. This opening project will give Minnesota the chance to compete, on the world market, with other follow on industries utilizing the raw materials that will be generated from this project. It will also increase the tax base as well as increase the employment opportunities that northeast Minnesota so badly needs. As a manager for over 40 years in the mineral exploration industry I have seen many projects in many countries and this PolyMet project certainly stands at the top of the list for projects that have been correctly done. The time and energy spent in planning and engineering with all the state and federal agencies has been a model effort. Our company has been working with PolyMet and the Minnesota DNR in the exploration phase and it has been a pleasure to work with both groups where the focus is on how to do it right.	EOO

*Alphabetical by sender's first name*

**Comment ID    Comment Text** **Theme Codes**

**Sender Last Name:**    Bailey **Submission ID:** 1625

2038 I am concerned for the protection of the boundary waters, one of the few truly wild places left in the Midwest. What are the sustainable measures that protect ALL life? Please accept these comments on the PolyMet Mining Corp. NorthMet mining project Draft Environmental Impact Statement. I have serious concerns about the safety of this project and its potential impacts on Minnesota's natural resources. EOO,G7B

**Sender Last Name:**    Bailey-Johnson **Submission ID:** 3379

3669 There is nothing sustainable about the PolyMet mining proposal except the pollution that will undoubtedly be created. I highly support and encourage the preservation of environmental quality for future generations, Short-term profits should not trump long-term degradation. G2

**Sender Last Name:**    Baland **Submission ID:** 6

6 I'm here to support PolyMet and am really upset with how long it's taking them to get their permits; and other companies, new companies are getting them in a short period of time. They've done their homework to really cover the environmental side of this project, and I truly believe that this should be pushed through. It would help our whole area and our state. EOO

7 I'm a retired miner. I worked in the mining industry for 30 years, and was very fortunate to have a quality job with quality schools and a church of our choice here, living in Aurora, Minnesota, where we're located right now. And I would like that this could continue for other generations, for younger people, our children of my generation and our grandchildren. And it seems that obstacles are being put consistently in the way of PolyMet to make progress and put people back to work, and this is disappointing for a lot of us, that the length of time to get these permits seems unreasonable. And instead of trying to put restrictions on them and delay this, you should encourage them and help them to get started, the sooner, the quicker, the better; and not only does that help jobs for people in this area, the State of Minnesota has a huge deficit; this will help pay taxes in Minnesota and benefit all Minnesotans with additional monies going into the tax coffers for the State of Minnesota. Let's get the ball rolling, let's get this thing behind us, let's put people to work. EOO,G10

**Sender Last Name:**    Balanoff **Submission ID:** 2583

451 What will be the cumulative effect of mining in this region on air quality? AQ4B

718 How will the loss of habitat for species including the Canada lynx be mitigated? RFI

2225 Field sampling has not been done to show movement of ground water through the bedrock. WR2A

2422 What is the reclamation plan after the site is closed? How much cash will be held in escrow as a damage deposit? PD3

2423 How will the DNR monitor the mining operation? PD8

**Sender Last Name:**    Baldwin **Submission ID:** 158



*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
149	I support this PolyMet thing that they are doing. I'm a Boilermaker on Local 647 in Ramsey. You know our economy is slowing down and with the way things are going right now, it opens 400 jobs in that area after the plant is built and while the plant is being built, you know. It's great for our local and it opens a lot of jobs up for guys in our Local and our career line of work. And that's about it. I think it's good for everybody all the way around. The economy is safe. And we do a lot of work with pollution control and stuff like that and we do the best we can to eliminate the pollution -- as much pollution as we can. With the technology that we have come up with now a days, it's very sufficient. So that's about it.	EOO
3562	Having grown up in Babbitt, I have been the beneficiary of generous mining operations who supported the town of Babbitt. That said, I have been following the PolyMet situation, and want to point out some facts: PolyMet has done it's homework and knows how to run a clean and environmental operation. There would be no run-off into Boundry waters as all operations would be on the south side of the divide, therefore, waters south would be affected-if at all since there are plans to put cleaner water back into the ground than what exists now. Copper and nickel are now currently being imported from foreign countries when we need to be looking at our own resources. Undeniably, jobs are needed to secure the northern Minnesota economy, and the timing is critical to our nation. The land in question has already been ravished by former mining, and PolyMet would only improve that situation as demonstrated in their environmental plans.	EOO,G2
3565	We vacation in the NE MN area and enjoy seeing industry grow in that area. It would be foolish to turn this project away because of any remaining environmental concerns when jobs are needed, as well as the copper and nickel minerals extracted for income for the US for helping the green industries. It seems that way too many environmental concerns have risen and voiced by outside groups that don't even know the area. Seems strange that they are so worried about a small operation starting up verse a large mining operations that already in place in Babbitt and Aurora. The impact statements address and answer all of the concerns, so just get with it and let operations begin. John Baldwin, retired college instructor	EOO
<b>Sender Last Name:</b> Baratto		<b>Submission ID:</b> 127
116	Basically,this -- the comment that I wanted to make is that I don't feel that there is a problem with any of the exploration. I mean, it's not going to hurt us any more than what we have already been hurt in the past. And I believe that they are probably going to have -- well, they have to comply to the EPA standards, which are stricter now than they have ever been, so I want to support them in any way I can.	EOO,G5
<b>Sender Last Name:</b> Barker		<b>Submission ID:</b> 165
155	I support the PolyMet NorthMet project and draft EIS. I am comfortable with the thorough evaluation that has taken place and with the proposed utilization of advanced technologies. PolyMet will produce much needed metals in an environmentally sound manner and generate additional economic activity in a depressed portion of our state benefiting our nation as a whole.	EOO
<b>Sender Last Name:</b> Barnacle		<b>Submission ID:</b> 1030
1130	This letter is to express my support of the proposed Polymet NorthMet Project. Polymet can operate under Minnesota's Strict environmental regulations. I would be proud to have this plant in my state knowing it would be held to the standards that Minnesota is known for. Furthermore, with the unemployment rate in Northern Minnesota so high, 10 - 18%, the Polymet NorthMet Project would help a huge number of families. Thank you for the work that you do, and I hope you are able to support the Polymet NorthMet Project by granting Polymet the permits required to move forward.	EOO
<b>Sender Last Name:</b> Barnett		<b>Submission ID:</b> 2138

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
1751	After reviewing sections of the DEIS for this project, I am still heavily concerned with the river water quality in the surrounding area. The pristine quality of water in that area attracts hikers and campers from the entire Midwest and beyond. Increasing sulfate levels and potentially mercury/manganese/nickel in surface water will terribly affect wildlife and fishing in the area. The proposed action is simply too reckless and would be a major mistake to allow. Acidification of the St. Louis watershed or any of the BWCA is not an option and would terribly effect the local tourism economy.	EOO
1952	Focusing on long term, is there any way to require something similar to a damage deposit that will guarantee funding for future remediation as well as fund continuing 3rd party monitoring???	PD3,PD4
2530	With regard to the alternative actions, the max recycle option seems most beneficial but the retainment of this water must be made a principle priority to ensure groundwater quality. Yet I'm not convinced the 70% reduction in sulfate loading will be good enough.	G7
<b>Sender Last Name:</b> Barsel		<b>Submission ID:</b> 3238

743	I am concerned about the paucity of public meetings on the DEIS, the timing of the public meetings, the location of the public meetings and the format of the public meetings. My detailed concerns include: • the paucity of public meetings (2) to provide members of the community an opportunity to learn about this precedent-setting project and express their opinions; • the timing of the public meetings is too soon after the release of the massive and complicated draft EIS, making it difficult / impossible for most individuals to familiarize themselves with the details of the DEIS; • the difficulties some citizens have experienced in submitting their public comments (i.e. bounce back and institution of a new Survey Monkey-based form); • there is no information on where citizen participants can obtain written records of submitted comments and answers. Proposed solutions: • schedule more public meetings in early January, 2010, permitting individuals to read the DEIS, submit informed public comments, and participate in holiday events; • locate additional public meetings in accessible sites: Duluth, St. Paul, and Rochester; • extend the deadline for public comments a minimum of 30 days beyond the current Feb. 3, 2010 deadline o publicly acknowledge difficulty in submission of comments and repair by institution of the Survey Monkey site; o monitor the site(s) to insure that additional shut downs do not occur; o insure that multiple hard copies of the DEIS are available at all sites listed by MDNR; o extend the deadline in acknowledgement of all the issues listed above; • provide clear information detailing where citizens may obtain a written (or web-based) record of submitted comments and answers, preferably as a daily-updated link to the DNR site detailing this proposal. I appreciate your consideration of ways to make public participation in the PolyMet EIS process more effective. I look forward to seeing these suggestions implemented, and/or receiving a detailed response explaining why these are not possible.	PRO6
3579	Minnesota is politically poised to permit sulfide mining. This is despite the disastrous environmental track record of sulfide mining, including designation of some sulfide mining sites as Superfund sites in the U.S. I read large portions of the PolyMet DEIS and attended the hearing in Blaine, MN. I found both the hearing and the DEIS document deficient in numerous areas, several of these deficiencies are detailed below.	G2,G8

**Sender Last Name:** Barstad **Submission ID:** 3636

*Alphabetical by sender's first name*

**Comment ID    Comment Text** **Theme Codes**

3918 Having attended the Polymet’s Northmet Projects Draft EIS meetings and reading other information, I have the following observations. Economic Impact: There is no question of the need for jobs on the Iron Range, in Minnesota or the nation. The direct and indirect employment will be beneficial to all. The products of the operation are used world wide in many of the items we use on a daily basis. The taxes to be generated are needed to support the governmental services. Environmental Impact: The reuse of an existing site and equipment for part of the production process benefits in a number of ways - energy and materials not needed for new , continued use of structures rather than deterioration etc. The reuse of the tailings basin is a plus. Not only is the water recycled, but the basin will be improved and monitored. This is a benefit compared to sitting idle. Mining proposals for backfill and locations are a positive factor. Placement and burial of low grade ore will control run off and leaching. Site restoration upon closure will insure acceptable reclamation of the affected site. In viewing the Iron Range now, it is evident that “Mother Nature” will be a great partner in returning the land to other uses - forest, wildlife and recreation. The Draft EIS is extensive and complete after four year’s of input. The meetings and comment procedure are adequate. The presentations to the public and approving agencies are not “Sales Jobs“, but a study of the facts and an educational process. I look forward with anticipation to the approval and permitting of this project.

**Sender Last Name:**    Bartholomew

**Submission ID:** 254

EOO

267 The Hoyt Lakes Chamber of Commerce has always supported new enterprises in our area. In this case this adventure is critical to our survival . Our area has been devastated by the closure of LTV, not only did we lose jobs at the mine but our peripheral services also suffered enormous losses. The studies that have been done by the state have set aside all worries about environmental issues. For years this area has been responsible to the environment and has strived to preserve our pristine area. There comes a time in most lives where we realize that the world is changing, we need to expand our essential needs to meet the needs of the world and do our part in securing a future for our children and their families. We do not want to sacrifice our way of life just to have jobs. This company has shown through studies by everyone even remotely involved that they are a responsible and conscientious company who care about our environment and the needs of the world to do things right. It has taken an enormous amount oftime for this to happen, but as we can see and believe that they have taken all necessary and reasonable efforts to secure the proper permits to begin operation in a safe and responsible manner. Not only will Poly Met do this in a safe and responsible manner, they may be able to absorb enough of the foreign market who do not show responsibility to the worlds environment, to make a difference. They have stepped up to the plate and opened every facet of their operation to be scrutinized by the group responsible to protect our rights and country and have met the requirements in every aspect. Now it is time for our state to step up to the plate and take that swing that will mean a home run for our area and the state of Minnesota. So in speaking for the Hoyt Lakes Chamber of Commerce as it's President and more importantly, a member of this proud community, I and the Chamber support this permit for Poly Met 100%. Please consider the needs of this country and this community and the surrounding area's that depend on jobs of quality and safe use of our resources.

**Sender Last Name:**    Bartlett

**Submission ID:** 1850

EOO

18 We must be absolutely certain that the mining will not endanger this one of a kind precious resource. The BWCA is truly one of our state's, as well as the world's, greatest resource. The money made of off tourism in this area will far exceed the profit made from mining in the long term. The University of Minnesota study bore this out back in the 70's when nickel minig was proposed.

**Sender Last Name:**    Barton

**Submission ID:** 3749

SE4

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
1	Since one of the major wilderness areas in the U.S. and MN is near Ely (BWCA) it would be imperative to know what impact Northmet Project will have on air quality of the BWCA, which is already suffering from degradation of ambient air quality from power plant and other point sources.	AQ4,AQ4B
1	The DEIS predicts that the total direct and indirect annual GHG emissions from the Project will be more than 744,000 metric tons of CO <sub>2</sub> -equivalent (m.t.CO <sub>2</sub> e) emissions.101 That volume of annual GHG emissions represents a measurable and very significant fraction of total statewide emissions. Specifically, according to data in the DEIS, the proposed Project would cause statewide annual emissions to jump by 2/3 of 1% (+0.62%),102 which is an enormous impact for a single project to have.103	EOO,AQ5
1	Accordingly, the DEIS for the Project cannot rely upon the operation of the RES to accomplish state policy on GHG emissions. Rather, reductions in total new energy demand must occur, and the new energy demand that does arise must be met with new low- or no-carbon supplies.	EOO,AQ5
2	4.10 Socioeconomics: The major and growing contribution to the Arrowhead region in MN of tourism is not presented in this section and should be so that a more complete view of the economy of this region may be understood. Tourism contributes \$11 billion to MN economy, with >41 million visitors annually. These numbers have increased steadily in recent years. The Northeastern region has 16% of the >41 million visitors or about 6.56 million visitors with generation of >\$719 million in Gross Sales. This activity contributes 17,932 private sector jobs. (Explore Tourism 2008: <a href="http://www.tourismroi.com/Content_Attachments/26124/File_633480214451131154.pdf">http://www.tourismroi.com/Content_Attachments/26124/File_633480214451131154.pdf</a> . A critical question not addressed in the DEIS is the extent to which current and proposed major increase in mining in the region will increase, have no effect or decrease tourism to the Arrowhead of MN.	SE4
2	Moreover, this increase would come just as Minnesota is seeking to achieve substantial reductions in total statewide emissions. Indeed, three years have passed since the GHG emissions reduction law was passed, and with just five years remaining until 2015, the Project would push statewide emissions in the wrong direction, frustrate the State's important public policy and public health interests, and have a deleterious effect on the State's involvement and compliance with the Midwestern Greenhouse Gas Reduction Accord.104	EOO,AQ5
3	NEPA requires agencies to identify a preferred alternative or alternatives in the draft environmental impact statement. 40 CFR §1502.14(e). The NorthMet DEIS does not clearly identify the preferred alternative for the project. A brief indication is made that the mine site alternative is preferred, however, this is not explained in detail.12 MCEA supports the mine site alternative as the preferred alternative to the extent that subaqueous disposal of the more highly reactive waste rock will minimize the potential for acid mine drainage and other water quality issues associated with storage of the waste rock in stockpiles on the surface. In addition, the DEIS does not identify a preference between the proposed action or the tailings basin alternative. NEPA requires that preferred alternatives be identified in the DEIS. The failure of the NorthMet DEIS to indicate a clear preferred alternative for both the mine site and tailings facility is a fundamental inadequacy of the DEIS.	ALT7
3	I am a chemist in the composite industry, a frequent traveler to the MN northwoods area and a resident of Minnesota. I make several trips to the Boundary Waters Wilderness and the surrounding area each year and would like to ask that you accept the following comments regarding the PolyMet Mining Corp. NorthMet mining project Draft Environmental Impact Statement. As a citizen of Minnesota, a place where often low-skilled jobs are not sustainable, I am glad that a private mining company has decided to pursue the mineral deposits in the northern part of the state. The economic conditions in the northern MN region have deteriorated substantially since the days of the large mining operations and in the economic conditions at present we should not be quick to dismiss real development for the sake of outdated environmental concerns. I am also a professional in an industry which, like the mining industry, is often vilified by environmental-types such as the members of the Friends of the BWCAW. I am quite comfortable with the concept that with proper planning a profitable mining operation can be performed with minimal environmental impact (I am not intimately familiar with the geology and chemistry related specifically to sulfide mining, but it seems that acidic runoff should be able to be treated adequately using basic minerals including carbonates or bicarbonates that could possibly be retrieved from mines in other parts of the state).	G1,G7

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
4	Most (68.4%) <sup>105</sup> of the Project's GHG emissions predicted in the DEIS are attributed to off-site production of roughly 59.3 megawatts (MW) of electrical power. <sup>106</sup> It would come from one of Minnesota Power's coal-fired power plants. <sup>107</sup>	EOO
4	Despite the significance of climate change and the State's GHG reduction timeline, and despite the Minnesota Pollution Control Agency's urging, <sup>108</sup> the DEIS fails to analyze a green power alternative under which the Project would run on low- or no-carbon electricity, thereby minimizing the Project's biggest single source of emissions. The DEIS does discuss methods of increasing efficiency of vehicles and equipment on site, <sup>109</sup> but none that address switching from coal to green power. Coal-fired electricity is the only form of generation that is mentioned. Consequently, the DEIS ignores an opportunity to use widely available, existing technology to reduce or eliminate the biggest source of GHG emissions, simply by changing the way the power used by the Project is produced. The DEIS does not discuss alternative types of power; it only explains it will purchase coal-derived electricity from Minnesota Power. <sup>110</sup> The option of buying different types of electricity (green power) from Minnesota Power is never discussed. The option of building its own power source is summarily dismissed without justification. The option of purchasing from a different provider not fully explored.	AQ5
4	The state of Wisconsin has basically banned such mining. The other issue is that not only will our economy be harmed because of lost tourism revenues, it will also be harmed because we will have to pay for the clean up of the mess that the mines will create. And that clean up will be forever, perpetual, continual. The leaching will never stop. There's a risk that in this type of economy that no clean would even be done. But, again, I stress that any clean up would only potentially be effective if it continues to happen forever. So, that's an unending stream of lost revenue devoted to cleaning up the mess made by a mining company that will have long since skipped town with the precious metals that they took from our lands.	PD3,PD4
5	Have arrangements been made (not just talked about) to provide for perpetual monitoring of the mining facility, and surrounding area (whatever that is deemed to be) if approval is given?	G10
5	The State doesn't have such a great record monitoring where and when it should. I can think of a few examples off the top of my head: the taconite mines, 3M, the Arden Hills arsenal, and the 35W bridge. Doesn't make me sleep all that well at night, you?	G10
5	Who's in charge of pulling permits back if things go south? And WILL they be pulled if things go south?	G10
6	"There would be a low margin of safety with the tailings embankments." Read this: <a href="http://www.crismart.org/upload/Case%20bank/BOLIDEN_.PDF">http://www.crismart.org/upload/Case%20bank/BOLIDEN_.PDF</a>	G8
6	will it come from? Shipping in the needed fill isn't very green, is it? What are the sulfur %'s of low and high waste rock? Will it be exposed to air? For how long? Please read this!!! <a href="http://diss-epsilon.slu.se:8080/archive/00001874/01/Kappan_Avhandling_nr_08.88.pdf">http://diss-epsilon.slu.se:8080/archive/00001874/01/Kappan_Avhandling_nr_08.88.pdf</a>	EOO
7	(According to Wikipedia; In 2007 the United States produced 1.19 million metric tonnes of copper, worth \$8.8 billion, making it the world's third largest copper producer. The nation produces 63% of the copper it uses. Top copper producing states in 2007 were (in order) Arizona, Utah, New Mexico, Nevada, and Montana.) We import them from countries that don't follow our stringent environmental laws, that subject miners to unsafe working conditions, and that contribute to the global pool of pollution circulating in our atmosphere. Then, we contribute to greenhouse gas emissions by shipping them to another country for processing before we ship them to the U.S. See above comment. Explain the PolyMet/Glencore plan please? What about the energy consumption required to mine 99% waste?...nice try though...	G1,G2
8	And PolyMet wins by demonstrating environmental safety — not only because it is more environmentally sound than importing metals, but also because PolyMet has shown that it will operate in a way that protects our air, our water, and our land. Ahh, little FYI here - PolyMet has never demonstrated or shown anything. They've never mined anything before, correct? They paid people to put together numbers and such in their favor, so the investors (and State) can make a bunch of money.	G10

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
9	As elected officials representing the Iron Range, we are confident that after more than four years of PolyMet working with scientists and biologists and spending upwards of \$20 million, that the DEIS is covering all the bases. The products that will be mined are extensively used in our society. The data shows a safe mining operation, one that has the controls to address the environmental concerns. Again, please read this research...	G6
10	While wind roses for Hibbing show a north north west through west-northwest direction 25% of the year and south-southeast through southeast 15% of the year, Ely shows a pattern of west westsouth for the months of April through September. (University of Minnesota: <a href="http://climate.umn.edu/wind/windRoseClimatology.htm">http://climate.umn.edu/wind/windRoseClimatology.htm</a> . )Thus, the BWCA which is only 34km or 21 mi from the Project Site would receive winds from the Polymet Project Site for several months of the year. To what extent will this add to the worrisome burden currently being experienced by Class 1 areas BWCA and Voyageurs NP? At BWCA, visibility impairments have been documented for 200 days in a recent year. Has the potential impact of the Northmet Project on BWCA been quantified as part of this DEIS? Has the potential impacts of other mining activities between the Northmet Project Site and the Franconia; Duluth Metals; Encampment and Tech Cominco projected mining sites been quantified as part of this DEIS? These are critical data that must be included in the Final EIS.	AQ4,AQ4B
11	4.6.1.2 Local and Regional Air Quality: On p 4.6-2 it is noted that “ambient monitoring data from the closest monitoring stations to the Project are provided in Table 4.6.2.” It is not clear where the “nearest monitor” to the Northmet Project Site was; the data are from MPCA 2008 but the monitor source is not listed. If the data in Table 4.6-2 are from a remote monitoring site, the Northmet Project should request relevant data from MPCA for the Site environs. Also, note is made that the MPCA data was for 2004-06. These data are out of date and should be updated to ensure reliable baseline data are available from the Site.	AQ4,AQ5
12	4.6.3.1 Proposed Action (Criteria Pollutants): The assessments of human toxicity from exposure to chemicals used at the Mine Site (Table 4.6-17) need to consider the lung health of workers at the time of their employment. Preexisting respiratory diseases may be exacerbated by exposure to chemicals included in this table. Of great importance is the documentation of cigarette smoking status of workers since some chemicals on this list are mutagens or carcinogens. In general, combined exposure to inhaled chemicals and cigarette smoke may increase the likelihood of development of lung cancer. The Northmet Project should have ready access to state- of- the -art smoking cessation program, including a Quit Line to support workers’ smoking cessation. (these resources may be obtained from the MN Department of Health) In addition to the above threats to human health, the mining activities, miners but protect from inhaling fine particles of hard rock dust. Lung neoplasms have been associated with mining and are markedly increased in tobacco smokers. There are concerns about the risk of mesothelioma among hard rock miners: (Univ. MN: <a href="http://taconiteworkers.umn.edu/about/study_goals.html">http://taconiteworkers.umn.edu/about/study_goals.html</a> . Lemen RA, et al. Epidemiology of Asbestosis-Related diseases. <i>Envir Health Persp.</i> , 1980: <a href="http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1568524/pdf/envhper00470-0008.pdf">http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1568524/pdf/envhper00470-0008.pdf</a> )	AQ4C,AQ6
12	4.6.1.4 Minnesota Standards of Performance: on p 4.6-6 the first point, the statement “that facilities are required to take reasonable precautions to prevent the discharge of visible fugitive emissions beyond the property line” raises serious concern for the following reasons: Particulate Matter (PM) especially, PM 2.5 micrometers is invisible so one would not expect to see it. Yet these fine particles pose threats, not only to the environment, but to human health. Fine particles are a known cause of cardiovascular disease (heart attacks; strokes); respiratory disease (asthma, COPD) and cancer, particularly, lung cancer. (Department of Health and Human Services: <a href="http://www.atsdr.cdc.gov/general/theair.html">http://www.atsdr.cdc.gov/general/theair.html</a> . The language in this DEIS should be revised to reflect the above. Finally, vehicular traffic and exhaust adds fine particles and other air toxicants to ambient air. Have estimates been made of the contributions to fine particle pollution over the life of the proposed Project?	AQ1,AQ6
13	4.6.4.5 Cumulative Mercury Emissions. As noted above, the projected hard-rock mining operations of Franconia; Duluth Metals; Encampment and Tech Cominco must be included in this analysis and Table 4.6-22.	AQ4B

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
14	In addition, the DEIS Northmet and other mining activities in this region appear to conflict with the Forest Service Mission and Goals (USDA Forest Service Strategic Plan FY 2007-2012, USDA, FS-880, July 2007; USDA FS Land and Resource Management Plan, Superior National Forest, July 2004) which state: "Forest Service Mission (is to) sustain the health, diversity, and productivity of the Nation's forests and grasslands to meet the needs of present and future generations;" and a primary goal: "Promote ecosystem health and conservation using a collaborative approach to sustain the nation's forests and watersheds." Hard-rock mining is in direct conflict with the purpose for which the SNF was created. The aim must be to reconcile the strikingly differing legal mandates and missions of lead agencies with to stated aims, goals and objectives of PolyMet Northmet Project and related mining and human development activities in the area.	PD1
15	4.6.4.7 Summary of 2006 Visibility Class I Study Scope (Updated 2009): Regional Haze and Visibility Impairment. : On p 4.6-50 a table of projects and actions are presented. Again, this table needs to include all "foreseeable" projects that will adversely impact the air quality of northeastern MN, including Franconia; Duluth Metals; Encampment; and Tech Cominco projects.	AQ4B
16	4.7 Noise: It is stated that the effect of noise on wildlife is reviewed in section 4.4. However, a review of 4.4 reveals a dearth of references to the wealth of science regarding the compelling adverse impact of noise on wildlife and human health. A separate section devoted to this topic should be written and included in the DEIS. The cumulative effects of noise as animals move along corridors over ranges of a few meters to > 100 miles must be considered. (Radle AL. Effect of Noise on Wildlife: A Literature Review. <a href="http://interact.uoregon.edu/MediaLit/wfae/library/articles/radle_effect_noise_wildlife.pdf">http://interact.uoregon.edu/MediaLit/wfae/library/articles/radle_effect_noise_wildlife.pdf</a> .)	WI2,N4
17	The DEIS fails to provide evidence regarding the serious and growing human health effects of noise. Former U.S. Surgeon General William H. Stewart said in 1978: "Noise must be considered a hazard to the health of people everywhere." (Goins L, Hagler L. Noise Pollution: A Modern Plague. S Med J 2007: <a href="http://web.ebscohost.com/ehost/pdf?vid=2&amp;hid=102&amp;sid=72c7f778-d60d-4a16-9a7f-010ec30d90a7%40sessionmgr104">http://web.ebscohost.com/ehost/pdf?vid=2&amp;hid=102&amp;sid=72c7f778-d60d-4a16-9a7f-010ec30d90a7%40sessionmgr104</a> )	N5
18	Summary: p4.7-9. The use of the word "continuous" is confusing. Does not "discontinuous" noise matter, eg, blasting; 100 ton mine truck traffic; etc? For those people who frequent the environs of the proposed Project for recreation, fishing, hunting, and such activities, the data presented in 4.7 would likely adversely affect their experiences.	N6
19	4.8 Cultural Resources: Regulatory Framework: It is stated that Cultural Resources management within Federal and State agencies seeks identify cultural resources and balance the need for development with protection. Not included here is an analysis of public opinion in the Arrowhead as to whether the regulatory process is fairly achieving this balance. Development is driven by economic considerations that would likely overshadow the power of those whose goal is to protect Cultural Resources. This DEIS should provide evidence to support conclusions that suggest there are no cumulative effects associated with cultural resources.	G3,CR1,CR2,CR3,CR4
19	4.9.1.1 Federal Land Management: A discussion regarding the feasibility for a land exchange between USFS and PolyMet is discussed. This DEIS should not be approved or move forward until such time as the feasibility and legality of this idea be decided. The statement: "This analysis is based on a successful completion of the land exchange and elimination of National Forest lands from the Project" suggests the authors of this DEIS can predict the future. It is impossible for the public to fairly evaluate this DEIS with such speculation.	PD1

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
20	This DEIS needs to address this critical question with data. To focus on short-term financial gain from sulfide mining and not incorporate long-term consequences, including the predictable “boom” and “bust” mining cycles, in the DEIS analyses is a major deficiency of this DEIS. Potential depression of the tourism industry and land values in the Arrowhead, would have a devastating adverse effect on the entire region for decades to come. (Thomas M. Power (Economics Dept., University of Montana: “The Economic Role of Metal Mining in MN: Past, Present, and Future” prepared for MN Center for Environmental Advocacy and the Sierra Club, 2007.; <a href="http://www.sosbluewater.org/mn_mining_economics_power.pdf">http://www.sosbluewater.org/mn_mining_economics_power.pdf</a> .) Unfortunately, a study funded by industry (Labovitz School of Business, Duluth) failed to incorporate destabilizing boom and bust cycles and adverse impacts on the growing tourism industry in their narrowly focused analysis. ( <a href="http://www.ironrangeresources.org/_site_components/documents/user/aboutreports-publications230.pdf">http://www.ironrangeresources.org/_site_components/documents/user/aboutreports-publications230.pdf</a> .) 4.10.2: Impact Criteria: This sections fails to include explicit review of the “boom” and “bust” cycles of mining (as noted above) that are extensively documented in the literature and relevant to the DEIS Northmet. 4.10.3: Socioeconomic Consequences: Impact Analysis for Planning (IMPLAN) was based on old data that does not reflect the current fiscal crisis. What impact will this have on estimating the “boom” and “bust” predictable cycles of the proposed mining?	SE3
21	4.10.3.1: Proposed Action: Environmental Justice: What assumptions are being made to support the statement that: “Therefore the Proposed Action would not have disproportionately high or adverse effects on minority populations?” While it is suggested that the proposed “boom” resulting from the proposed mining would benefit low income persons, isn’t it logical to assume that the “bust” that could occur at any time during the proposed 20 year operation of the mine would have a deleterious impact on low income families—potentially a devastating impact on persons who lack safety nets of community support?	SE2
22	4.10.4: Cumulative Effects: Note is made that the data in Tables 4.10-15-16 do not appear to be based on the recent, unique fiscal situation in the U.S. and MN. Also note that neither this section nor the section “Socioeconomics” p S14 (Summary) reflect on compelling data regarding the “Boom” and “Bust Cycles”, an issue of critical importance to the integrity of the Draft EIS Northmet as reflected by Thomas M. Power (Economics Dept., University of Montana: “The Economic Role of Metal Mining in MN: Past, Present, and Future” prepared for MN Center for Environmental Advocacy and the Sierra Club, 2007.; <a href="http://www.sosbluewater.org/mn_mining_economics_power.pdf">http://www.sosbluewater.org/mn_mining_economics_power.pdf</a> )	SE3
23	The accomplishment of these aims requires a systems approach to research, planning, management and evaluation. There is consensus among researchers and scholars that natural environments are complex dynamic systems. (Aber JD, et al. Synthesis and Extrapolation. Yale Univ. Press, 2004: <a href="http://harvardforest.fas.harvard.edu/research/newengland.html">http://harvardforest.fas.harvard.edu/research/newengland.html</a> ; Foley J. Studying Complex Systems: 2002: <a href="http://www.jsmf.org/grants/cs/essays/2002/foley.htm">http://www.jsmf.org/grants/cs/essays/2002/foley.htm</a> ; Institute for the Study of Earth, Oceans, and Space. Complex Systems Research Center. University of New Hampshire. <a href="http://www.eos.sr.unh.edu/resproj/resproj.shtml">http://www.eos.sr.unh.edu/resproj/resproj.shtml</a> ; Ostrom E. A diagnostic approach for going beyond panaceas. PNAS. 2007; 104:15181-15187: <a href="http://www.pnas.org/cgi/doi/10.1073/pnas.0702288104">www.pnas.org/cgi/doi/10.1073/pnas.0702288104</a> ; Yale School of Forestry and Environmental Studies: <a href="http://environment.yale.edu/centers/">http://environment.yale.edu/centers/</a> ). To understand the potential impact of the proposed Project and related projects, systems analyses are required. The DEIS is narrow in scope and fails to address important questions regarding the impact of proposed hard-rock mining on the forest and related natural systems. The conclusions do not follow a principle of the USDA U.S. Forest Service: “We use the best scientific knowledge in making decisions and select the most appropriate technologies in the management of resources.” ( <a href="http://www.fs.fed.us/aboutus/mission.shtml">http://www.fs.fed.us/aboutus/mission.shtml</a> ) With science-based and unequivocal dynamic changes in global climate (WHO; UNEP Intergovernmental Government Panel on Climate Change: <a href="http://www.ipcc.ch/">http://www.ipcc.ch/</a> (reflected in Ely environs weather in recent years), coupled with multiple recent and pending major human developments in northern MN (mining; new roads; new building; new power sources; and the like) the failure to use the best science, including dynamic systems methodologies, will have grave implications on the future sustainability of these treasured forest and wilderness areas. The data and information provided in this DEIS is inadequate for formulating conclusions let alone formulating the critical questions regarding effects of sulfide mining in SNF, adjacent ecosystems and in the critically protected areas such as BWCA and Voyageurs National Park.	AQ6,AQ4B,PD1



*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
24	4.14 Cumulative Effects: The USFS must ensure that a full range of cumulative impacts, past, present and foreseeable future, from mining in this area and adjacent areas or regions are included in the analyses. The DEIS Northmet 2009 is narrowly focused and it appears to this reader not meet the CEQ definition and intent of the National Environmental Policy Act. The cumulative and related effects of mining exploration and hard rock mining in this area and the impacts of extending the 100 mile plus Iron Range corridor deep into northeastern Minnesota's SNF and BWCA wilderness areas, have not been addressed adequately as required by National Environmental Policy Act (NEPA) of 1969 (29) (CEQ Sec. 1508.7: Cumulative Impact). Cumulative Effects analyses on wildlife habitats in this region have demonstrated the need for such information. (Emmons & Olivier Resources, Inc. Cumulative effects analysis on wildlife habitat loss/fragmentation and wildlife travel corridor obstruction/landscape barriers in the Mesabi Iron Range and Arrowhead regions of MN. MN DNS, May 15, 2006).	CR1
25	It is noted (4.14-4) that there is major disagreement with the conclusions of DEIS authors regarding the significance of the above findings. In addition, the legitimacy of the analytical approach to the Cumulative Effects approach is problematic for several reasons: 1. Major data elements are missing e.g. baseline data for the Partridge and Embarrass Rivers. 2. In the watersheds, concentrations of aluminum, iron, copper and mercury exceed MN Water Quality Standards; 3. Analytic methods were not robust, e.g., no dynamical systems analysis of these complex environments. 4. No inclusion of data regarding Climate Change impacts on the ecosystems.	G8C,AQ3
26	Finally, one must ask the question: What are the trends in the Arrowhead of MN for the quality of air; water; loss of habitat; threatened species; forest fragmentation. For these data categories, the trends over the past 20 years are as follows: overall worsening air quality; worsening water quality; increase loss of habitat; increase threats to the biota; increased forest fragmentation. These trends suggest that the process for approving projects in MN (whether power plants; mining operations; industrial development; other human developments) is failing to protect the health of the biota. The trends are not sustainable or consistent with a goal of ensuring highly valued public natural and recreational environments for future generations. The trends, if sustained, will have adverse impacts on human health and the economies of health.	G9
26	Thus, the stated goal of 4.14 Cumulative Effects to "summarize the resource-specific cumulative effects analyses and provide an overall, synergistic analysis of the system-level cumulative effects resulting from the combined influence of the resource-specific effects to the regional airshed, watershed, and ecoregion surrounding the Project" has not been accomplished.	CR1
27	1.1: Background... The project is stated to consist of three components: Mine Site; Plant Site; Transportation Corridor. A fourth Project component should be considered: a Regional Site. Both NEPA and the MN Environmental Policy Act require that proposed projects include review of project impacts at the mine and plant sites, transportation corridors, and on regional environments. The scope of this DEIS is inappropriately narrow. Incorporation of the fourth component would provide focus for filling in the gaps in data and information regarding direct, indirect, cumulative effects as required by NEPA.	G9
28	1.5: Agency Roles and Responsibilities... This would be a convenient place to include all governmental and non-governmental organizations; corporations, consultants, etc. who worked under the direction of "Lead Agencies; Cooperating Agencies, Others". Transparency of the process is critical to serve the public's interest and such information would benefit that interest.	PD9
29	1.6.1: Tribal Cooperating Agency Positions Included in the DEIS: In paragraph 2 last sentence (P1-8) it states "...differences of opinion remain between the lead agencies and the tribal cooperating agencies." Question: Are the differences noted between the DEIS lead agencies and the tribal cooperating agencies differences of opinion or differences in agreement as to facts or both? See 4.1.1.2 below.	G14
30	Emphasis should be placed on the "proper planning" portion of my statement above. I would like to ask that the MN DNR please consider the impact of any visual and noise pollution that may impact the BWCAW itself or the surrounding eco-tourism industry. That is in addition to the very real potential for massive pollution in the runoff from the project sites about which I'm sure you are well aware. The MN DNR has a rather good reputation for regulating land use in a way that allows the land to be used but not destroyed. I only ask that this reputation be upheld during the discussions and decisions regarding the PolyMet Mining Corp. NorthMet mining project.	G11

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
31	St. Mary's Duluth Clinic Health System is very interested in supporting Polymet Mining Company's economic development in the Aurora/Hoyt Lakes area of Northern Minnesota. SMDC has operated a primary care clinic in Aurora since 1998 and has witnessed, first hand, the economic depression caused by the LTV mine closure earlier this decade. This summer, SMDC hopes to integrate with White Community Hospital in Aurora to improve the sustainability of healthcare in the region for citizens of the area and employees/vendors associated with Polymet. We plan on constructing a new primary clinic facility on the hospital campus, integrating care delivery across the clinic, hospital and nursing home settings and ensuring the continuation of local health care for future generations. SMDC, through it's affiliation with WCH and our proposed expansion of Occupational Medicine services will be ready to serve the 400 employees of Polymet along with the hundreds of construction workers and vendors who will be working in the area – we will be prepared to provide preventive services along with acute injury services in the nearby hospital/clinic facility. Personally, I'm concerned about sulfur leaching associated with copper mining as witnessed by other mining operations in nearby Midwest states and around the world over the past several decades. I attended Polymet's open house in Hoyt Lakes this past fall to better understand the impacts of heavy metal mining and what Polymet is doing to ensure our environment stays healthy for our children, grandchildren and future generations. As someone who lives and plays in NE MN, the environment is of utmost importance for me; a healthy environment is more important to me than economic development. Based on what I've read and learned about the precautions Polymet is and has taken, I believe our environment will remain intact and healthy during and after the development and operation of this mine. The reuse of the LTV facilities, use of the brown field site, sealing of extracted waste materials, capturing of run-off with separation from wetlands and groundwater are but a few of the multiple safeguards used by Polymet to protect the environment. Once operational, I expect the State of MN to carefully monitor runoff and leaching levels and work with Polymet to make any needed adjustments to maintain our healthy environment; my understanding is that Polymet is setting aside financial resources now and during operation to cover expenses associated with protecting the environment and returning it to the natural state after the mine has run its course. With these safeguards in place, I am confident my "playground of the North" will remain safe and beautiful for our future generations. I'm glad Polymet has been subject to the level of environmental scrutiny it's received over the past several years. This, along with the substantial economic stability Polymet will bring to the local area makes this a win/win scenario. Both personally and as a representative of SMDC am proud to support this project and am hopeful that the EIS will result in the release of permits so Polymet can proceed with their plans.	EOO,G2A
32	There seems to be enormous risk in releasing high sulfate concentrations from the tailings basin into wetlands north of the basin. Isn't it possible or even likely that mercury contamination will occur.	WR4B,WE8
32	I do not believe the technology being proposed is proven to work in a wetlands environment such as ours. We need to see specific examples that proves it works for many years. There is no margin for error. Once our water quality is gone, it's gone!	WE6
33	This EIS is unacceptable. We are dealing with a critical resource which must be protected! Future generations depend on us to do the right thing.	EOO
34	I want to express several concerns regarding the Polymet Mining draft EIS. It seems to me to be wholly inadequate. We need much stronger protection for the future. If the company leaves or goes bankrupt what financial recourse do we have to mitigate the potentially disastrous problems that could occur many years in the future?	PD3
35	The technology apparently is very new, very expensive, and unproven on the scale proposed here. How can we make Polymet responsible now and for many years in the future? Can they bond against the enormous potential cost? The bond would have to be mind-boggling large.	PD4
36	Over \$9 billion is spent by tourists and outdoor enthusiasts on lake-based tourism in MN annually. That is in jeopardy due to this project because heavy metals and other toxins as well as highly acidic water ALWAYS leach into the surrounding watershed for hundreds of miles on these types of mining projects, in this case all the way to Lake Superior. I said ALWAYS because every case of this type of mining in history has resulted in this kind of damage that kills fish and entire ecosystems, and thus kills eco-tourism which depends on fish and clean water, but also which depends on the perception of the public that the areas toured are "pristine" "untouched" and certainly unpolluted. This mining project puts billions of tourism dollars in jeopardy every year. So how can it be good economically?	SE4

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
37	I would like to comment on the PolyMet Mining Corp. NorthMet mining project Draft Environmental Impact Statement. This type of mining will forever alter and harm Minnesota's crown jewel of natural beauty, a place unlike anywhere else in the world that attracts people from all over the world to visit. I am talking about the adverse affects that sulfide mining will have on the Boundary Waters Canoe Area Wilderness.	G11
38	All of this is not to mention that the environment being horribly ruined is in itself unacceptable because it cannot be fixed again. It will never be pristine again once the leaching starts and fish and other animals die. This will affect people's health too. Its not just a spoiled postcard, its people dying or getting sick due to bad water. Nothing is more Minnesotan that clean lakes and fishing. And this project jeopardizes both. Lets keep mining taconite, but lets not ever start mining using sulfide mining practices. Please stand up for Minnesotan values and the people and the economy and the environment and natural beauty of the state.	G2C
39	The idea that jobs that will be gained will make the project worth it is ludicrous, because again the lost money due to pollution clean up and lowered amounts of tourism will far exceed the value gained from any jobs?	SE4
40	This letter is in response to the North Met draft EIS. `I represent the Intemational Union of Operating Engineers Local 49 and the Iron Range Building Trades Counsel. Combined we represent 20,000 tradesman in the State of Minnesota. We have reviewed the EIS Draft as proposed and support it as is without any amendments. We believe it's in our best interest to build this facility in this area where we will have some control over environmental or other controls. If any issues become apparent after they are in operation we would have the ability to correct the situation. If this plant was build elsewhere in the Country or the World we would not have any control over these issues. I've attached several petitions that I've collected from workers on projects throughout Northem Minnesota. I have not encountered any opposition to this project or EIS in this process. We urge your department to approve the EIS and allow Polymet to start this project and help get the economy in Northern Minnesota headed in the right direction.	EOO
41	"An increase in regional air emissions." What will it contain? And how much?	RFI
42	PolyMet is required to replace any wetlands they destroy...What's their restoration process? Is that regulated by the State?	WE3
43	impact be? 1200 acres of wetlands would be impacted." Impacted how? And for how long?	WE2
44	How much energy will be consumed for all this – for nothing more than investor profits?	G1,G2
45	The politicians talk about how green we need to be. How many green technologies will be used in the operation (solar panels/wind/etc)? I'd be willing to bet, NONE.	G2
45	<a href="http://en.wikipedia.org/wiki/Mining_Certification_of_mines_with_good_practices">http://en.wikipedia.org/wiki/Mining_Certification_of_mines_with_good_practices</a> occurs through the International Organization for Standardization (ISO) such as ISO 9000 and ISO 14001, which certifies an 'auditable environmental management system'; this certification involves short inspections, although it has been accused of lacking rigor.	G2D

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
45	<p>Subaqueous tailings... Subaqueous deposition is particularly suited to tailings that contain sulphides that are likely to oxidise, mobilise metals and produce acid (Tremblay 1998). Restricting oxygen to the tailings by permanently placing them underwater will prevent oxidation and minimise the environmental problems associated with AMD (figure 2). With this in mind, the offshore disposal of tailings to natural water bodies is appealing but the actual overall environmental consequences of this technique are not fully understood. However, subaqueous deposition can be practiced in conventional impoundments. Discharging of tailings below water can create significantly steeper slopes than that of subaerial deposition (Robertson and Wels 1999). Dillon et al. (2004) report that for Lisheen the underwater tailings slope could be in excess of 10%. This means that if the distribution head or spigot is not regularly moved then differential settlement, slumping and squeezing can occur. This can damage synthetic liners particularly if the underlying material is likely to compress. It is essential for a lined impoundment using subaqueous deposition that the tailings are evenly distributed and that depth measurements are recorded at regular time intervals to establish dramatic elevation changes. From the Neves-Corvo mine in southern Portugal... <a href="http://www.imwa.info/bibliographie/09_14_209-221.pdf">http://www.imwa.info/bibliographie/09_14_209-221.pdf</a> Discharging of tailings below water can create significantly steeper slopes than that of subaerial deposition (Robertson and Wels 1999). Dillon et al. (2004) report that for Lisheen the underwater tailings slope could be in excess of 10%. This means that if the distribution head or spigot is not regularly moved then differential settlement, slumping and squeezing can occur. This can damage synthetic liners particularly if the underlying material is likely to compress. It is essential for a lined impoundment using subaqueous deposition that the tailings are evenly distributed and that depth measurements are recorded at regular time intervals to establish dramatic elevation changes.</p> <p><a href="http://openlibrary.org/b/OL20588582M/preliminary_assessment_of_subaqueous_tailings_disposal_in_Benson_Lake_British_Columbia">http://openlibrary.org/b/OL20588582M/preliminary_assessment_of_subaqueous_tailings_disposal_in_Benson_Lake_British_Columbia</a>  <a href="http://openlibrary.org/b/OL21023877M/Geochemical_assessment_of_subaqueous_tailings_disposal_in_Buttle_Lake_British_Columbia">http://openlibrary.org/b/OL21023877M/Geochemical_assessment_of_subaqueous_tailings_disposal_in_Buttle_Lake_British_Columbia</a>  <a href="http://www.miningwatch.ca/en/watchdogs-call-immediate-ban-mine-waste-dumping">http://www.miningwatch.ca/en/watchdogs-call-immediate-ban-mine-waste-dumping</a> Australian, Canadian, and US mining companies that persist in dumping billions of tonnes of toxic heavy metals such as mercury and lead into the rivers and oceans of some of the world's poorest countries are causing irreversible environmental damage as well as driving human poverty. Back home, though, the multinational mining companies of Australia, Canada and the United States are not permitted to dump waste into rivers and oceans as their respective governments have effectively outlawed the practice -- a point not lost on the coalition, which argues a good corporate citizen should use the most protective environmental practices at home as well as overseas. "The use of natural surround technology would avoid the use of engineered barriers, such as dams or liners, which might fail in the long term." <a href="http://www.ceaa-acee.gc.ca/default.asp?lang=En&amp;n=29CBBFF8-1&amp;offset=8&amp;toc=show">http://www.ceaa-acee.gc.ca/default.asp?lang=En&amp;n=29CBBFF8-1&amp;offset=8&amp;toc=show</a> On the other hand, an engineering firm reviewed published data and experimental results from existing tailings facilities which indicated that arsenic concentrations in the porewater, instead of decreasing with time, have actually increased at a rate of about 500 per cent per year. [R.C. Swider, The Cigar Lake and Midwest Projects Tailings Disposal, Richard C. Swider Consulting Engineers Limited, Toronto, Ontario, August 21, 1997, p. 23.] When the hearings closed on August 28, 1997, the issue of the value to be assigned to the arsenic source term remained unresolved. It is clear, however, that a license should not be given to use the JEB pit as a TMF until it has been demonstrated that</p>	G10
46	<p>Theoretical solutions should not be accepted in lieu of experimental data... The chemistry of tailings depositories is so complex that theories can be used only as a rough guide for the design of processes.</p>	G7A
47	<p>I spoke with a few people from the DNR and PolyMet at the Blaine discussion and have some real concerns that the tailings will not be handled correctly.</p>	G2D
48	<p>The politician's quote went something like this: "Minnesota has strict environmental regulations to protect our land." I would like to hear those at the State, who will be responsible for the monitoring, describe the monitoring process? I'd be willing to bet they couldn't. How in-depth will the monitoring process be? How often will it take place? Who actually does it? Does the State know their role? Will they not just take PolyMet's word on things? And will they do what's necessary to enforce? With all the proposed cuts at the State level, I have real concerns.</p>	G2D
49	<p>If the State is going to allow this, will there be a monitoring board – with citizens as members established? There should be – and it needs to be absolutely transparent.</p>	G10

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
50	Are levels of everything being measured in a huge surrounding area prior to anything happening – so the mining company can't say "it wasn't us" when something does happen?	G10
51	The regulators need to make a careful assessment of PolyMet's ability to manage the entire facility. PolyMet has never done this before, nor has the State of Mn.	G10
52	Are the DNR and PolyMet showing a genuine caring attitude towards the public's concerns? Are the public comments going to be taken with a grain of salt? Who is in charge of reading, understanding, and bringing forth pertinent public comments?	G10
52	Will the procedures for mitigating all potential unacceptable impacts be identified before permitting begins?	G2,G10
53	PolyMet should demonstrate that it is capable of, and intent upon, giving thoughtful, sincere and professional attention to the concerns of the regulators, and the public. I have yet to see it in earnest...	G10
53	PolyMet should be required to demonstrate that it possesses adequate managerial and scientific competence before approval is given to construct and operate this highly dangerous facility.	G10
54	Who is in charge of critiquing Barr Engineering?	G10
54	Concerning a copper mine in Quebec... <a href="http://www.minem.gob.pe/minem/archivos/file/dgaam/publicaciones/curso_cierreminas/02_T%C3%A9cnico/06_Coberturas/TecCover-L06_Water%20cover-Louvicourt.pdf">http://www.minem.gob.pe/minem/archivos/file/dgaam/publicaciones/curso_cierreminas/02_T%C3%A9cnico/06_Coberturas/TecCover-L06_Water%20cover-Louvicourt.pdf</a>	EOO
55	They (Sen. Bakk in particular) also mentioned how great it will be to have copper wire, tubing, and all the good stuff made right here. Does not Polymet's agreement with Glencore mean that metals will be sold on the world market? I believe it does...	G1
55	The politicians talk about all of the spin off jobs that will be created – 500 give or take. Have them tell the people what those jobs are. Not just 500 jobs – name the jobs and what they pay.	G1
56	It was especially nice to see that the mining company shipped their people in from around the country. And they did, I met some of them. I guess since the cameras were rolling, they needed to make a good pro-mining showing?	EOO
56	<a href="http://www.mbendi.com/indy/ming/cppr/am/cn/p0005.htm">http://www.mbendi.com/indy/ming/cppr/am/cn/p0005.htm</a> Canada is arguably the third largest copper producer in the world, after Chile and the USA. It is also the world's largest zinc and second largest nickel and lead producer. Then, there's this... <a href="http://www.nationsencyclopedia.com/Americas/Canada-MINING.html">http://www.nationsencyclopedia.com/Americas/Canada-MINING.html</a> Australia is the 4th largest producer... What about Sweden? Aitik Sweden Annual Production 240,000T copper concentrate This concentrate contains 66,100t of copper, 35,700kg of silver and 2,340kg of gold. Mining started on the basis of a 50Mt reserve, but by 1998 Aitik had yielded 300Mt of ore. As of November 2006, total proven reserves were 520Mt grading 0.31% copper, 0.2g/t gold and 2.0g/t silver, while 110Mt of probable reserves have similar precious metals grades and 0.28% copper. Measured resources at January 2006 were 635Mt grading 0.30% copper, 0.2g/t gold and 2g/t silver. Indicated plus inferred resources totaled 350Mt at similar grades. So, I have a very hard time buying into the politicians theory that we can no longer accept having to get our metals, etc from the dictatorships around the world – nice try though. I believe the actual quote went something like this: "We can't rely on unstable governments/dictators in other countries to supply our metals." Little advice for the prominers...lose the politicians, they're full of shi%...	G1

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
57	<p>Politician quotes from the hearings and newspaper articles... "When the LTV taconite plant shut down a decade ago, the people rolled up their sleeves." To figure why LTV went bankrupt? We all know why LTV went bankrupt...Or was it to determine how the land could be raped even more? "There have been 6 generations of mining wealth on the Range." Yep, 6 dead cancer riddled generations...awesome!!! "We've provided iron for 2 world wars, built the state capitol building, and the U of M. There are educational endowments of \$1 billion. \$600,000 a year that goes toward research and scholarships." What does this have to do with the copper mine? They gonna build a big copper something we haven't heard of yet? A huge reason this will go through is so the State can collect monies to pay for their overspending. Maybe, just maybe, our politicians could do their jobs correctly so we don't find ourselves in these types of predicaments? "Mining is our culture. That's why our families came here. We continue to produce wealth." Compare the mining dollars to the tourism/hunting/fishing/etc industry in northern Mn. How is this going to effect those consistent money makers? "Cell phones need 26 different metals." They USE 26 metals – do they NEED 26 metals? Are there alternatives to the 26 metals? Last time I looked – there was not a shortage of cell phones... "A green economy is what environmentalists want." And this sure ain't it... "We all want and need devices." We all want and need politicians to smarten up – what's your point? The "devices" you mention aren't made here, and won't be made here... "It's fundamentally wrong to export our pollution to other countries by our demands." What an outright crock of shi*...What's fundamentally wrong is our State's politicians to lying to us.</p>	G2D,G10
58	<p>"Sulfur in the ores have potential for acid mine drainage." Not just potential – it will happen.</p>	G2
59	<p>"The plan is to backfill the east pit with low sulfur waste rock, and to line and cap the high sulfur waste rock concurrently with the mining. Backfill with what? Where</p>	EOO
60	<p>From newspaper article: "State lawmakers write letter of support for PolyMet" Published: Saturday, December 5, 2009 10:30 PM CST Mesabi Daily News PolyMet is a strategic win. The copper, nickel, platinum, palladium, gold, and cobalt that PolyMet will produce are essential to our way of life. They are found in electrical wiring, hybrid cars, wind turbines, stainless steel, jet engines, cell phones, computers, blood sugar test strips, artificial joints, catalytic converters, and a myriad of other products, but the United States imports from 40 percent to 90 percent of these metals. As well as most of the products you mention above. So, how green is it to ship the raw materials around the globe (China) and then ship the finished goods back to the US? It isn't...</p>	G1,G2

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
3840	<p>The Minnesota DNR and the Army Corps. of Engineers are creating an Environmental Impact Statement on a new type of mine being proposed for Northern Minnesota near the Boundary Waters Canoe Area Wilderness, and 50 miles from Voyager National Park . This mine is different from long established iron ore mines that Minnesota has had over the years. These proposed mines, contain among the copper, nickel, platinum, and silver, significant deposits of sulfide . The sulfur in the resultant mine tailings could leach off into the surface and ground water, creating yellow and red streams and creeks with toxic heavy metals and sulfur. Water that contains heavy metals and sulfuric acid kills fish, birds and other aquatic life . The watershed for these proposed sulfide mines includes the Kawishiwi River which flows into the Boundary Waters Wilderness, and includes the St. Louis River which flows into Lake Superior. Contaminated water flowing from abandoned mines is one of the most significant contributors to water pollution in the United States . A toxic form of pollution caused by sulfide mines is called Acid Mine Drainage (AMD) . AMD can have severe impacts on aquatic resources, killing micro -organisms, insects, fish and other aquatic life . It stunts terrestrial plant growth, harms wetlands, contaminates groundwater, raises water treatment costs, and damages concrete and metal structures . There are several thousands miles of streams impacted by AMD within the United States. The economic losses on fisheries and recreational use mounts to hundreds of millions of dollars' annually. See appendices C and D. AMD causes elevated levels of dissolved metals and sulfates, which render the stream unsuitable as a source of drinking water for humans, livestock or for use as aquatic habitat for wildlife. Because of the potential for Acid Mine Drainage, sulfide mines require treatment systems to ensure that acidic water is not discharged . These systems must be in place for the life of the mine, and continue in perpetuity to treat acidic waters after the mine is closed . Due to the ongoing treatment process, the risk of discharging acidic water increases over time . Water treatment systems at reclaimed mining sites is complicated by changing levels of ground water and fluctuating rain fall levels over decades and centuries. If movement of the acidic water is not contained within an impermeable barrier (e .g. pipe, plastic, glass, etc .) the acidic water flows into the underlying groundwater system . Once the acidic water enters the groundwater system, the detrimental affects on flora and fauna becomes widespread. Containment and treatment of the affected groundwater system is difficult, if not impossible. Generation of acidic waters is a long-term situation that requires perpetual chemical treatment. Therefore, funding for long-term treatment of acidic waters and long-term responsibility and liability for environmental protection is on going . Mining companies and sulfide handling operators may not be perpetual and often go bankrupt . As a result, there are many examples of operators abandoning properties that discharge acidic water and requiring public money to clean up the site . See Appendix B. Unlike many dry Western states, Minnesota is rich in water resources that are especially vulnerable and are a great part of Minnesota's outdoor heritage for anglers, canoeists, duck hunters and of course wildlife . Our neighbors in Wisconsin have a moratorium on mining metallic sulfide ores written into law . In effect, the Wisconsin law says : "Industry can mine metallic sulfide ores in Wisconsin when it can show one mine in the United States or Canada that has operated and been closed for ten years without significant damage to its watershed." See Appendix A. The Izaak Walton League of America and the Minnesota Ike's in particular, have a long history of fighting for, protecting, and preserving Minnesota's North Woods and the wildlife it contains. It was</p>	G2C,G7A,G11,G12
<p><b>Sender Last Name:</b> Bartosh</p>		<p><b>Submission ID:</b> 186</p>
178	<p>Hello. I'm writing to express my opinion on the PolyMet copper mine. I seriously think Minnesota needs to add a mining moratorium like Wisconsin has. Wisconsin learned it's lesson! This type of mining does not belong in Minnesota. The few years of jobs and minerals it will produce will not outweigh the pollution and environmental wreckage. Our world is so full of cancer, so full of toxins, so full of 'industrial' growth, that we are killing ourselves and our world. Everyday I wonder why we continue on our destructive path. Destroying northern Minnesota's natural beauty so someone can make a buck is just wrong. I hope you consider my comments, and truly look inside your heart to see what's worth saving.</p>	E00,G2,G12

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
336	I'm writing to voice my opinion on the PolyMet project. I'm sure you are getting lots of emails and are a little overwhelmed, but I really wanted to write with my thoughts. I'm very afraid of this PolyMet project. I don't believe they have 'new' technology. I don't think they wish to do harm or intend to, but who does? Oil companies don't wish to have oil spills, but they still happen. It's human error. Even if PolyMet follows strict environmental regulations and does it all by the books, errors can happen. And such errors can be so deadly and disastrous. The Boundary Waters, the St. Louis, and even Lake Superior are all too precious to even risk. Even if I had a great baseball player. He's got the best throw of them all. I still wouldn't want to put him next to a glass house. But I also learned the other day that PolyMet had been taken to court back in 2007 regarding the mess they were making in Floodwood, MN. If they have no problem skirting the laws in Floodwood, they won't think twice about skirting other laws. In my opinion, if you break an environmental law once, you shouldn't be allowed to get a permit for anything! So, I'm very upset that this EIS is still continuing. Not only do we have a great baseball player next to a glass house, but this player is known for liking to break glass.	EOO,G5
2852	I believe that PolyMet's sulfide/copper mine is not an acceptable option due to the damages it will cause to northeastern Minnesota. The long term repercussions of such a project certainly warrant great concern and I, for one, say "NO" to the PolyMet project. I hope you will consider my objection earnestly and with diligence.	EOO,G2
3841	I'm writing in opposition to the proposed PolyMet project or any other sulfide/copper mining project. I feel anyone who believes they won't do damage is a fool. Their PR spin doesn't fool me. No mine of this type is safe in wet environments such as NE Minnesota. They don't care about MN, they only care about the profits they'll make exploiting Minnesota's greatest treasure the BWCA. We hold a vast amount of precious, clean water. Water is worth protecting! Plus, if PolyMet and society wants copper so bad, we've got 60 years of copper buildup in our landfills. Everything from computers, electronics, appliances, old vacuum cleaners, etc. Let them go into the recycling business.	EOO
<b>Sender Last Name:</b> Bartosh,Toupal		<b>Submission ID:</b> 3700
1	If PolyMet is going to be as beneficial to our economy as is being claimed by its proponents, it should lead to rate decreases and not rate increases. The project should be advanced transparently, and legally. An increase in rates for small businesses is not good for the diversification of the regional economy and makes it more dependent on the big business of mining. Realtors in regions where mining is being advanced notice depreciations in property values generally. Much can be said about this economic harm.	G1
<b>Sender Last Name:</b> Baumgartner		<b>Submission ID:</b> 2018
2486	Because of the problems detailed below, and because this type of toxic mining has never before been done in Minnesota, I would respectfully point to the decision of our neighbor state Wisconsin, to ban this type of mining unless and until it can be proven safe.	G14
<b>Sender Last Name:</b> Baurle		<b>Submission ID:</b> 3526
3790	I am a college student in the Twin Cities area. One of the features that attracted me to Minnesota was the environmental consciousness of this state's citizens and government officials-- a welcome change from my Chicago-area hometown, eager simply to make a buck. In fact, I am pretty confident Minnesota will be my new home. Friends, I urge this state to reconsider the permanent impact this decision will have on the environment and future generations. Minnesota is a beautiful, picturesque state-- please do not throw all that inherent charm away for a get-rich-quick-scheme. It will only leave the state morally and environmentally bankrupt in the end.	EOO,G2
<b>Sender Last Name:</b> Beane		<b>Submission ID:</b> 2738



*Alphabetical by sender's first name*

<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
3183	My husband and I are ardent supporters of the quality of all of Minnesota's natural resources, particularly the Boundary Waters Canoe Area. To hear that the health of this area is at great risk is of great concern not only to the land and water, but to the people and wildlife.	EOO
<b>Sender Last Name:</b>	Beaver	<b>Submission ID:</b> 1188
1303	Minnesota waters should not be polluted with heavy metals and sulfates, which contributes to mercury contamination of fish. Any short-term process, that leave behind a pollution problem that needs treatment in perpetuity, should be avoided.	G2C,G7B
<b>Sender Last Name:</b>	Bechtold	<b>Submission ID:</b> 3518
3785	I can't believe a project such as this is even being considered in such an environmentally important area. These environments need to be protected. We need to be making changes in our life styles and our use of recycling. If all the time money and energy that went into trying to pull this off was directed to the recycling effort we would be a world ahead. How can anyone working to push this mining effort forward sleep at night knowing the kind of risk they are putting on the environment and future generations health. Are their paychecks really more important than the health of their grandchildren. Why would we allow big business to use us for short term benefits and ruin our own long term benefits of keeping the environment pure. Northern minnesota is known as pure natural area, to explore and learn, to get back to nature. No one wants to fish next to a exploration rig. With the economy suffering people may not have the funds or spending cash to travel as much as before but this is not the answer. Selling our souls to the devil is not the answer to our state economic issues. We should be investing in sustainable methods. Thank you for this opportunity to express my opinion on this matter, I hope and pray that the devil doesn't beat mother nature out on this one.	EOO,G2
<b>Sender Last Name:</b>	Beck	<b>Submission ID:</b> 3480
1115	loss of 1,454 acres of federally designated critical habitat for two endangered species known to be in the vicinity of the mine site – the Canada lynx and the gray wolf. Finally, cumulative impacts must address the loss of revenue to the Boundary Waters Canoe Area	WI1
1321	basin for the disposal of its tailings and toxic materials – but that the basin already has stability issues making it unsafe. Any failure of this basin to hold its contents would result in long-lasting and serious contamination. PolyMet should complete a stability analysis of the basin and devise an acceptable design before being able to proceed with this project. Further, the PolyMet NorthMet project will result in total	GT2
3234	In addition, the DEIS predicts contaminated waters to be discharged from the mine site into the Partridge River after the mine's closure, as well as tailing's basin discharges high in sulfate concentrations. High sulfates can turn mercury into forms that make fish dangerous to consume. It is unacceptable to proceed with a mine that already predicts these kinds of pollution outcomes. Wisconsin has already banned sulfide mining due to the unacceptable environmental risk it presents. It is also my understanding that PolyMet proposes to use an existing mine tailings	EOO,WR4B,FM1
3683	Water quality impacts remain a top concern. How is it acceptable to allow for up to 2,000 years of environmental impact for the short term gain of one company? Who will pay for the long term treatment required? PolyMet has few assets and little financial history. The DEIS fails to address where the funding will come from to pay for post-closure treatment, monitoring and maintenance. As a result, it seems likely that Minnesota taxpayers may have to pay millions of dollars to clean up after PolyMet has gone.	PD2,PD4
3754	Wilderness and Superior National Forest tourist industry as part of a sulfide mining district. While I fully understand the economic necessity of mining, and need for natural resources in our society, we need to be responsible in our decisions. Certain types of mines should simply not be permitted in places where the risk to the environment is too great. This appears to be the case for sulfide mining in northern Minnesota. The PolyMet DEIS describes significant environmental issues associated with this proposed mine. These issues should be resolved before this mine is approved by the Minnesota Department of Natural Resources and the U.S. Army Corps of Engineers.	G2

*Alphabetical by sender's first name*

**Comment ID    Comment Text** **Theme Codes**

**Sender Last Name:**    Beckel **Submission ID:** 1834

2444 The PolyMet DEIS describes significant environmental issues associated with this proposed mine. These issues should be resolved before this mine is approved by the Minnesota Department of Natural Resources and the U.S. Army Corps of Engineers. Having spent many of my most precious developmental years paddling and guiding the waters of the BWCAW, eating fish and drinking the clean clear waters, I urge you to protect this national treasure for yourself, your children and the generations to come. G7

**Sender Last Name:**    Beckman **Submission ID:** 2707

3174 Gentlemen, I grew up in the Boundary Waters and learned about land and water conservation, to have fun as well and to "leave where ever you camped cleaner and better than you found it." Interestingly enough that last quote happened to stay with me for life for it has so many other applications! How can you in good conscience slowly contaminate, kill waterlife, and slowly kill the BWCA? The fire a few years ago wiped out an large part of the area but, that is Mother Nature and the BWCA thrived after it! It took years, but it thrived non the less. Gentlemen, as I'm pretty sure no woman in good conscience would be apart of this committee; You are Not Mother Nature, and you have no right to do what you are doing. I've taken nieces and nephew's, under-priveleged kids from the inner city, and I plan on taking my grand nieces and nephews and other mother's, father's, Kids. How dare you take that right away from me and anyone. Ther is no greater lesson in life then a trip to the Boundary Waters! Stop everything you are doing in the Boundary waters! EOO,G7

**Sender Last Name:**    Beddow **Submission ID:** 1726

2239 Please accept these comments on the PolyMet Mining Corp. NorthMet mining project Draft Environmental Impact Statement. I have serious concerns about the safety of this project and its potential impacts on Minnesota's natural resources. One of the best things about living in Minnesota is the wilderness. I grew up here, my parents grew up here, all the way back to my great grandmother who was born in Minnesota. I like being able to see lake Superior and Northern Minnesota the way she did, and I very much want my great grandchildren to have the same opportunity. Please do not disturb the beauty by allowing sulfide mining. G11

**Sender Last Name:**    Behrends **Submission ID:** 3203

3539 Please consider our environment to be more than a harvestable crop. We have generations to come that have the right to the beauty we have now. As a nation, we should be reversing our destruction of the environment. Its obvious through scientific facts that many of our actions have an adverse effect on the environment. Politicians that can fly on tax payer dollars to remote locations to "experience" nature do not relate, appreciate, or understand the "common" man and their ways. Please consider what we all know in our "gut" and that acid mining isnt what is best for Minnesota. Thank you. Kyle B. EOO,G2

**Sender Last Name:**    Beito **Submission ID:** 3371

3661 I really enjoyed the video- I think more people should have to watch the video just so they are aware of everything. It is important for some land to be saved and protected like the Boundary Waters- I am glad that was done. EOO

**Sender Last Name:**    Bell **Submission ID:** 1844

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
300	Loss Of Wetlands - The project allows the loss of 1200 acres of wetlands in St. Louis County and the St. Louis River watershed, with an inadequate mitigation plan. The loss of these wetlands will result in a net loss in carbon sequestration provided by these wetlands (peatlands).	WE3
306	Harmful To Wildlife - The DEIS does not adequately address the mining project's impact on Canada Lynx and Grey Wolf Habitats. It also does not address the destruction of existing wildlife corridors. The project is located on land the USFWS designated less than one year ago as critical habitat for the Canada Lynx.	WI1,WI5
839	The mine's tailings basin will also produce discharges high in sulfate concentrations, which will turn mercury into methylmercury, making fish dangerous to consume.	WR4B,FM1
1168	Cumulative Impacts Not Analyzed - The DEIS should expand its analysis of the Cumulative Impacts of the PolyMet project to include a review of past, present and foreseeable future actions within the project vicinity.	PD8,G9
1169	Financial Assurance Information Missing - As recommended by the EPA, the DEIS must include an evaluation of the financial assurance that would be provided to ensure post-closure reclamation of the PolyMet NorthMet mine and plant. Sulfide mining places huge burdens on taxpayers. These mines often require long-term or perpetual pollution and treatment. PolyMet has few assets or financial history. The question of where the funding will come from for post-closure treatment, monitoring and maintenance has not not been adequately addressed, and Minnesota taxpayers may have to pay millions of dollars for clean up after PolyMet has gone.	PD4
1170	Land Exchange Analysis Missing - The PolyMet project proposes a land exchange of 6,700 of federal land within the Superior National Forest. This "connected action" is required to be part of the EIS under federal law. Knowing which what lands will be exchanged is important in evaluating the environmental and cultural impacts of the PolyMet NorthMet Project.	PRO4,PD1
1209	Water Quality At Risk - Water quality concerns have not been adequately addressed in the PolyMet project's DEIS. Water leaching from waste rock piles at the site is expected to exceed water quality standards for up to 2,000 years.	EOO

**Sender Last Name:** Bellerud

**Submission ID:** 316

330	Please accept these comments in support of the Draft Environmental Impact Statement (DEIS) for PolyMet Mining Company and its proposed NorthMet project. I write this letter wearing many hats. First, I am an Iron Ranger who loves this area and wants to see it be sustainable - economically and environmentally. Second, I have had a long career in iron mining, having retired after a long career at U.S. Steel's Minntac operation; I know mining! Third, I am the mayor of a small town west of the proposed project, Gilbert, which stands to benefit from the economic development that PolyMet will create and also would stand to lose if the project isn't environmentally sound. In my career in mining, I have witnessed great improvements in the environmental stewardship practiced by iron mining companies on the Range. What's exciting to me is that PolyMet will take advantage of all of these stewardship practices - and introduce new ones based on the unique challenges of nonferrous mining. They have done their homework on this huge project. The DEIS demonstrates this environmental stewardship. From the mine, where PolyMet will develop and implement a comprehensive waste rock management program, to the processing plant, where sulfur from the ore will serve as fuel, PolyMet will be a shining example of sound environmental practices. Their reclamation will be like done other. PolyMet also will be a major economic driver for the entire Iron Range, creating construction jobs and providing good jobs for 400 people - jobs that can support families. We will see our young people coming back to the Iron Range to work and live. Mining is exciting, challenging and constantly improving. When producing metals that all Minnesotans demand and that are used in daily life - whether it's the iron ore currently mined to produce steel or nonferrous minerals that are used in everything for cell phones to jet engines to medicine - mining professionals have an obligation to minimize the impact on the environment and natural resources. PolyMet has accepted that obligation. The DEIS-a detailed, comprehensive review of the impacts-should be approved.	EOO
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*Alphabetical by sender's first name*

**Comment ID**    **Comment Text** **Theme Codes**

**Sender Last Name:**    Bellville **Submission ID:** 3213

3545 My opinion is approval for this project EOO

**Sender Last Name:**    Bendas **Submission ID:** 266

279 The Area Partnership for Economic Expansion (APEX) is an entrepreneurial business development organization led by top executives and senior managers from Northeastern Minnesota and Northwestern Wisconsin's largest, most successful companies. Our goal is to strengthen the regional economy by creating sustainable economic development. The project being proposed by PolyMet Mining Company not only would create sustainable economic development, it also would produce metals used by my members every day and, moreover, do so in an environmentally sustainable manner. The 400 jobs that PolyMet will create will lead to the creation of hundreds of other jobs throughout the region; the tax base will benefit not only from the company's contributions but also from the taxes paid by these employees. Perhaps most importantly, these economic benefits will not accrue at the expense of environmental protection. As the comprehensive, detailed draft environmental impact statement demonstrates, PolyMet will generate this economic activity while it is protecting our air, water and land. The environmental impact statement outlines the many choices PolyMet has made to protect our environment, including but not limited to: • Using a brownfield site, minimizing further disruption to the environment and taking advantage of existing processing and transportation facilities. • Designing the mine and plant footprint to minimize the impact to wetlands. • Using the sulfur in the ore as a fuel for processing instead of greenhouse gascreating fossil fuels. • Emitting very few air pollutants. • Ensuring proper treatment and disposal of waste streams from processing. • Managing waste rock, including liners, collection drains and covers. • Assuring that closure costs will be covered by setting aside financial resources now to pay for these future costs. • Friends, Neighbors, and Relatives in this area have been hit by the economic downturn. This project will provide opportunities for families in Northern Minnesota and Wisconsin to have good paying jobs. The draft environmental impact statement has proven that PolyMet can mine these critical metals, create these jobs and contribute to our regional, state and national economy at the same time it is protecting our environment. In fact, the PolyMet project has been subjected to extraordinary scrutiny over more than four years of environmental review, and PolyMet has demonstrated the economic and environmental viability of its project. PolyMet has played by the rules. It has invested more than \$20 million to support this exhaustive environmental review. The draft environmental impact statement should be deemed adequate. Permits should be issued. PolyMet should be given the green light to start developing these green jobs.

EOO

**Sender Last Name:**    Bennett **Submission ID:** 3218

3548 hi I live nerby and we need the work here in northern mn. I think the draft should remain as is .thank you bob. EOO

**Sender Last Name:**    Berg **Submission ID:** 19

17 Kim Berg, Biwabik, Minnesota. I just want to say I'm very much in support of PolyMet. My husband already works there, so I'm hoping we can continue our job and have a very awesome growth of the Iron Range. We need it. That's my statement. EOO

18272 In regards to the PolyMet Mining's proposed NorthMet Project, I am deeply concerned about the environmental impact and degradation anticipated from this project. The proposed mine sits on land which belongs to the public, and as a part-owner of this property I reject the proposal. G2

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
18273	(4.1-112) PolyMet’s proposal to construct a wetland for the purpose of treating contaminated water is – at this point – merely an idea. It would be prudent to require full-scale testing of this key component before relying on it to protect such high quality watersheds and important wilderness areas as the nearby BWCAW. From my understanding, a treatment wetland of this scale has never been tried. Previous tests of small-scale treatment wetlands have shown wide seasonal variations in effectiveness. Moreover, no-one knows if these wetlands can continue to uptake pollutants over the hundreds or even thousands of years that they will remain necessary. Failure of this system would require very long-term and costly treatment by alternate means – most likely paid for by Minnesota’s taxpayers.	WR3L
18274	(4.13-2) The stability of the existing LTVSMC tailings basin that PolyMet plans to use for their disposal is a well-recognized concern. The existing basin has been documented to contain fines and underlying soils that create a “low margin of safety” for its long-term stability. Rather than generating a plan that satisfactorily increases the safety margin of the basin, PolyMet concedes that “further design and analysis is needed.”	GT1
18275	To date, PolyMet has done nothing concrete to demonstrate their promise to mine safely with minimal environmental damage and risk. On the contrary, PolyMet’s rush to begin the EIS process before adequate plans and testing (as described above) is complete does not bode well for the future. As an indication of their commitment to protecting Minnesota’s environment and future citizens, PolyMet should – at a minimum – complete two tasks. 1) Develop and test a plan that generously increases the safety margin of its planned use of unstable, old tailings basins. 2) Develop a full-scale wetland treatment system and demonstrate its effectiveness over all seasons and for a projected term of years equal to the expected discharge of polluted water from the mine.	WE6,GT1
18277	My second concern with the NorthMet DEIS is in regards to the probable negative impacts the project will have on the area’s water quality. The DEIS states that water from waste rock piles will likely remain contaminated with heavy metals - including mercury - and sulfates for up to 2,000 years. After only 65 years, this contaminated water is expected to overflow from the west pit, contaminating nearby water bodies for up to the following 1,945 years. In addition, seepage from the tailings pit is expected to create “high risk situations” for mercury methylation in wetlands and lakes downstream on the Embarrass River. As climate change continues to threaten the water supplies of many western states, and Minnesota’s own population continues to grow, I have no doubt that high-quality water will be in short supply. According to the U.S. Government Accountability Office, at least 36 states will face catastrophic water shortages within five years due to a combination of drought, rising temperatures, pollution, urban sprawl, and population growth. In light of these circumstances, it is easy to see that Minnesota’s access to abundant, clean water is precious and unique. In fact, it is, or soon will be, much more precious - and essential – than the metals contained at the PolyMet mine site. Water also happens to be a renewable resource able to sustain Minnesotans for generations - if protected. In contrast, the metal contained at the NorthMet site is expected to be gone in one generation. Trading away generations of valuable, clean water for a quick profit is not a tradeoff that is in the best long or short-term interests of Minnesotans.	EOO,WR3I,WR5A
<b>Sender Last Name:</b> Bergan		<b>Submission ID:</b> 1847
2463	I am also a teacher who wants a great future for all Minnesota families to explore the boundary waters and find it still clean and revitalizing to our health.	EOO
<b>Sender Last Name:</b> Berglund		<b>Submission ID:</b> 1186
157	Extend the 90 day comment period so that other people can learn about this issue & express their concerns.	PRO6
1301	This mining should not take place anywhere in the BWCAW watershed or the lake Superior watershed.	EOO
<b>Sender Last Name:</b> Bergman		<b>Submission ID:</b> 1038

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
1139	Thank you for your efforts to collect and review public comments on PolyMet Mining's proposed copper-nickel-precious metal mine. The Lake County Board of Commissioners is pleased to write in support of this project, which will provide critical metals that I and my constituents use every single day. The Lake County Board of Commissioners is well aware of the importance of mining to the economy of Northeastern Minnesota and equally well aware of the need for mining to be done in an environmentally sound manner. We are pleased to see that the environmental impact statement developed for the project clearly reflects the fact that PolyMet can do both. The proposed mine is in neighboring St. Louis County in an area that already is widely used for mining and has been logged extensively. It is surrounded by existing mine pits, high-transmission power lines and transportation infrastructure that includes roads and rail. This is an appropriate area for this type of industrial development. PolyMet proposes to take advantage of this impressive infrastructure, re-using the Brownfield site left by the bankruptcy of LTVSMC and much of the existing road and rail service. Not only will this minimize further disruption, it also will recycle these facilities. The environmental impact statement also shows that PolyMet processes will be environmentally superior to more traditional processing methods, using constituents in the ore to fuel processing, generating very low rates of air pollution and minimizing the use of greenhouse gas generating fuels. PolyMet won't discharge process water to the environment and will manage waste rock to avoid generation of acid rock drainage. I'd like to expand on the socio-economic impacts of PolyMet's proposed project. Construction of the facility will provide 1.5 million man hours of construction employment. PolyMet will create 400 full time jobs at wages that can support a family, and at least 500 spinoff jobs are expected. The company will also pay millions annually in local, state and federal taxes. This economic benefit will help much of Northeastern Minnesota. Lake County specifically is struggling with rising costs, increased demand for services and a shrinking tax bases. In Lake County we currently have an unemployment rate of eight percent because of the economic recession. Construction of the mine as well as its operations will provide much needed high paying and stable jobs to Lake County residents and will help improve the county's bottom line. We need sound, long-term, sustainable economic development to help ensure a steady stream of local revenues. PolyMet would contribute to that revenue stream. Please work quickly to answer public comments and to issue a determination that the environmental impact statement as adequately addressed the issues associated with the project so permitting can begin.	EOO
<b>Sender Last Name:</b> Bergstrom		<b>Submission ID:</b> 1829
115	Water leaching from waste rock piles at the site is expected to exceed water quality standards for up to 2,000 years. This is unacceptable to me. We have saddled our children and grandchildren with so many future problems, especially environmental, that the time has come to stop all projects with such far reaching consequences.	PD2
2434	The PolyMet DEIS describes significant environmental issues associated with this proposed mine. Please follow Wisconsin's lead and encourage the legislature to ban this type of mining until it is proven safe. This area of Minnesota is my favorite vacation destination. I have observed increased degradation in years gone by. Many changes have occurred over the 35 years I have been visiting it. If much more occurs, I will spend my vacation dollars elsewhere.	EOO,G11
<b>Sender Last Name:</b> Berkopec		<b>Submission ID:</b> 1637
2060	If this open pit mine occurs, it will pollute the beautiful and natural wildlife of Minnesota for over 2000 years. This is completely unnecessary and should not occur. I grew up in Minnesota and going to the BWCA was one of my most fond memories. It will not be the same for myself and thousands of others if this sulfur is mined. Plus Minnesota will have less visitors for people will not want to visit a polluted area. Please consider the beautiful wildlife, waters, and rare beauty that is found in the BWCA. It is truly something I am passionate about and would be devastated to see destroyed.	EOO,G2C,G7B,G11

*Alphabetical by sender's first name*

**Comment ID    Comment Text**

**Theme Codes**

**Sender Last Name:**    Bertelson

**Submission ID:** 3478

3681 so it can avoid this kind of expenditure, expecting that the people of this state will pay for the cleanup just as states elsewhere have. In doing so, PolyMet fails to act responsibly in its application, shows it is not acting in good faith with the people of Minnesota. We cannot accept this kind of irresponsibility. If this project is approved by the state, it must do so only if PolyMet agrees to post a significant bond to pay for the ongoing cleanup which will be required. If the state does not require this, then the state will be acting irresponsibly on behalf of the people of the state.  
Glenn Bertelson

PD4

3752 Dear Sirs: Thank you for this opportunity to comment. I would like to see this mining operation go forward for the jobs and revenue it would create for the state. But wherever this kind of mining has occurred in the country, there has been significant pollution of the environment. The environment of this area of Minnesota is its most profound contribution to the quality of life here. People visit and live in this area mostly for the quality of the environment. Resorts and outfitters benefit only because of the quality of the environment. The Boundary Waters Canoe Area Wilderness is unique in the world, and its appeal is due solely to its pristine environmental qualities. Should the quality of the environment be degraded in any way, this area will suffer enormously far into the future. There has not been one instance in the country where this kind of mining has not created significant environmental degradation. When the mining companies have left, the public has been left to pay for the ongoing cleanup into perpetuity. PolyMet knows this, but instead of making the pledge to pay for the cleanup which will be required, it has declined to post a bond for the purpose, claiming that the sulphur content is significantly less than elsewhere. It is relying on the demand of the people for jobs and revenue, and the complicity of the state, to support its application

EOO,G4A,G11

**Sender Last Name:**    Bertossi

**Submission ID:** 3643

18278 As a citizen organization whose home-base is Michigan our first and foremost concerns are the destruction and potential trading of very unique federal lands that we all share, and the contamination that is likely to occur to our water resources, given that massive piles of toxic waste rock (with low levels of acid-neutralizing minerals) will be stored in a very water-rich environment.

G2A,G7A

18279 First of all, PolyMet proposes to clear, mine, develop, store tailings on, and frankly destroy approximately 1,200 acres of wetlands and 1,000 acres of forest on public land in the Superior National Forest and within the 1854 Treaty Ceded Territory where the Bois Forte Band of Chippewa, Fond du Lac Band of Lake Superior Chippewa, and Grand Portage Band of Chippewa retain hunting, fishing, and gathering rights. The land that would be destroyed by the proposed mine has been identified by Forest Service and DNR scientists, in several assessments, as having high quality and unique natural features and for providing habitat for threatened, endangered and/or sensitive species—also referred to as an “under-represented habitat”. The area’s special features include high watershed integrity, large areas of wetlands, the presence of riverine ecosystems, and a large amount of interior forest. This Northwoods area and its surrounding ecosystem are rare and getting rarer with increasing development.

EOO,G2A

18281 The DEIS is not adequate in addressing the loss of this special place. The DEIS only mentions that PolyMet is considering trading land but does not describe the supposedly “more useful” land that is to be traded. We are also concerned that this land trade would set a detrimental precedent for federal lands in our own State of Michigan and throughout the country. This proposed land trade is hardly a solution to destruction that would forever erase an already dwindling resource. Allowing PolyMet to operate its Northmet Mine would shift the balance away from sustainable use levels to an industrial level of development that would permanently alter the social, ecological and economic characteristics.

EOO

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
18282	And, whatever we do to the land eventually finds its way to the water. In fact, according to the Forest Service’s Wildland Waters Newsletter (Issue 4, winter 2005), “Water has been called mining’s “most common casualty” (Environmental Mining Council of British Columbia [EMCBC])”. The DEIS mentions but does not fully address the potential to create mercury, methyl mercury and sulfate pollution in the nearby watersheds, especially from the tailings basin (where we can expect at least minimal leakage because it is a well known fact that all liners leak). For example, according to the DEIS, “there is some uncertainty as to whether the West Pit overflow would meet the Lake Superior mercury standard” and it goes on to read that, “this impact could be mitigated if it would occur.” How does PolyMet propose to mitigate this potential impact? Operations will not always go as planned, modeling and predictions are not always accurate (garbage in garbage out). Can the responsible agencies and PolyMet show the concerned citizens that we will not be stuck with the bill to clean up another mine site?	WR1E,WR3I,WR5A,AQ4,A
18284	The DEIS also does not adequately address potential hydrologic impacts, including surface water drawdown, water flow impacts in the St. Louis River Basin (including the potential impacts to wild rice ), the leaching of metals to surface water, and the ability of the Project to meet long-term closure requirements relative to surface water quantity and quality.	WR1A,WR1C
18285	The DEIS mentions potential long term arsenic, cobalt, selenium, copper, nickel, aluminum, beryllium, iron, manganese, thallium, sulfate, antimony, manganese, and nickel exceedances at the mine site, but it does not address the cumulative or synergistic impacts upon fish, wildlife or humans.	WI5,G9,FM3
18288	Moreover, the DEIS does not adequately address cumulative impacts of a proposed new mining region. As you may know exploration for minerals has accelerated throughout the upper Midwest with active exploration and proposals in northern Minnesota, Ontario, Wisconsin and Michigan. What might this mean for our shared waters, especially Lake Superior?	G1
18289	A mining district is a likely foreseen outcome, as agencies continue to sell exploratory leases to companies throughout the Northwoods. The PolyMet DEIS is inadequate as it addresses the Northmet project as an isolated copper-nickel mining project in the Great Lakes region.	CR1
18290	Finally, the DEIS states that PolyMet would have no significant effect on regional air quality. Cumulative effects of other proposed mining must be included in order to make the DEIS adequate.	AQ4B
18291	Although there is rich body of research that describes the “Boom and Bust” nature of mining, the DEIS only addresses the socioeconomic benefits of the proposed Northmet Mine. It does not mention the economic effects mining could have on the local tourism industry. We would like to see this issue addressed and presented to concerned citizens before any decision is made on the proposed mine.	SE4
18292	We understand that the Bois Forte Band of Chippewa, Fond du Lac Band of Lake Superior Chippewa, and Grand Portage Band of Chippewa participated as cooperating agencies, we hope that their concerns will be addressed in the FEIS, including the implications of the potential loss of access to public lands for hunting, fishing, and gathering and other tribal uses due to the potential land exchange.	G3,CR2,CR4
18293	Despite a land exchange, the DEIS does not address loss of wild rice and berries as food crops, or the accumulation of toxic metals in plants, wildlife, and fish species used as game. Even if land is exchanged, the proposed mine would also effect wildlife movement patterns, including those of moose, wolf, Canada lynx, American marten and others. Both moose and wolf are having difficulties reproducing in many areas in the western Great Lakes ecoregion, adding to the cumulative adverse impact these and other species are faced with would constitute a significant effect with lasting and unpredictable outcomes, not only to the wildlife but to the hunting, fishing, and gathering rights of indigenous peoples.	WI3,G9,CR1,CR4

**Sender Last Name:** Besonen

**Submission ID:** 315



*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
329	I'm writing to indicate my support of the PolyMet Mining NorthMet Project. Because of the number of jobs it will create, this project will contribute greatly to the economy of northern Minnesota and beyond. It's my belief that PolyMet can produce precious metals in an environmentally sound manner and follow Minnesota's strict requirements to protect our air, water, and land resources. It makes more economic and environmental sense to mine and process these metals in one location - keeping jobs and the metals here in the United States where they're needed.	EOO
<b>Sender Last Name:</b> Bethke		<b>Submission ID:</b> 321
339	Once again greed & ignorance seem to go hand in hand. Not that many years ago there were laws written to protect these sacred waters. Get off & away from the BWCA know.	EOO
<b>Sender Last Name:</b> Bevis		<b>Submission ID:</b> 1352
1579	I trust you are carefully considering the permitting process for this project. I urge you to keep our water quality at the top of your list. I am concerned with the high potential for acid drainage and the cost of cleaning. I value the ecology and natural history of the Boundary Waters and northern Minnesota. Please keep our distinctive natural resources and history in mind.	EOO,G4A,G7A
1580	I'm writing to encourage you to do everything you can to make sure sulfide mining does not occur in northern MN. The BWCA & Superior National Forest are full of plants and animals that would greatly suffer if open pit mines were to move into the area. The potential economic gains are greatly overshadowed by the long-term damages to the environment. I trust you and your colleagues will do the right thing for the future of our state.	EOO,G2C
1581	I am writing to express my concerns about proposed hard rock mining in the Superior National Forest in Northeastern Minnesota. The BWCA's proximity to these projects alarms me especially, as this region has been a treasured part of my summers for almost all of my life. An open pit sulfide mine's potential environmental impact for decades to come is not worth the short-term economic benefits. I am eager to hear your perspective on this critical issue.	EOO,G11
<b>Sender Last Name:</b> Bhaguan		<b>Submission ID:</b> 322
340	i am a concerned citizen and tax payer of Duluth MN 55806. i request that you please make every available effort to stop all new mining activities in the state of MN. this is my objective assessment of northmet proposal. * mining does not impact the environment; it REMOVES the environment. * any short term gain will NEVER replace the long term remediation. * a statewide ban shall be maintained until any mining operation can provide impartial scientific data and substantiated quantitative documentation showing that permanent containment can be demonstrated as proof beyond all reasonable doubt. please reconsider and ban all future mining development in the state of MN. please protect the waters of the great lakes and mississippi watershed region. thank you for your time and considerations.	EOO,G2
1145	i am a concerned citizen and tax payer of Duluth MN 55806. i request that you please make every available effort to stop all new mining activities in the state of MN. this is my objective assessment of north met proposal. a . mining does not impact the environment; it REMOVES the environment. b . any short gain will NEVER replace the long term remediation.	EOO,G2,G7,G8

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
3135	To whom this may concern, i am a concerned citizen and tax payer of Duluth MN 55806. i request that you please make every available effort to stop all new mining activities in the state of MN. this is my objective assessment of northmet proposal. mining does not impact the environment; it REMOVES the environment. any short term gain will NEVER replace the long term remediation. a statewide ban shall be maintained until any mining operation can provide impartial scientific data and substantiated quantitative documentation showing that permanent containment can be demonstrated as proof beyond all reasonable doubt. please reconsider and ban all future mining development in the state of MN. please protect the waters of the great lakes and mississippi watershed region. thank you for your time and considerations. Ozone Bhaguan 218-260-2612	EOO
<b>Sender Last Name:</b>	Bhimani	<b>Submission ID:</b> 211
212	Please abide by the precautionary principle and require PolyMet to prove without doubt that the available technology will not lead to pollution. They claim it won't, but as noted in the DEIS, pollution will eventually happen. Please do not sacrifice the health of a federally protected wilderness.	G2
<b>Sender Last Name:</b>	Binnell	<b>Submission ID:</b> 3368
3658	As a born and raised Minnesotan I am lucky enough to say that I had the opportunity to visit the boundary waters many times in my short life. The thought of someone risking what we have for 20 years of mining makes me furious. It's irresponsible and down right stupid. I want to be able to take my grand children to the boundary waters and fish and drink out of the lake just like I got to do. If we allow the mining companies to mine the boundary waters I might not be able to do that.	G11
<b>Sender Last Name:</b>	Biondich	<b>Submission ID:</b> 203
201	I would like to express my support for the NorthMet Project being developed near Hoyt Lakes. This project will give a needed boost to the economy of not only northeastern Minnesota, but will also contribute to the economy of the whole state. Hundreds of jobs will be created for the mine itself and even more spinoff jobs. This will add to the tax base to support our schools and communities. PolyMet has met all of the environmental requirements of the state of Minnesota. Furthermore, many of the metals produced by this mine are needed in the manufacture of green technology products such as catalytic converters and hybrid cars. I have lived in this area for over fifty years and have enjoyed the lakes and forests my whole life. I can assure you if there were a real threat to the environment neither myself nor many of my neighbors would support this project. That has been proven in the EIS not to be the case, so I am in full support of the NorthMet Project. I also feel that using the old Erie/LTV Minesite is a smart move. Reusing existing facilities and being in the footprint of a former mining operation minimizes disturbance of any other wetlands or forests. I also feel that we have become too dependent on other countries to provide metals that we use every day. Foreign producers of these metals don't always have to follow the strict environmental guidelines we do in this country. This creates a larger global impact on the environment. I think PolyMet has shown it is a good corporate citizen and has been very open with the public on all their plans for this project.	EOO
<b>Sender Last Name:</b>	Birk	<b>Submission ID:</b> 9

*Alphabetical by sender's first name*

<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
1	I've read the draft impact statement summary, and they talk about not mining and say that if they don't mine, that doesn't create any pollution, except for reclaiming the mine holes and some other things like that. And that is not correct, and it should be changed. The reason is someone else will mine if we don't mine, and pollution will result from that mine; it just won't be here. You could say that that pollution is outside the scope of the study, but to say that it won't happen would be an error. The only way to keep that from happening, it's a supply and demand thing. If the demand for copper were reduced, then other people wouldn't mine. But as long as the demand for copper stays strong and we don't mine, then someone somewhere else in the world will mine, and the chances that they will mine in a more environmentally friendly way than we do are small. So the most likely thing is that if we don't have the mine here, it will increase the pollution in the world from copper mining because wherever else it gets mined probably won't be done as well as it would be done here. And I just think that should be corrected. That's it.	ALT1
259	This is my comment concerning the PolyMet Draft Environmental Impact Statement. My position is that not mining copper in Minnesota will raise the level of pollution in the world. Those who think that preventing mining in Minnesota will lower pollution are basing their analysis on too local a view. They assume that if one mine is not allowed to operate there will be a reduction in pollution. That would only be true if no other place in the world would increase their mining activities to make up for the lack of production taking place in Minnesota. That simply will not happen. Any economist who believes in the law of supply and demand will say that the supply of a product will rise to meet the demand for that product. That means that if the demand for copper is strong and we are not mining copper in Minnesota, someone else somewhere in the world will be mining copper to meet that demand. We have no control over who that will be, how their mine will be operated, or how they will process their ore. The US Geological Survey estimated that Chile mined 3,735,900 metric tons of copper in 2005. They were the top copper mining nation that year. They were followed by Indonesia, Australia, Peru, China, and the Russian Federation in that order. The United States was next on the list producing 586,000 metric tons that year. I suspect that if we do not mine copper in Minnesota, and the demand for copper remains, Chile could take up the slack. If not Chile, then perhaps it would be Indonesia or one of the other top producers. Look at those possibilities. What nation among them would insist on the water quality standards that the Minnesota Pollution Control Agency and the Minnesota Department of Natural Resources will hold PolyMet to? Which nation among them would insist on an autoclave process and not allow a smelter? I believe the world will take up the slack for any mining that we don't do in Minnesota. I believe that the level of pollution associated with the mining done elsewhere in the world will most likely be dramatically higher than the level of pollution from the mine at the PolyMet project. I believe that PolyMet and the agencies that regulate pollution in Minnesota have come up with a plan that will keep the pollution from this mine at a very low level. I believe the operating permit ought to be issued. Although the pollution that would result from not operating this mine will not originate in Minnesota, it will take place somewhere on this earth. The air and the water will be polluted. The people, the animals and the plants from somewhere else will be damaged because we are not mining copper in Minnesota. I believe that limiting pollution in other places is just as important as limiting pollution in Minnesota. Issuing this permit to mine copper in Minnesota will reduce the level of pollution from copper mining in the world.	EOO

*Alphabetical by sender's first name*

**Comment ID    Comment Text**

**Theme Codes**

342 This is my comment concerning the PolyMet Draft Environmental Impact Statement. My position is that not mining copper in Minnesota will raise the level of pollution in the world. Those who think that preventing mining in Minnesota will lower pollution are basing their analysis on too local a view. They assume that if one mine is not allowed to operate there will be a reduction in pollution. That would only be true if no other place in the world would increase their mining activities to make up for the lack of production taking place in Minnesota. That simply will not happen. Any economist who believes in the law of supply and demand will say that the supply of a product will rise to meet the demand for that product. That means that if the demand for copper is strong and we are not mining copper in Minnesota, someone else somewhere in the world will be mining copper to meet that demand. We have no control over who that will be, how their mine will be operated, or how they will process their ore. The US Geological Survey estimated that Chile mined 3,735,900 metric tons of copper in 2005. They were the top copper mining nation that year. They were followed by Indonesia, Australia, Peru, China, and the Russian Federation in that order. The United States was next on the list producing 586,000 metric tons that year. I suspect that if we do not mine copper in Minnesota, and the demand for copper remains, Chile could take up the slack. If not Chile, then perhaps it would be Indonesia or one of the other top producers. Look at those possibilities. What nation among them would insist on the water quality standards that the Minnesota Pollution Control Agency and the Minnesota Department of Natural Resources will hold Poly Met to? Which nation among them would insist on an autoclave process and not allow a smelter? I believe the world will take up the slack for any mining that we don't do in Minnesota. I believe that the level of pollution associated with the mining done elsewhere in the world will most likely be dramatically higher than the level of pollution from the mine at the PolyMet project. I believe that PolyMet and the agencies that regulate pollution in Minnesota have come up with a plan that will keep the pollution from this mine at a very low level. I believe the operating permit ought to be issued. Although the pollution that would result from not operating this mine will not originate in Minnesota, it will take place somewhere on this earth. The air and the water will be polluted. The people, the animals and the plants from somewhere else will be damaged because we are not mining copper in Minnesota. --- - ----- I believe that limiting pollution in other places is just as important as limiting pollution in Minnesota. Issuing this permit to mine copper in Minnesota will reduce the level of pollution from copper mining in the world.

EOO,G1

**Sender Last Name:**    Birnstengel

**Submission ID:** 2105

2494 I wish to go on record as opposing the proposed sulfide mining project in the Arrowhead region. I believe that our waters are too important to pollute no matter how many jobs the project might create. Clean, healthy water is critical for both human consumption and for the existence of wildlife. The DEIS identifies the following: Water from waste rock piles will be polluted for up to 2,000 years. For 40 years after mine closure, the West Pit will overflow and begin discharging polluted water into the adjacent Partridge River which flows into the St. Louis River and then into Lake Superior. Groundwater at the mine site will be contaminated with heavy metals. Enormous sulfate releases will exceed the state standard for wild rice and will likely eliminate wild rice in the Partridge and Embarrass Rivers and the St. Louis River estuary near Duluth. There may well be additional damage not disclosed by the DEIS. The identified damage and pollution is totally unacceptable. The project should be abandoned. The project should not go forward even if the mining company pays for all the damage and water pollution prior to beginning the project.

EOO,G7A,G7B

**Sender Last Name:**    Bissonett

**Submission ID:** 2549

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
3117	The DEIS identifies many significant, irreversible detrimental impacts to wetlands, groundwater, streams, and wildlife. The DEIS further admits substantial uncertainty with respect to the actual degree of pollution and damage that will result from the Project. The DEIS appears to propose that replacement wetlands would be at locations so far removed from the Project site that they cannot possibly offset the habitat fragmentation that the Project will cause in the 100 Mile Swamp. Further, the DEIS improperly proposes leaving to the permitting stage the vital issue of financial assurance for cleanup and restoration. Many of these problems, and others, are identified in the comments of the Bois Forte Band and Fond du Lac Band; because of the treaty rights of those tribal cooperating agencies, their comments deserve great weight. The Proposed Action as described in the DEIS contemplates a project massively-destructive in its scope; the relatively few short-term jobs that will allegedly be created are virtually insignificant in comparison to the damage that will be done to the landscape and to sustainable economic endeavors in Northeastern Minnesota.	EOO,G2C,G4,G7C,G15
18296	I am for clean water. I am against this proposed nonferrous mining in Minnesota because neither PolyMet, nor anyone quantifiably knows the extent to which these dangerous mining processes will pollute our waters, land, and fauna, only that they will. The draft EIS admits this. The risk is unacceptable, because at stake is something far greater than the minerals. Minnesota contains almost one tenth of the total inland water area of the nation. At risk is the last large remaining resource of clean water for the continent. Our clean water is invaluable to the people of Minnesota, the United States, and Canada.	G7
18297	It would be disastrous for Minnesota to gamble away its diverse ecosystem to nonferrous mining. Degradation of our clean water resource would have far and deep reaching consequences.	G7
18298	violation of the Federal Clean Water Act for over 15 years. PolyMet nonferrous mining should have no business establishing itself in Northeastern Minnesota with a risk magnitude of its proposed size, after even a small test-run for copper nickel mining, as demonstrated with Dunka, proved unsuccessful.	G7
18299	We may live in a world where so often money and business control and destroy the natural order of things, but all people share stock in the natural order. It is the responsibility of our MEPA and USEPA to hold as priority the full value of the environment around and under us, to safeguard it, and not to permit it to be sold and poisoned.	G10
18300	1. The dEIS does not address the financial assurances that would adequately protect taxpayers against clean-up costs. The latency of acid mine waste migrates and intensifies years or decades after closure, warranting serious attention. An example of concern is again, from the Dunka aquifers, which have buried down deep the Big Plume, which will eventually surface in the Dunka River.	G9
18301	2. If PolyMet is using new technology, what is it? I was unable to locate the description of the new technology in the dEIS, other than Platsol. Based on the evaluation by the dEIS, the technology may be new, but with old results that fail to safeguard 100%. Nothing less than 100% is acceptable when it comes to clean water. Monitors are unreliable, and/or reckless.	PD8
18302	3. The dEIS would serve itself well to address the issue of the contaminants that will be unearthed and dispersed with mining at the site and plant. a. What are all of the anticipated waste products? Is uranium or hot water an issue? According to the federal EPA, Northeastern Minnesota is a target area for uranium, as demonstrated by intent to mine uranium in the past. It would seem prudent that up-front data be in place prior to any activity (leasing, exploration, or mining) to prevent uranium exposure, that is not of natural occurrence. b. What do we do with these contaminants? There were zero documents in the dEIS regarding adequate, long-term treatment for waste rock, land, and water reclamation.	WR1E,PD2
18304	4. Groundwater seepage exceeding aquifer flux capacity resulting in significant seepage upwelling and wetland impacts is a horrifying situation which can never be mitigated.	EOO,WE2
18306	5. Degradation of aquatic habitat directly affects the natural chemistry of watersheds and beyond, as all life forms in the environment are related.	WR5A
18307	6. Contamination resulting in cumulative loss of wildlife habitat and migration routes throughout the Iron Range, is a troubling thought, radical in the breakdown of the balance and beauty of a natural community.	WI2

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
18308	7. No data as to how much leakage from the mine site and plant that will flow into the Partridge, Embarrass, St. Louis Rivers, and surrounding wetlands is frightening. The dEIS needs to speak directly and clearly to the contingency plan with specific criteria as to limits that would trigger shutdown. Once again, what about the monitoring of all operations? Will there be on site monitors, who will monitor (the MPCA?) and how frequent will the monitoring take place? Is there money for all this critical environmental protection?	WR1E,WR3I,WE2,WE3,PD
18311	8. The overall tribal loss of access to lands and natural resources within the 1854 Ceded Territory, despite the land exchange, speaks of cultural disrespect.	G3,CR4
18312	9. Two public hearings for PolyMet’s nonferrous mining proposal and it’s dEIS were held by the DNR in December 2009 in Aurora and Blaine. There, the DNR, mining representatives, government officials, and union leaders were allowed to voice their support of a \$600 million copper-nickel mining operation. The citizens representing their concerns, however, were not allowed to speak out. Instead, they were directed to give their comments to stenographers. Even though an attachment in the dEIS stated citizen commentary at the hearings may be in written or vocal format, the representation of opinions was muffled. The scene was disgraceful and unfair.	PRO6
18313	In conclusion, nonferrous mining is not in the best interest for our state. To no longer have Northern Minnesota with its forests, waterways, and wetlands as they are today, to no longer trust that water will be clean in our nations most valuable wilderness area, would be a fatal blow to the growing, sustainable tourism-economic base, which residents and business owners have worked hard in developing and maintaining. Furthermore, the BWCAW cannot exist with these mines. Nonferrous mining would be a huge waste producer. Nonferrous mining should be banned from Minnesota as it is in Montana and Wisconsin, until 100% safe methods are PROVEN. Our ecosystem is too fragile and valuable to be tampered with by the nonferrous mining industry. WE WANT TO SAVE THE BOUNDARY WATERS! I believe the risk of irreversible contamination to areas in and surrounding the BWCAW should not be foisted on the coming generations. I empathize with the pressures of your decisions on this issue, but with all my heart, hope you will not permit nonferrous mining to develop in Minnesota.	EOO,G2,G11
<b>Sender Last Name:</b> Bitker- <b>Submission ID:</b> 3380		
3670	Some of my fondest childhood memories occurred while on family trips to the BWCA. I would hate to see this peaceful sanctuary destroyed by the sounds of drilling and sulphuric acid pollution. Destruction of the area rivers and fish populations would have a devastating effect on the areas economy. My father, all my aunts and uncles, are forever going “up North” on exciting fishing trips. They’re not going to go where there’s no fish. Don’t let mining and supposed resource gain destroy our most precious of resources, the water and wilderness of Northern MN.	G2C,G7A,G11
<b>Sender Last Name:</b> Bjerke <b>Submission ID:</b> 132		
121	My biggest points are that if the standards aren't high enough, we are still going to pollute the area. The water is not clean enough. Eighty percent of our kids are sick by the time they are two or five; it's just horrible. And so it shouldn't be done without stricter guidelines, not just meeting them, but what is really good for us, what's good for seven years from now. The Indians had a better idea of how to take care of land and their people than what we do. At times I think we should be on the reservation and they should be making decisions. The company is not an American company. Make it a Minnesota company. We need the jobs. One, we need the jobs. Two, recycle it first. We are throwing stuff away that they are going to mine out of there. Recycle what we are throwing into the landfills. Then you can dig up and rape the land if you need it to survive. That's it.	EOO,G5
714	I AM ASKING; for an extension of the comment time for at least thirty (30) additional days to March 8. A project of this scope demands time for careful consideration. ABSOLUTELY! Here is why. I went to the Blaine Sports Center looking for information I have only now found on the Sierra web site.	PRO6

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
2597	SHAR BJERKE: This is in addition to my other comments. After listening, it sounds like they are being very environmentally wise about this. The jobs are important, but I want them to step back ten more steps and look at the whole thing. I want the sulfate taken care of. It appears that there are existing and new ways to take care of the sulfate so that it doesn't end up in the organic matter and making mercury for our water and for our fish. And I think they are going to have to take care of that right away. There are possibilities of making product or neutralizing it, wrapping it up. It just doesn't go away. Once you create something, it's there. So the sulfate is there and you have to put it into something. If it's Sheetrock, then fine. That works. If it's something else -- it should be done right away so that it doesn't go into the environment. Best case scenario is making it into another product that we make right there, then all that property is worthwhile as long as everything is self-contained and environmentally3 taken care of, and jobs are created in the process of doing it. The other part of what we discussed is if we are going to be mining out something, metals and raw materials, we should be required, at least in our state, to recycle all of them and have plans in place so that it can't be such that your city doesn't do that. All of those things should be recycled before we dig up more, because anytime we separate out elemental things that nature didn't want or didn't have naturally separated out into those elements, there is a way of a problem for causing blood-brain barriers and making people ill and pollution that's really damaging. So cell phones, there was talk out there that cell phones are being recycled, melted down, and being recycled for their raw materials. We should be doing that instead of creating more. Computers and whatever else, and I'm not enlightened as to what other things should be, but we shouldn't be allowed to throw away or put in a landfill or have recycling centers that have you separate out everything and then they put it in a landfill and don't recycle it. Those things should not be happening if we are mining out new raw materials. All the existing and discarded items should be required to be recycled, and we should be making business out of it. If somebody else can make a profitable business out of it, we shouldn't be shipping it anywhere. We should be separating it out here. And they are more than welcome to set those operations up, up there.	G1,G2C,G9,G14
<b>Sender Last Name:</b> Bjraker		<b>Submission ID:</b> 324
343	Dear Mr Ahlness Regarding the public comments on the Polymet Copper mine, where are they posted? I am going to need to read all of them. thank you,	RFI
445	Include cumulative air and water quality effects on lakes, rivers and wells from all sources including other mines. This EIS may set the standard for all water quality impacts analysis, and good cumulative impacts analysis is critical to protect water quality throughout the region.	AQ4B
446	Require detailed and cumulative impacts of potential mercury increases in fish due to the Polymet project, including mercury methylation as well as discharge and emissions.	AQ6A
1144	Require resolution of tailings basin geotechnical stability and seepage issues identified by the tribes and the U.S. EPA.	GT2
1411	Require detailed and cumulative impacts of potential mercury increases in fish due to the Polymet project, including mercury methylation as well as discharge and emissions.	FM1,FM3
2207	Include cumulative air and water quality effects on lakes, rivers and wells from all sources including other mines. This EIS may set the standard for all water quality impacts analysis, and good cumulative impacts analysis is critical to protect water quality throughout the region.	WR5A
2208	Require detailed and cumulative impacts of potential mercury increases in fish due to the Polymet project, including mercury methylation as well as discharge and emissions.	WR5C
2408	Include future development of other proposed sulfide mines. The predicted twenty year mine life of the Polymet proposal isn't even half a career for someone so other copper mines in the area must be counted on happening for this to make any kind of sense. Therefore, a comprehensive environmental review of all mines need to be done.	G9

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
2409	Require financial assurances in the EIS before the permitting process gets underway. Money needs to be set aside for perpetual(hundreds of years) treatment of water discharges and tailing basin maintenance. Financial assurance also need to be put in place to reimburse property owners in case of a drop in property values due to toxic pollution. The property value of my lake home on Birch Lake will be directly affected, if not by the Polymet mine, then by the Franconia mine. Financial assurances should also be in place to make the community whole again after the mine closes. Unemployment payments, worker retraining, food stamps, welfare, etc.. should come out of mine profits, not the rest of the state's citizens' pockets.	PD4
3559	Please direct me to where I can read all of the public comments.	RFI
<b>Sender Last Name:</b>	Blake	<b>Submission ID:</b> 3538
3801	I am very concerned about the proposed mining plans that seems to be moving ahead? If you take a look at the past practices that this minig firm has done I can't believe there would even be any thought of moving forward? I know folks up there really needs jobs but this would only be short term till the mining company has taken all the can get. Then they will leave us with a huge mess that may not even be possible to clean up. They can make all the assurances they want about how they can contain the pollution. Check out what happened in Michigan with similar techniques. I believe they now need the Super Fund to help them clean up the mess. I hope whoever is reading this will take a hard look at long term affects on our envionrment rather then shortr term jobs and money for the state. It just doesn't add up.	G2,G4A
<b>Sender Last Name:</b>	Blesi	<b>Submission ID:</b> 1835
2445	Please accept these comments on the PolyMet Mining Corp. NorthMet mining project Draft Environmental Impact Statement. I have serious concerns about the safety of this project and its potential impacts on Minnesota's natural resources. The proposed mining project is stupid and outrageous. If allowed to happen, it proves we don't deserve to be here and we won't be here.	EOO,G2
<b>Sender Last Name:</b>	Blomstrom	<b>Submission ID:</b> 2711
3175	Make sure you have enough rersources to clean up any problem you create. We do not want a similar situation as in The Exxon Valdez oil spill in Prince William Sound. The cost of this project should include making sure the environment stays the way it is now.	G4A,G6
<b>Sender Last Name:</b>	Bloomquist	<b>Submission ID:</b> 2330
2790	The PolyMet DEIS describes significant environmental issues associated with this proposed mine. These issues should be resolved before this mine is approved by the Minnesota Department of Natural Resources and the U.S. Army Corps of Engineers. I do not want the most beautiful part of Minnesota to become another Sudbury, Ontario or Butte, MT. The chemicals released into the waters from the metals processing will eventually destroy the area for generations to come.	G7A
<b>Sender Last Name:</b>	Bluhm	<b>Submission ID:</b> 1154
1270	Please help support innovation and diversification in the Iron RAnge Economy – to build jobs for future generations!	EOO
<b>Sender Last Name:</b>	Blume	<b>Submission ID:</b> 1053



*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
1157	I support the Nortmet development project. This will be great for the local economy with minimal impact on the environment. I have been following the progress of this project for aver ten years from my home in Connecticut. Thanks for doing a great job.	EOO
<b>Sender Last Name:</b> Boerst		<b>Submission ID:</b> 351
70	Some resentment has been expressed on the means by which the public comment sessions were held. I believe they were very well-planned. They were instructive and allowed people to voice their opinions to the agencies involved. The public comment period has already been extended over what is put forth in the guidelines. We need no longer. If people want a soapbox to speak from to publicly address the people themselves, they have had more than enough chances. Many public forums were held by those opposing the project, websites are available, organizations can be joined, newspapers have printed countless opinion articles, and news stations have broadcasted opinions both on TV and the radio. There has been no lack of public input and education. The time to finish this is now.	PRO6
388	I appreciate being given the opportunity to participate in the public comment process on the Draft Environmental Impact Statement (DEIS) for PolyMet Mining Company and to add my voice to the thousands of Minnesotans who want to create jobs and to produce metals in our local economy in an environmentally friendly way. I commend the involved agencies on the amount of effort that was put in to this project in a way to appease all concerned parties and yet protect our environment. In brief, I believe that the MN-DNR should deem the draft EIS for Polymet as more than adequate and issue a final EIS, leading to the mining permit. This proposed polymetallic mine is necessary for Minnesota, its citizens, and the entire nation. Firstly, as I live in the area near the proposed project, I see a growing tide of economic depression. Many people I personally know hold down multiple poor-paying jobs that do not provide necessary benefits such as health care just to make ends meet and to feed their families. The means of survival in this region and current economy are daunting. How can we put the opinions of a few over the physical, mental, and economic well-being of the many? The Northmet project would provide direct employment to over 400 Minnesotans eager to be put to work for many years. Besides the direct employment, this venture will produce countless spin-off jobs. What many laymen fail to include in their economic impacts is apart from the direct creation of new jobs. The real impact is the sound of copper ingots trickling into the pockets of every man, woman, and child in the region and spreading out across our hungry nation. As a few hundred people will be given well-paying jobs, they will now have disposable income to spend. This money will primarily be spent in the small businesses of local entrepreneurs, but will extend its reach. As these businesses conduct more business, the money is spread farther, helping us all. Secondly, our education system in Minnesota has and will be served leaner servings of a budget every year. With the Minnesota state budget now in gross deficit, the proposed mine will provide a necessary bolster to our schools. Years past, Minnesota's education system shined brightly among national standards due to the taconite mines now in operation for over a century. This base metal project is simply a new generation of benefactors for the next century. What is on the minds of many of this project's opponents is the potential environmental impact. I will be the first to admit that, yes, it will have an impact, but albeit negligible. Any action pursued by humankind, including brushing your teeth, checking your email, taking medications, or waving an antiananything flag has an environmental impact. The question is: What is acceptable, and what is not? Since the initial moratorium on sulfide mining in Minnesota decades ago, the state along with other agencies and entities have agreed upon what is acceptable as an environmental impact from such a project. The plans put forth by Polymet and the government agencies for the operation of this project meet or exceed these restrictions, thus the DEIS should be deemed adequate. Minnesota has some of the most stringent regulations in the world on sulfide mining. As we still need to consume these metals, where then should we mine? "Not in my back yard" mentality has taken a strong footing. Maybe we should let them open a copper mine in China. Let the pollution be made over there. The problem is that we not only live in a global economy, but more importantly a global environment. We in Minnesota get rained upon by clouds containing well above acceptable amounts of mercury. The source of most of this contaminant is not local, or even from our continent, but its documented source is mainly Asia where environmental regulations are weak. I can then see that there is no better place to mine these metals than right here in Minnesota where, besides keeping the environmental impact in che	EOO

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
389	In conclusion, I trust in the process and the system. By independent party review, I believe that an possibilities have been covered, alternatives have been presented where appropriate, and the proper mitigation procedures will be implemented to protect our precious environment. Many years and over twenty million dollars have been expended on this project. That said, I believe the DEIS is more than adequate, and the DNR needs to deem it so as well and finally finish this project. Permitting based upon the information put forth in the DEIS should begin immediately. Any further delay is a moot effort.	EOO,G10
<b>Sender Last Name:</b>	Boggie	<b>Submission ID:</b> 3721
3912	The failure to analyze and discuss a wind energy option is unfortunate, because that the option exists. Minnesota Power has been expanding its presence in the wind power market, and has just purchased a 465-mile direct current (DC) powerline. As soon as 2011, that powerline will carry 75MW of windpower from the "Bison 1" turbines in windy North Dakota, to the electrical grid in Duluth. Minnesota Power plans additional phases of wind energy development, in North Dakota, as well.	AQ5
<b>Sender Last Name:</b>	Boos	<b>Submission ID:</b> 2178
2584	I am writing in support of the Polymet Northmet project.I am president of APi Electric with headquarters in Duluth and branch offices in Hibbing and Mpls Mn. The construction jobs,and more importantly the ongoing in plant ,and maintenance jobs are sorely needed in northeast Minnesota.The millions of tax dollars will have a positive impact on our state budget deficit. I live and work in this area, I am an avid outdoorsman,I believe the state process and environmental studies provide the protection required for this type of process. I would much rather have these metals mined under our watchful eyes , for our use, than to go overseas to purchase these same metals with little or no concern for the environment.	G1,G2
<b>Sender Last Name:</b>	Borchardt	<b>Submission ID:</b> 1080
1184	I am writing in support of PolyMet Mining's NorthMet project, My wife and I live on Lake Vermilion and are frequent visitors to the BWCA. We do not have a well, we have a pump in lake Vermilion and use it for all of our water needs including drinking water. We believe PolyMet can operate this mine while follpwng Minnesota's strict environmental requirements. We understand the need to balance the use, of resources like minerals and preservation of resources such as' water and air. We feel this E.IS lays the proper groundwork for developing an environmentally and economically sustainable project.	EOO
<b>Sender Last Name:</b>	Borkenhagen	<b>Submission ID:</b> 2377
2866	PolyMet sulfide mining project proposed on 6,700 acres of public land in the Superior National Forest. There's something wrong with this sentence. It doesn't belong in Minnesota. It doesn't belong on public lands. Minnesotans - and actually most people - view this state as a gem of natural beauty. Why would we take the chance of spoiling the one thing we have going for us? I beg for some serious thinking about letting this "genie" out of the bottle. There are literally millions of other places around the globe that offer good access to this mineral with far less potential degradation to the environment. To patently allow someone else to make profits off of public land like this is a sad state of affairs for the DNR and ACE Thanks for thinking this through to doing the right thing.	EOO
<b>Sender Last Name:</b>	Bosacker	<b>Submission ID:</b> 3474

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
3749	I like to canoe and kayak in the Boundary Waters and St Louis River. I don't want them to be contaminated by Sulfide Mining. I have little confidence in the assurances from the mining companies. Their history is not good. One hundred percent of them have said they would not do any environmental damage, yet seventy six percent have them have been wrong. Why risk such serious long term damage, that will affect so many people, just to give a short term financial benefit to so few?	G7A
<b>Sender Last Name:</b>	Boucher	<b>Submission ID:</b> 223
226	Mr.Stuart Arkley, I hope you and the state of MN.allow the company of Polymet to precede in their application of the environmental study to be completed.I have been to all there functions they put on here in Hoyt Lakes and they were very through in showing there process and caring for the environment and caring of the people of MN.I'm 75 and have a great love and respect for the environment,and wild creatures that live in it,and would raise all kinds of hell if I thought they were going to ruin any of it..I hope The state of MN will complete this process and let Polymet get on with there process..Thank you,Roy Boucher,108 Wyandotte Rd ,Hoyt Lakes Minnesota..	EOO
<b>Sender Last Name:</b>	Bour-Schilla	<b>Submission ID:</b> 2958
3318	The PolyMet DEIS describes significant environmental issues associated with this proposed mine. These issues will never be satisfactorily resolved. This mine should not be approved by the Minnesota Department of Natural Resources or the U.S. Army Corps of Engineers.	EOO
<b>Sender Last Name:</b>	Bowman	<b>Submission ID:</b> 247
260	I am the President of the Aurora Chamber of Commerce, and I am writing to express the Aurora Chamber of Commerce's full support for PolyMet Mining Co. As Chamber members, we understand the economical impact Polymet will bring to our City and businesses. Polymet's 400 employees and the hundreds of spinoff jobs will provide a huge economic benefit to our local business. Polymet has gone to great lengths to inform both the business and citizens of the sound environmental practices. We believe these fellow Minnesotans, are committed not only to protecting the environment we live and play in, but also the mine will provide a safe and sustainable way for Minnesotans to make a living and provide for the future of the Iron Range. We the Chamber are impressed by the extraordinary precautions proposed by PolyMet and we are proud to have them as a fellow Chamber member.	EOO
<b>Sender Last Name:</b>	Bowron	<b>Submission ID:</b> 3122
3070	We believe that the Polymet DEIS in its current form fails to address important short term and long term consequences, particularly the groundwater flow of sulfites (with particular attention to the Boundary Waters) and the amount of escrow to be left when the mine closes. In addition, too much of the monitoring seems to be left to Polymet, and self-regulation typically is poor regulation.	WR1B,WR2C,PD8
<b>Sender Last Name:</b>	Boyle	<b>Submission ID:</b> 1488
1778	I love the Boundary Waters and no amount of money should jeopardize it's beauty and perfection.	G11
<b>Sender Last Name:</b>	Bozicevich	<b>Submission ID:</b> 212

*Alphabetical by sender's first name*

**Comment ID**    **Comment Text**    **Theme Codes**

213 I am in full support for this project to get started immediately. I find it very difficult to understand why it has taken 7 years for this project to NOT get off the ground! I can not imagine why anyone would want to impede world progress by opposing this project. The world needs these commodities! This mining process would use a hyro process not the the pyro process that our grandfathers used! Are we to purchase these commodities from foreign countries, many of them third world countries, with no care for the environment whatsoever? Polymet will be scrutinized every step of the way. They will use state-of-the-art technology. I can only imagine what the economic impact will be to our now economically depressed area. The Iron Range is, was and always will be MINING COUNTRY! Please, please help get this much needed project started!

**Sender Last Name:**    Bozich

**Submission ID:** 262

275 Malton Electric Company's management and its employees would like to express their support for the PolyMet NorthMet Project. Malton has been a provider of electrical equipment and services to the mining, electric power and wood industries for more than sixty years. The PolyMet NorthMet Project would require electrical equipment and services of the type we typically offer to our other area industries, thereby providing growth and additional employment for our company. PolyMet would be a leading innovator of the production process that will protect the environment while providing domestic sources for critical materials required for new energy efficient vehicles and other technologies. Malton employees live in Northern Minnesota because they enjoy the many benefits of the recreational areas and lakes and the many opportunities they provide for outdoor activity. Our sportsmen and women are very aware of preserving the environment and feel that PolyMet has done their homework to ensure an environmentally protective process. Malton suffered employee layoffs with the closure of LTV Mining Company's facility in Hoyt Lakes which PolyMet intends to utilize for part of the production process and we look forward to participating in the revitalization of the facility.

**Sender Last Name:**    Bradford

**Submission ID:** 179

170 It is difficult to imagine that after five years of review in one manner or another that every conceivable question about Polymet Mining's Northmet Project has not been asked and answered. I believe we are well past this point and are now asking nonrelevant questions or are just asking the same questions over and over again in different form. This has to end. So many resources on all sides are being wasted covering the same ground. Many other worthwhile concerns are being ignored with all the effort that is going into trying to find fault with Northmet. No state has the resources to continue such a pointless effort when there is so much need elsewhere. Northmet is a good project with good people at the helm. We are taking an already existing industrial site, recycling the infrastructure that is already there for a new and valuable use, and doing it in a way that could not be positively environmentally matched if done anywhere else in the world. There is so much on the plus side environmentally that it has to outweigh the lack of the existence of an unrealistic one hundred per cent guarantee of no even unappreciable harm on all issues. Northmet is a good project that deserves to move forward now.

**Sender Last Name:**    Bradoch

**Submission ID:** 3722

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
1	Moreover, even the assertion that the Project must use Minnesota Power is not entirely correct. The DEIS and the Barr report to which it refers argue that the Project would have to be powered by Minnesota Power, pointing to a state law on exclusive service territories for energy companies, Minn. Stat. § 216B.37, and to an exception, Minn. Stat. § 216B.42, Subd. 1, that apparently would not apply to the Project. The DEIS and the Barr report gloss over other options, including the one presented in Minn. Stat. §§ 216B.40, which allows use of a different power company if the usual company agrees in writing; and the self-generation exception, Minn. Stat. § 216B.1621. As to the first option, the DEIS documents simply assert, without further explanation that it is “not likely applicable to PolyMet.” <sup>111</sup> As to the second, the company suggests that because it is a mining company, it lacks the technical and business savvy to operate a power plant – a proposition with which several mining companies in Minnesota, including Cleveland Cliffs (Silver Bay) and the old LTV Steel (Taconite Harbor) would certainly disagree. The DEIS asserts arbitrarily that self-generation, “is outside the scope of reasonable alternatives to reducing carbon emissions at this time.” <sup>112</sup> The treatment that the DEIS gives to the available alternatives for power production and power selection by the Project does not satisfy the requirements of 40 C.F.R. §1502.16.113	AQ5
2	The DEIS and supporting documents take pains to assume that the bulk of stable carbon currently stored in peatlands, but slated for excavation, will remain in solid form and not be released into the atmosphere through oxidation. Specifically, the DEIS estimates that the peat slated for excavation and stockpiling is equivalent to 1,780,000 tons of CO <sub>2</sub> . <sup>114</sup> The DEIS estimates that only 23,000 metric tons of CO <sub>2</sub> equivalent per year (m.t.CO <sub>2</sub> -e/yr) would be emitted from the oxidation of peat held in stockpiles over the 20-year life of the mine. This conclusion should be better explained, and work that went into the calculations should be shown.	AQ3
4	The DEIS’s estimate may be contradicted by comments of the MPCA, which suggests that land use emissions should be evaluated as a pulse emission in the initial year, rather than distributed over some longer time period. MCEA notes that land use emissions must include not just the conversion of above-ground carbon into gas, but also the conversion of all below-ground carbon in upland and wetland soils that will likely occur sooner and more rapidly than would be the case if the peatlands were left undisturbed (i.e., under the no-build alternative).	AQ3
4	Also, in addition to the carbon emissions from peat stockpiled over a 20-year period – which the DEIS and its supporting document (AQ05) discuss and attempt to quantify – will account for only a portion of the peat’s carbon emissions. An emissions spike will occur when peat used for mine site and tailings basin reclamation. <sup>115</sup> As peat is spread thinly over a large area during reclamation of the mine site and tailings basins, the ratio of surface area to volume will increase, and with it the peat’s exposure to the effects of heat, oxygenation, and dessication. These are the main factors that will drive the spike in reclamation-timed carbon emissions from once-stockpiled peat. This spike is a land use emission, and must be evaluated as the MPCA suggests: as a pulse emission in the initial year of the Project.	AQ3
<b>Sender Last Name:</b> Brand		<b>Submission ID:</b> 3485
1118	PolyMet NorthMet project will result in total loss of 1,454 acres of federally designated critical habitat for two endangered species known to be in the vicinity of the mine site – the Canada lynx and the gray wolf. Finally, cumulative impacts must address the loss of revenue	WI1
1323	to use an existing mine tailings basin for the disposal of its tailings and toxic materials – but that the basin already has stability issues making it unsafe. Any failure of this basin to hold its contents would result in long-lasting and serious contamination. PolyMet should complete a stability analysis of the basin and devise an acceptable design before being able to proceed with this project.	GT2
3237	In addition, the DEIS predicts contaminated waters to be discharged from the mine site into the Partridge River after the mine’s closure, as well as tailing’s basin discharges high in sulfate concentrations. High sulfates can turn mercury into forms that make fish dangerous to consume. It is unacceptable to proceed with a mine that already predicts these kinds of pollution outcomes. Wisconsin has already banned sulfide mining due to the unacceptable environmental risk it presents. It is also my understanding that PolyMet proposes	EOO,WR4B,FM1

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
3685	fortunate to have in Northern Minnesota. If this region is going to continue to serve all of our needs, insurance policies, such as adequate funding, must be built into our decisions. It is not too much to ask. The remainder of this letter is a form that you've probably seen	PD4
3686	natural resources and public health. Water quality impacts remains a top concern. How is it acceptable to allow for up to 2,000 years of environmental impact for the short term gain of one company? Who will pay for the long term treatment required? PolyMet has few assets and little financial history. The DEIS fails to address where the funding will come from to pay for post-closure treatment, monitoring and maintenance. As a result, it seems likely that Minnesota taxpayers may have to pay millions of dollars to clean up after PolyMet has	PD2,PD4
3759	to the Boundary Waters Canoe Area Wilderness and Superior National Forest tourist industry as part of a sulfide mining district. While I fully understand the economic necessity of mining, and need for natural resources in our society, we need to be responsible in our decisions. Certain types of mines should simply not be permitted in certain places where the risk to the environment is too great. This appears to be the case for sulfide mining in northern Minnesota. The PolyMet DEIS describes significant environmental issues associated with this proposed mine. These issues should be resolved before this mine is approved by the Minnesota Department of Natural	G2
<b>Sender Last Name:</b> Brandenburg		<b>Submission ID:</b> 3723
1	Rather than make a proper accounting of peat-carbon volatilized during and following reclamation, the DEIS and its supporting documents suggest, speciously, that all peat used as mulch in reclamation should be considered a mitigation or carbon offset.116 The fallacy of this suggestion should be apparent, since if the Project were not constructed and excavated, there would be no need to use on-site peat reclamation; there would be no "site" to reclaim, and thus essentially all of the carbon now stored in the peat would remain locked up. The necessity of addressing these problems with the carbon emission calculations for the Project cannot be over-emphasized. To demonstrate the significance of peatland carbon's fate, consider the effects on Project total emissions if all the excavated peat were to be volatilized: the Project's estimated carbon footprint (as measured in m.t.CO2-e) would jump from 744,000 to more than three times that much, or 2,524,000. Instead of bumping statewide CO2 emissions by 0.62%, the bump would be more than 2%.	AQ3
2	The NorthMet DEIS should include mitigation options that can be imposed in the permit with regard to GHG emissions. These mitigation measures need to show that the project can be consistent with Minnesota's GHG reduction goals.	AQ5
3	Of principal concern in this review of the NorthMet project is the possible enhancement of methylmercury production and the potential for significant mercury releases to air and water. Regarding mercury methylation, the relevant factors are the amount and location of predicted sulfate discharges, whether there are methylating environments along the flow path, ambient levels of sulfate in the receiving waters, and seasonal hydrologic fluctuations that could alter the redox (oxic vs. anoxic) conditions where SRB occur. The DEIS provides a reasonably balanced overview of the potential for sulfate to increase mercury methylation and concludes that seepage from the tailings basin and pit overflows, " ... would introduce elevated sulfate concentrations to a high risk situation for mercury methylation." (4.1-127, 4.5-21). However, it also tends to downplay this concern by suggesting that sulfate levels may not be limiting mercury methylation where legacy sulfate releases (from former LTV operations) have already raised sulfate concentrations to high levels (4.5-21). While this may be true in a limited senses (those locations and sampling dates), it ignores the complexity of the landscape and hydrologic variability which could produce a different outcome (increased methylation) in other locations or at other times. My overall assessment is that the NorthMet DEIS is deficient in its evaluation of the risks of increased mercury methylation and the development of contingency plans for adaptive management should unforeseen problems arise. The principal deficiencies are as follows:	WR4B,FM1,FM4,AQ6A

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
4	<p>Four lakes located along the Embarrass River downstream of the NorthMet project (Sabin, Wynne, Embarrass, and Esquagama) are potential high-risk sites for sulfate-enhanced mercury methylation. The four lakes are also 303d-listed for mercury in fish tissue impairment (4.1-40). There are no water quality data for these lakes in the DEIS or supporting documents, but monitoring results from an upstream site on the Embarrass River (PM13) show elevated sulfate levels (mean = 36 mg/L), a consequence of legacy mine drainage from LTV Pit 5NW (4.1-41, 4.1-122). The fish mercury levels in these lakes are in the high range for northeastern Minnesota, though a comparison with other regional (non mine-impacted) lakes in the Barr Technical Memo (HG02) was biased and not useful as an objective evaluation (see MPCA and DNR responses to HG02). Nonetheless, the question remains as to whether fish-mercury levels are currently elevated in the Embarrass lakes because of legacy sulfate discharge (sulfate-enhanced methylation) or because of other factors known to contribute to high fish-mercury - in particular the presence of extensive contributing wetlands and high DOC (dissolved organic carbon) levels in the upper Embarrass River (4.1-125). The important point I wish to make here, and as noted in the DNR response to HG02, is the potential for enhanced mercury methylation in the hypolimnia of these lakes during summer stratification, should bottom waters become anoxic. The zone of active mercury methylation can move from bottom sediments into the water column as oxygen becomes depleted, and hypolimnetic methylation can be a very important in-lake source of methylmercury (Eckley et al. 2005; Munthe et al. 2007). Moreover, sulfate reduction, especially during periods of stratification, could consume much of the current sulfate load to the first lakes in the chain, thereby rendering lower lakes susceptible to increased sulfate inputs. My understanding is that PolyMet (Barr Engineering) is currently conducting water-chemistry sampling in the Embarrass chain of lakes (under advisement from MPCA and DNR staff) in order to assess the potential for in-lake methylmercury production.</p>	WR1E,WR4B,FM1,FM2
5	<p>The DEIS points out that there are few wetlands or lakes on the middle St. Louis River where sulfate-enhanced mercury methylation would be a problem. However, the document only briefly considers the potential for mercury methylation in the St. Louis River estuary (4.1-196). Sulfate concentrations in the lower St. Louis River are relatively low, as compared to upper reaches principally because of dilution from major (non-mining) tributaries such as the Cloquet (4.1- 195). At lower concentrations, sulfate tends to be a limiting factor for mercury methylation by sulfate reducing bacteria, and increased sulfate inputs are more likely to stimulate SRB activity. We currently have little information regarding the methylating potential of the estuary, but its shallow and relatively productive waters suggest that it could be high (Munthe et al. 2007). This section of the river is state listed for fish-mercury levels as well as for mercury in water (4.1- 194). Equally important, the estuary supports a rich recreational fishery and abundant wildlife, and is a critical cultural resource for the Fond du Lac Band of Lake Superior Chippewa. The failure of the DEIS to address mercury-exposure risks in the estuary associated with the NorthMet project is a serious oversight. Based on this near-complete lack of information it is difficult to see how the DEIS can conclude (4.1-196) that, "Overall, the Project is not expected to contribute significantly to cumulative effects on mercury or methylmercury in the St. Louis River."</p>	WR4B, WR5A,WR5C,FM1
6	<p>PolyMet proposes a wastewater treatment facility (WWTF) at the mine site which would treat process water and runoff from other site operations (4.1-67,68). The proposed treatment system would utilize chemical precipitation of drainage with elevated trace metals and/or low pH followed by nanofiltration to concentrate the circumneutral drainage with lower levels of trace metals. The nanofiltration would remove an unspecified amount of sulfate, yielding process water with a residual concentration of 250 mg/L, which would then be pumped to the tailings basin for reuse or to expended mine pits for flooding. Under a proposed mitigation option, the WWTF could be fitted with nanofiltration units in series to improve the removal of sulfate and other solutes. (4.1-167). Other discharges, including leakage from the tailings basin, would not be treated for sulfate removal, and surface waters would be impacted accordingly. There is no discussion of the expected efficacy of the WWTF mitigation option nor is there any consideration of alternatives (e.g. sulfide precipitation in the mine pits) that might reduce sulfate concentrations in discharges closer to background (natural) levels. The DEIS appears to accept the inevitability of high sulfate loading from the NorthMet Project to area surface waters, even as it recognizes cumulative effects of high sulfate from legacy mining and other proposed operations (e.g. Mesabi Nugget) (4.1-189).</p>	WR1E,WR2G

*Alphabetical by sender's first name*

**Comment ID    Comment Text**

**Theme Codes**

7 A constructed wetland in the filled East Pit of the NorthMet mine-site is proposed as a means of treating ("polishing") mine-site drainage following closure (4.1-112). Little information is provided regarding the nature of this wetland (water depth, vegetation, residence time, substrate), and it is very difficult to predict its efficacy in treating contaminated drainage waters (4.1-112, 4.1-123). However, another issue not addressed in the DEIS is the potential for mercury methylation in the constructed wetland. While natural wetlands are important methylation sites, the constructed wetland may function very differently, depending on whether there is an organic rich substrate supporting redox conditions suitable for sulfate reducing bacteria. If sulfate inputs to the wetland are very high (as expected), methylation could be inhibited by high sulfide levels which favor charged mercury-sulfide species that are not readily methylated (Benoit et al. 1999). Again, it is very difficult to predict this outcome based on first principles. However, constructed wetlands at the nearby Dunka mine, which currently treat rock-stockpile seepage, would make a good a case study for evaluating mercury cycling and methylation under conditions at least approximate to those proposed for NorthMet.

WR4B,WE6

7 It is difficult to fully evaluate the potential for mercury releases to air and water from the proposed NorthMet project, but if DEIS estimates are even remotely correct, the numbers will be low relative to other mercury sources. Based on the observed performance of other tailings basins used for taconite processing (Berndt 2003), I would expect high retention of dissolved and particulate mercury and low concentrations in outflow waters - as documented in the DEIS (4.1- 124). A large area of wetland and forest soils will be cleared at the mine site, with the resulting stockpiles of peat representing a large potential source of mercury and methylmercury that could be mobilized with subsequent drying and oxidation (4.1-123). Drainage from these stockpiles would be captured and routed to the WWTF and from there to the tailings basin or later, the constructed wetland and flooded mine pits. Neither the WWTF nor the constructed wetland is expected to be effective at sequestering mercury. Thus mercury discharge from the Project will depend largely on the removal efficiency of the tailings basin or the mine pits. The mine pits are expected to be a fairly effective sink for mercury (through sedimentation), given their depth and hydraulic residence time. The DEIS does not consider the efficacy of the mine pits in removing methylmercury. Both methylmercury loss through photo-demethylation in surface waters and methylmercury production by SRB in anoxic bottom waters are likely to occur and should be evaluated in the DEIS. Air emissions are m'ore problematic, as autoclave and scrubber performance is not assured. Projected annual air emissions of 9 pounds is probably overly optimistic, and in any case would have to be mitigated through emission trading in order to meet targets for the mining sector of the statewide mercury TMDL (4.6-35). A comprehensive monitoring program for mercury releases needs to be implemented for this project should it be approved (4.1-172). That said, it is my professional opinion that direct mercury releases from the NorthMet project represent a much smaller risk of biotic mercury exposure than that posed by sulfate discharges and a resulting increase in mercury methylation in receiving waters of the St. Louis River and tributaries.

EOO,WR4B,WR4C,WR4E,



*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
8	The discharge of sulfate-laden waters from the mine site and tailings basins, either during operations or following closure is among the most serious environmental risks posed by the proposed NorthMet project. Based on a large body of experimental and observational evidence, it is my view that these discharges are likely to increase the microbial methylation of mercury somewhere in the watershed of the St. Louis River, either in wetlands or lakes proximal to the mining/processing operations or possibly downstream in its estuary with Lake Superior. This increase in methylmercury production will be transferred up the food chain to increased levels of mercury in game fish, with the attendant increase in human and wildlife exposure. Lakes along the Embarrass River as well as the St. Louis River itself are currently state-listed as impaired (303d) for high mercury levels in fish, which raises important regulatory questions for proposed activities that might further increase methylmercury exposure. To some extent, the DEIS downplays these risks by emphasizing legacy conditions of high sulfate levels from past mining activities in certain river sections and tributaries. While it is unlikely that additional sulfate inputs will stimulate methylation in some specific stream reaches (because sulfate may not limit SRB activity at high concentrations), it is probable that sulfate concentrations will fall into a more sensitive (lower) range further downstream as a result of dilution or sulfate uptake. The basic assumption here is that increased sulfate loads are likely to generate additional methylmercury somewhere along the flow path of the receiving waters. This point is briefly acknowledged in the DEIS (4.1-125). It is also my view that the DEIS underrates our current scientific understanding of mercury biogeochemistry and the environmental factors controlling methylation rates (4.5-19). That is, there is less uncertainty that mercury methylation will be enhanced by sulfate discharge, than the document acknowledges. While it is still difficult to accurately predict the degree by which methylation will be increased or exactly where in the landscape it will occur, we now possess a solid conceptual framework from which to identify conditions that pose substantial risk. In the final analysis it would be prudent for the state regulatory agencies to require additional on-site sampling and analysis of those sectors of the watershed that represent high-risk conditions for sulfate-induced mercury methylation. The DEIS is equivocal in its depiction of the risks of increased mercury methylation posed by the NorthMet project (4.5-21). Some of this uncertainty arises from the biogeochemical complexity of mercury cycling and methylation. However, firmer conclusions could have been reached had there been a better assessment of existing conditions, including the effects of legacy sulfate contamination from past mining activities. Such an assessment if properly structured could provide a more reliable picture of the project's likely effects on methylmercury levels in the St. Louis River and its headwaters.	EOO,WR1E,WR4B,FM1,F
9	The DEIS should provide a more realistic assessment of the mercury methylation risks posed by sulfate discharges to key sensitive areas (Embarrass River wetlands, Embarrass chain of lakes, Partridge River beaver impoundments, and the St. Louis River estuary).	WR4B
10	Finally, the DEIS wrongly attributes GHG emissions mitigation to the wetlands restoration that it proposes.117 The MPCA stated clearly, in its comments on the DEIS and supporting documents, that, “[s]ince the recovery times of the [natural lands to be cleared and excavated by the Project] are long in relation to the project lifetime, no offset from wetlands mitigation during the lifetime of the project need be considered.”118	AQ3,AQ5
3733	I am very against this project due to obvious environmental concerns. My husband is out of work and may have a chance at a job if this does pass but the environmental concerns far outweigh my financial concerns. Please do not allow this to happen. Thank you.	EOO,G1,G2
<b>Sender Last Name:</b> Bransford		<b>Submission ID:</b> 3190
731	I am very concerned about the longer term impact of the PolyMet mining project. I think there should be a 30 to 45 day extension for review of the environmental impact study. I would also request more public meetings in more places to gather input on the proposal. I request that these public meetings include the option for citizen statements and discussion in the open meeting. Are there any more meetings planned in the twin cities? Thank you, Richard Bransford	PRO6
<b>Sender Last Name:</b> Brattebo		<b>Submission ID:</b> 3285

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
1933	3) Analyze ALL of the CUMULATIVE impacts (air and water) of increased mercury in fish from the PolyMet project and other nearby pollution sources. Mercury in accumulates in fish and causes brain damage to children and to fetuses.	WR5A,FM3,AQ4B
<b>Sender Last Name:</b> Braun		<b>Submission ID:</b> 1838
2451	As a transplant from Tennessee to Minnesota, I have grave concerns about sulfide mining anywhere in the world, but most especially on the edge of the BWCA, which I visit at least once a year and have come to love. You see, in the southeast corner of Tennessee, right at the border with Georgia and North Carolina, there is a 50 square mile area that was completely denuded by copper mining that started in the 1840s and continued until the early 1900s. In the summer of 1979 I was in the Youth Conservation Corps in the neighboring Cherokee National Forest. We took a field trip to Copperhill Tennessee. I remember seeing bare orange earth as far as the eye can see. Some parts of the basin appear still to be like that, in spite of years of efforts to remediate the area through tree planting. I suggest you google "copper mining Tennessee" to learn more. I know that the copper mining proposed for Minnesota would use much more advanced technology. However, the environmental damage at Copperhill Tennessee occurred even though most of the mines were closed, and thus the rock was not as exposed to oxygen. There are some things that are extremely hard to control once you set up the conditions for them. Precaution suggests we shouldn't even try, especially not when they pose a threat to a jewel such as the BWCA. There is already concern that the forests of Northern Minnesota are going to be stressed due to climate change. To add another stress on top of that one would be devastating.	G8C,G14
<b>Sender Last Name:</b> Breeden		<b>Submission ID:</b> 3645
18314	I am providing these comments to express my concerns with the proposals and conclusions that are stated in the October 2009 Draft EIS. I own property in Lake County, and as such am concerned as to the effects that the proposed mine will have on the environment, primarily the surface and ground water resources, not only during its active life, but also after closure. I am also a professional Geohydrologist and have personally written many sections of EISs for the U.S. Forest Service and the EPA. In that regard I would like to say that this DEIS is very well written and understandable. However, after reading the DEIS and all of the supporting information, many, if not most of my concerns have already been relayed to you by the Tribal Cooperating Agencies. Therefore, instead of restating and reiterating their previously-made comments, I would like to reinforce their opinion and comments as those of my own. So when you tally up the comments, please count the Tribal Cooperating Agencies comments as if they were my own. In addition, when you develop the formal "Response to Comments" I would like to receive the full packet of the Response to Comments as you provide to them.	G7A,G15
18315	1) The Financial Assurance that should be required for a project of this magnitude is not discussed and as such constitutes a major omission. As a consultant that has worked on mine cleanups at Superfund sites in the U.S. EPA Region 8 States, I can assure you that the closure and long term post closure costs of this site will be in the 10s of millions of dollars ( in current dollars ), if not more. Therefore, the EIS should include a very thorough discussion of the Financial Assurance of real post closure cost for the worst case scenario. In my opinion, the worst case	PD3,PD4
18316	2) The areas that have the greatest potential for causing ground water contamination (the costliest to cleanup) are the ore pads, the pits and the tailings basins. The EIS states that these areas will be unlined (with the exception some ore pads). I disagree that the tailings basin will not have an impact on the ground water. The preponderance of evidence from past sulfide ore mines is that the ground water always becomes contaminated with metals, although it may take many years or decades for it to occur. The fact is, that it does occur. Therefore, given that historical knowledge, the rationale provided in the DEIS for not requiring "state of science" containment systems for all ore pads, pits, and most importantly the tailings basin, is totally inadequate and can not be substantiated. Given that this mine will extract billions of dollars worth of minerals, there is no sound scientific or engineering reason for the MDNR not to require the installation of the best available liners for all of the pads, pits and tailings areas.	EOO

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
18317	3) In light of the comments that were provided to you by the Tribal Cooperating Agencies, and the two major comments above, I do not object to proposed mine if all of the comments are adequately addressed.	EOO
<b>Sender Last Name:</b> Breen		<b>Submission ID:</b> 3463
1110	Further, the PolyMet NorthMet project will result in total loss of 1,454 acres of federally designated critical habitat for two endangered species known to be in the vicinity of the mine site – the Canada lynx and the gray wolf.	WI1
1316	Wisconsin has already banned sulfide mining due to the unacceptable environmental risk it presents. It is also my understanding that PolyMet proposes to use an existing mine tailings basin for the disposal of its tailings and toxic materials – but that the basin already has stability issues making it unsafe. Any failure of this basin to hold its contents would result in long-lasting and serious contamination. PolyMet should complete a stability analysis of the basin and devise an acceptable design before being able to proceed with this project.	GT2
1944	In addition, the DEIS predicts contaminated waters to be discharged from the mine site into the Partridge River after the mine’s closure, as well as tailing’s basin discharges high in sulfate concentrations. High sulfates can turn mercury into forms that make fish dangerous to consume. It is unacceptable to proceed with a mine that already predicts these kinds of pollution outcomes.	EOO,WR4B,FM1
3671	Water quality impacts remains a top concern. How is it acceptable to allow for up to 2,000 years of environmental impact for the short term gain of one company? Who will pay for the long term treatment required? PolyMet has few assets and little financial history. The DEIS fails to address where the funding will come from to pay for post-closure treatment, monitoring and maintenance. As a result, it seems likely that Minnesota taxpayers may have to pay millions of dollars to clean up after PolyMet has gone.	PD2,PD4
3742	Finally, cumulative impacts must address the loss of revenue to the Boundary Waters Canoe Area Wilderness and Superior National Forest tourist industry as part of a sulfide mining district. While I fully understand the economic necessity of mining, and need for natural resources in our society, we need to be responsible in our decisions. Certain types of mines should simply not be permitted in certain places where the risk to the environment is too great. This appears to be the case for sulfide mining in northern Minnesota. The PolyMet DEIS describes significant environmental issues associated with this proposed mine. These issues should be resolved before this mine is approved by the Minnesota Department of Natural Resources and the U.S. Army Corps of Engineers. Sincerely,	EOO,G2
<b>Sender Last Name:</b> Breimeier		<b>Submission ID:</b> 1628
2045	I live in Winton, MN which is 3 miles from Ely, MN. I grew up here, and recently moved back so that my children could grow up here. Don't ruin the beauty and peace of the area for other generations.	EOO,G11
<b>Sender Last Name:</b> Brekke		<b>Submission ID:</b> 1887
2467	Please accept these comments on the PolyMet Mining Corp. NorthMet mining project Draft Environmental Impact Statement. I have grave concerns about this project's potential impacts on Minnesota's natural resources and public health. I believe that Polymet is doing it's best to keep our lakes and water clean. I approve them to get permits to carry on as long as they take due diligence in the safety of our waters. Go for it. The PolyMet DEIS describes serious environmental issues associated with this proposed mine. These issues should be addressed and resolved before this mine is approved by the U.S. Army Corps of Engineers and the Minnesota Department of Natural Resources.	G6
<b>Sender Last Name:</b> Brill		<b>Submission ID:</b> 2852

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
3144	-Deis does not outline any specific plan for reclamation after the mine site is closed. -little or no field sampling done on the movement of ground water through the bedrock. - The mine site disrupts natural corridors for the movement of wildlife. -According to the U.S. Forest Service, the Polymet project alone will cause significant haze impairments in the Boundary Waters 36 days each year! -Where is the plan for constant monitoring of the mining operation by the DNR? -Sulfates in surface water demonstrably impact aquatic vegetation, specifically wild rice. In addition sulfates react with elemental mercury in a process known as mercury methylation. Methylmercury is the form that bioaccumulates in fish and animals that eat fish, including humans. What process has been identified to detect and mitigate methyl mercury in the environment and how will community health be dealt with and paid for? Each one of these points is significant. Any one of these issues is enough to halt the conversation or idea of mining.	RF1,WR1E,WR3I,WR5A,W
<b>Sender Last Name:</b> Brinkman		<b>Submission ID:</b> 2676
3161	This type of sulfide mining has a PROVEN TRACK RECORD OF TOXIC POLLUTION TO GROUND WATER !!!!! wISCONSIN HAS BANNED THIS TYPE OF MINING!!!!	G8B
<b>Sender Last Name:</b> Brittain		<b>Submission ID:</b> 1564
1923	No company can guarantee that its pollution will not be harmful in the future. With the collapse of General Motors, we learned how tenuous a strong company is. No bond could be posted that would cover the potential damage that this project could entail. From a business standpoint, the only way this project makes sense is if the costs shared with the public are discounted to nothing. We have already made this mistake dozens of times. Do not do it again. In addition, this would occur in one of the most pristine areas of the state. I do not want to see the economic disruption this project would create. Added population and the attendant pollution of all types would ruin the character of this region.	EOO,G2B
<b>Sender Last Name:</b> Brockway		<b>Submission ID:</b> 3724
1	There needs to be an evaluation of the potential for mercury methylation in the constructed treatment wetland. The nearby Dunka mine-site, where constructed wetlands are used to treat rock-stockpile seepage, provides a good analog for the NorthMet project. It should be monitored for mercury methylation as part of this evaluation.	WR5A,WE6
2	There is a striking lack of useful data or supporting information on which to base predictions of methylation risk. As detailed below, mercury and methylmercury sampling of area streams, wetlands, and lakes are inadequate for assessment purposes. The samples are too few and data quality for total mercury is poor.	WR1E,WE8
<b>Sender Last Name:</b> Brown		<b>Submission ID:</b> 2251
21	Many of the supporters of this proposed mine remember and hope for the economic impact of the old iron mining industry, which employed thousands of workers and supported an Iron Range boom (off and on) for generations. They fail to notice that new mines will employ a far smaller workforce, and that the productive life of the PolyMet operation is projected to be only 20 years or so. Meanwhile, it has become clear to many local residents and businesses that the economic future of the Ely/North Shore Arrowhead Region is increasingly dependent on tourism. People come from distant states to canoe, camp, and fish (and spend money!) here precisely because clean water, fresh air, good fishing, and undeveloped wilderness is now so rare. It seems very shortsighted to put our richest natural assets (rivers, lakes, air, edible fish) at risk for the sake of short-term heavy industry.	SE3,SE4
37	Regarding the PolyMet Project This project has great potential to harm the natural environment in this region. This environment is not only valuable inherently, it also a key draw for the recreation and tourist industry that is so important to this part of Minnesota.	SE4

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
131	My name is Jeff Brown, I live in Lakeville, Minnesota, and I support the PolyMet NorthMet project. I believe there's minimal risk, I believe that they're taking necessary precautions with their processes and ensuring that there's going to be a proper closure to the mine in 20 years as well, and I believe the risk is minimal, given the economic situation we're in and the jobs it will create. Thank you.	EOO,G6
183	I am writing to comment on the Polymet Northmet EIS. First, I think Polymet has taken steps to ensure they do not release sulfuric acids, or air contaminants into the environment. I read the Hydromet process description. The Hydromet process using autoclave technology ensures the sulfur is added to lime which creates a gypsum by product. Furthermore, Polymet is investing in special lining and holding the Hydromet process water into a special basin. As well as ensuring containment drainage and pumping system for further redundancy. It would be a shame in this economic environment and with all the steps that Polymet has taken to not go forward with their permit. They will be investing \$600 million and creating over 400 jobs as well as generating \$15 million in state and local tax revenue. I don't see how this project is any worse than many of the industrial projects I see in Minneapolis or greater Minnesota.	EOO
311	I am writing to provide comment and provide feedback on the Polymet Northmet project that is in review. This project would provide investment of \$600 million into the state as well as create 400 jobs. I have reviewed the draft and believe Polymet is taking steps to contain the risk of containments such as the Hydromet process which converts sulfur into gypsum. As well as using a Hydromet tailings basin with special lining.	EOO
526	Such destructive enterprise should not be allowed. It would affect not only waters near the BWCA W but some waters within.	WR3B
735	I would hope that the DNR would: 1. Extend the EIS review period by 45 to 60 days, 2. Hold more public meetings in more places to gather community input, as the current schedule is too limited. 3. Include in the public meetings the opportunity for citizen statements and discussion in the open meeting.	PRO6
1218	While the majority of Minnesota residents strive through legislation and advocacy to clean up our lakes and rivers, and to preserve our remaining wetlands, guess what? Incongruously there are those who allow and even promote the construction of of sulfide mining in the great wild and scenic areas of Minnesota. Sulfide mining is known as one of the most destructive methods of mining to the ecology of streams, lakes, connected wetlands and wildlife.	G2C
1219	No amount of jobs are worth such devastating destructions as this kind of development.	EOO
1848	We are told that the sulfide waste product of this non-ferrous mining process will be safely capped so that water contamination will never be an issue. No copper/nickel mine has accomplished this goal, nor has this new process been tested on such a large scale. I understand that in a recent smaller scale test of the new techniques, they have proven fallible. It is the experience of many of us who live in NE Minnesota that water has a way of eventually getting any place that people try to keep it out!	EOO,WR1E
1849	I am an avid fisherman, hunter, and outdoor enthusiast. I also am a realist and I understand the need for resource extraction in the face of an ever-changing global marketplace. While it is important to keep Minnesota competitive with the rest of the nation I believe there are more sustainable and reasonable ways to achieve this. Mining is a dangerous practice. May it be known to all those associated with a project of such scope and potential interference with the BWCA, we will destroy one the last greatest places this nation has to offer should this initiative be allowed to proceed. I, as a Minnesotan and American citizen, beg of the people in power to do everything they can to stop resource extraction from entering into the BWCA arena. Please, make this choice based on principal, moral obligation, and the well-being of our future generations to enjoy this great vestige we call the Minnesota Wilderness. Thank you.	EOO,G7B,G11
2042	Just because precious metals lie beneath our surface does not mean that we have to allow a foreign company to make a lot of money at our long-term expense. Copper/nickel mines have a history of promising environmental protection, promises which invariably prove false in the long run, long after the company has moved on. If PolyMet is allowed to proceed, the company should at least be required to put in escrow enough money to mitigate any sulfuric acid leaks or mercury poisoning that may occur in perpetuity.	PD4

*Alphabetical by sender's first name*

<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
2659	I understand that a number of other mining companies are exploring opportunities and drilling test holes in the area between Babbitt and Ely (some just six miles SE of Ely). Approval of the PolyMet proposal will establish a precedent that will encourage a rapid expansion of non-ferrous mines with accompanying noise, emissions, waste products, industrial traffic, and the ever- increasing risk of human error. All of this is bound to have serious consequences for our pristine environment, which will then depress theeconomic benefits of tourism, fishing, camping, birding, paddling, backpacking, etc...	G8C,G11
3027	As recommended by the EPA, the DEIS must include an evaluation of the financial assurance that would be provided to ensure postclosure reclamation of the PolyMet NorthMet mine and plant. Sulfide mining places huge burdens on taxpayers. These mines often require long-term or perpetual pollution and treatment. PolyMet has few assets or financial history. The question of where the funding will come from for post-closure treatment, monitoring and maintenance has not not been adequately addressed, and Minnesota taxpayers may have to pay millions of dollars for clean up after PolyMet has gone.	PD4
3193	Minnesotans are concerned about water quality issues, having many of their lakes and other waters with serious pollution issues. This type of mining is know to add to those serious problems.	G7
3287	Environmental disasters can happen when huge mining projects take place. When I read that water from the waste rock piles will be polluted for up to 2,000 years, who will have the resources to monitor and maintain facilities to treat the water? Not the companies, they won't be around for 2,000 years. Should we pass this along to generations to come? Looking ahead, there is concern that after 65 years the West Pit will discharge polluted water with arsenic, cobalt, selenium, high sulfate concentrations and more. Minnesota has water. We are at the head of the water system and should not pollute. Fish will be affected.	EOO,WR3I,PD2,PD3,PD4
3353	The PolyMet DEIS describes significant environmental issues associated with this proposed mine. These issues should be resolved before this mine is approved by the Minnesota Department of Natural Resources and the U.S. Army Corps of Engineers. In addition, Outward Bound has led leadership and character development programs in this spot since 1964, impacting thousands of people. Allowing this will destroy this legacy and this pristine place. Please do not allow this.	EOO,G11
<b>Sender Last Name:</b> Brummitt <b>Submission ID:</b> 1507		
1815	Keep the Boundary Waters clean and pristine! The profits of your corporation, PolyMet Mining Corp. are NOT worth the damage that would be done to the beloved Boundary Waters Canoe Area Wilderness.	EOO
<b>Sender Last Name:</b> Brunfelt <b>Submission ID:</b> 1110		

*Alphabetical by sender's first name*

**Comment ID    Comment Text    Theme Codes**

1215 I wish to express my strong support for the PolyMet Mining project at Hoyt lakes, MN. As demonstrated in the draft EIS, I believe the company has taken the steps necessary to assure that the effects to the environment would be minimal to nil. The company has already spent millions of dollars in engineering and research studies to insure that the impact would be minimal. Also, the entire area in question has already been mined for decades and PolyMet would be using existing infrastructure from prior taconite mining operations. Northern Minnesota and the Iron Range in particular, are in desperate need of the 400 plus jobs that would be created along with countless jobs created in the satellite industries. With the current state of the economy, Minnesota badly needs the millions of dollars in tax revenues that would be generated by the new mining operation. The favorable economic impact for both the state and for those employed would be tremendous. I was born and raised on the Iron Range and have witnessed firsthand the economic impact to families that have been affected by the volatility of the mining industry. Although I no longer reside on the range, I have relatives and friends there who are in need of the jobs that would be created. Many folks that I know have been unemployed for quite some time and are about to lose their unemployment benefits. I strongly urge that for the sake of those living on the Iron Range and for the obvious economic reasons, all necessary permits required to allow operations to begin, be issued. The sooner the better. Thank you.

**Sender Last Name:**    bryson    **Submission ID:** 3543

3806 I believe that the state should NOT allow sulfide mining in Minnesota. I realize that the supporters are looking at this as jobs for Minnesotans. This is true, there will be jobs created if this goes through, but for how long? 20 or 30 years? Is the local environment really worth destroying for one generation of jobs? This area produces revenue for many from tourism generated specifically by our pristine wilderness. The draw to the National Forest, the BWCAW, and Lake Superior will drop off if we end up polluting this area both by water contaminants and from sound pollution. I know lots of promises are being made that steps will be taken to prevent any contamination of the surrounding wilderness. Unfortunately big companies like these have a track record of not following through with their promises. Many times its more cost effective for them to pollute and pay the fines instead of keeping things clean. Not to mention, even the best laid plan may fail 20 or 30 years from now. If we need examples, we don't need to look very far. Wisconsin, our neighbors to the east will not allow this type of mining to take place in their state period. Why can't we learn from them instead of destroying our land before we figure it out? I want my children and grandchildren to enjoy the Northwoods. I feel that by allowing this type of mining to happen it will cause detrimental damages to the area. This isn't the same type of mining people in Northern Minnesota are used to. Iron ore mining doesn't produce the levels of sulfuric acid that this type of mining is known to produce. Lets stop thinking about what may be a temporary benefit and start to think about what we'll be leaving for our future generations.

**Sender Last Name:**    Buckmaster    **Submission ID:** 3131

3500 As you consider the mining proposal for Northern Minnesota please take the time to investigate the insidious leachate that is seeping into Lake Michigan from the community of Bay Harbor in Michigan and what is "not" being done about it.

**Sender Last Name:**    Buell    **Submission ID:** 1051

*Alphabetical by sender's first name*

**Comment ID    Comment Text    Theme Codes**

1154 As a resident of Hoyt lakes for over 40 years, I have closely followed the development of the PolyMet NorthMet Project. I have attended the EIS Scoping hearing, the DEIS meeting in Aurora and the DEIS meeting in Blaine. I have talked to people at the various tables (air, water, minewaste, wetlands, etc.) setup by the agencies and contractors at these sessions. I have talked to folks from PolyMet. I have read the DEIS summary and small parts of the full DEIS. (It is a awfully big document to digerst.) I worked for over 35 years in the iron mining industry as a mining engineer. Based on what I have been able to learn and based on my previous experience, it appears to me that the NorthMet Project will have no greater and probably less environmental effect on our area than the previously operated iron mines. The social and economic effects will definately be a positive for the city of Hoyt Lakes, the entire NE Minnesota area and ultimately the State of Minnesota.    EOO

3819 Perhaps the biggest positive that will come of the PolyMet NorthMet Project is the well paying, year around jobs that will be created. Jobs not only at the actual site of the operation but also in the various support industries that will be created to supply materials and maintenance to PolyMet. Having lived in Hoyt Lakes for almost 44 years I have seen and lived through the ups and downs of the iron mining industry. As a "mining" town we expect and are prepared for the cyclical nature of the iron mining industry. The PolyMet facility will probably see a similar history of ups and downs. Hopefully their cycles will be a slightly different timing than those of the steel industry. Some people have advocated looking for other industries to bring in jobs for the citizens of the area. This has been tried for many years with little if any success. The relatively few industrial companies that have come, not failed and continued to opereate have brought relatively few jobs (dozens) compared to the several hundred jobs that this project will provide. Call centers have produced more jobs but for the most part these can not compete with the salaries that will come with the PolyMet project and related suppliers. "Tourism" jobs are few, low paying and for the most part seasonal in nature and do not pay to support a family or even individual year around. Allowing this project ot proceed will allow this area of Northeastern Minnesota to survive and grow with successful and happy citizens.    EOO

**Sender Last Name:**    Burley

**Submission ID:** 298

312 I am pleased to have the opportunity to provide comments regarding the draft EIS prepared for the NorthMet Project. Based on review of the DEIS the project has my support and I encourage the Minnesota DNR to support the recommendations provided in that document. As noted therein: • The project has the purpose of producing base and precious metal, precipitates and flotation concentrates needed by the domestic and global markets. • The project is subject to federal and state regulations to protect human health and the environment. • The DEIS/EIS process is a concerted, comprehensive effort to consider and evaluate potential environmental consequences of the proposed project, with input from local, state and federal agencies and private interests. Those activities are provided for the benefit ofthe public. • The proposed development and alternatives have been identified, and areas of major differences of opinion concerning significant impacts are outlined. The facility details and differences of opinion do not appear to pose irreparable, irreconcilable impacts that cannot be addressed via current technologies, and the ability to assess and mitigate accordingly. In the current and projected economic climate, development of the precious metals mining industry is vital to the economy of northern Minnesota. As a professional engineer and environmental scientist, I support the NorthMet Project, and I urge federal, state and local agencies to support the same, proceeding in accordance with appropriate policy and procedures in the public's best interest.    EOO

**Sender Last Name:**    Burnete

**Submission ID:** 3367

3657 The mining companies say that sulfide mining will boost the economy of Northern Minnesota. I can see how in this recession this makes mining look very attractive. I ask you to consider the externalities in terms of damage to the environment loss of ecotourism. Who will pay for those?    G2,G11

**Sender Last Name:**    Butcher

**Submission ID:** 349



*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
38	<p>To meet the standards of Enhanced, Sustainable, and Conserved, a permit must reflect exactly how the seeker will achieve these policy goals, and what clear assurances does the public have that there will be financial, and other needed resources to mitigate potential problems over the entire impact area throughout their operation? A lot of people have a stake in this project, not just a small spot on the map. This isn't holding industry to a different standard. It's holding it to the same policy standards as are all Minnesota citizens. Let me illustrate my point. There are policies and laws thankfully regulating lakeshore use in Minnesota. Yet there are those who see their property goals only in terms of their own benefits and costs, not the whole lake ecosystem. I'm thinking of a case where a property owner built a new cabin, and nearly defoliated the wooded area to make a lawn. It was clearly against the standard of conserve, enhance, sustain, and perhaps they were even fined for violating DNR regulations. The danger is, and I've heard it said, "To just pay the fine and have things the way you want." It's just a small cost of doing business the way "you want", rather than how "we want". Now, every boater, fisherman, or neighbor sees an urban lawn where ducks used to nest, and deer drank. The cost of that action is multiplied by countless consequences, and over time. In the case of Polymet the impact area is large, and we must be assured prior to permitting they have proven to us that the goals of the DNR will be met, using great caution instead of trust. The first line of action is to make sure clear, enforceable, rules are indeed established for sulfide mining practices: A model operation rather than just an operation. We must also have remedy for damages. Far too often the public as a whole is left paying the ultimate costs, because companies just close their doors, file bankruptcy, and walk away. Clearly, the best prevention is be sure at the start that this project is done so the DNR, and citizens of Minnesota can say this is being done right based on our state goals.</p>	PD4
380	<p>I am writing as a property owner in St. Louis County wanting to raise questions that I feel, based on the following Minnesota DNR policy statements, should be addressed before the Polymet sulfide mining project is legally entitled to move forward. We hear almost daily about situations where tragic consequences occur, or are only narrowly avoided because somebody didn't squarely look at the "red flags". This is too important to let that happen.</p>	EOO
381	<p>I shall make my statements working from three of the following policy goals of the Minnesota Department of Natural Resources effective in January of 2010, and taken from their website. I think it is an accurate assumption that state policy is, and should be, the foundation of law, regulation, and practices within our state. So I shall work from what they say, which I also feel sets an excellent standard for all of us to follow in this beautiful state. 1. Minnesota's natural lands and habitats will be conserved and enhanced ... 2. Minnesota's water resources and watersheds will be conserved and enhanced ... 3. Minnesota will provide for the sustainable economic use of its abundant natural resources ... Three words stand out in these policy statements. Conserved, Enhanced, and Sustainable In further elaborating on these policy goals the DNR goes on to suggest that conserved doesn't mean never used, but rather utilized in ways measured against the standard of stewardship, and enduring benefit. The word enhanced, as making life better under varied criterion, and once again where the benefits outweigh the costs. Nothing less than good stewardship is the standard. The word sustainable again refers to a range of things impacted by an action. I will include below the Minnesota DNR's policy statement regarding their legal and ethical meaning of sustainable. Access to mineral resources is preserved. Sufficient supplies of sand and gravel are available with minimal harm to natural lands and waters. Deposits are assessed early in areas facing development. Mining and reclamation are planned to meet community needs, minimize conflicts, and ensure environmental integrity while producing important mineral products. Conserved, Enhanced, Sustainable .... The burden of clearly addressing the "red flags" is legally required of anyone seeking a permit. This is the same standard set for a person seeking to build a garage near a lakeshore, or a business developing a mining operation.</p>	EOO
382	<p>The Geographic Problem Often permit seekers see their project as a "local area" issue. The builder of a lake lot garage often sees the immediate benefit of boat storage, while not thinking about the other impacts on others, and an entire water system impacted by accelerated runoff. In terms of the Polymet sulfide mine, the issue of "local area" needs redefinition when determining if it meets the state policy goals for the entire impact area. Although it is a term often used to make the scope of problems appear limited, it isn't a useful term in reality. Workers commute, water flows, winds blow, chemicals mingle, businesses bloom, and others are diminished, property values change, and many other things can change over areas far larger than we are led to believe.</p>	EOO

*Alphabetical by sender's first name*

<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
383	The Economic Problem I've taught economics, and know all too well its complexity. Like all statistical studies, various points of view often pick their own data to build their case. For the sake of brevity, I'm not going to address specific claims in the EIS, but rather again turn to the DNR goals and how they relate to one important economic element of this project. 1. Cost/benefit There are endless elements in trying to apply this to mining. Some things are clear. We use minerals. People need jobs. And, the classic circular flow in the economy must operate. One can debate endlessly how much benefit there is, how it is distributed in society, and the impact of "boom" production in the long term. I think of most concern under the DNR goals, however, is addressing the costs of production that often are borne by citizens after the fact ... the so called externalities. By definition the costs of production then become society's problem. These costs have historically been given a blind eye by business, and tolerated by government that is often more influenced by elections than long term goals. We often read about China's booming economy. Trying to see where the DNR goals are being applied there would be laughable. The externalities of production are being allowed to just run amuck. If we are to meet the standards set by the DNR in Minnesota, we have to account for these externalities (the quality of our air, water, aesthetics, ecosystem health, human health and safety, etc.) as a true cost of production that must be dealt with in the permit. It must be insured that those costs are clearly mitigated in the production plan itself.	EOO,G1
384	In conclusion, I would hope to see in a final permit that the DNR policy goals are used in establishing a model plan that we all can be proud of. There is clearly a lot of supporting evidence for the fact that anything short of that will leave us with a terrible legacy. The "cowboy economy" practiced in our early history, and now thriving in the under developed world has no place here any longer. Public financing no longer has the ability to pick up the tab for the unmitigated damage of citizens or business. As a society we must ensure that conserve, enhance, and sustain aren't just esoteric concepts, but rather the building blocks of best practices, and model operations for now and our future.	EOO
<b>Sender Last Name:</b> Butler <span style="float: right;"><b>Submission ID:</b> 3372</span>		
3662	I am not from Minnesota but recently moved here to Bemidji. Boundary Waters is a protected area and should not be altered in any way especially by government for those reasons. It is not acceptable to set up a mining area and pollute waters and wildlife in a protected area.	EOO,G2C,G7A
<b>Sender Last Name:</b> Bymark <span style="float: right;"><b>Submission ID:</b> 166</span>		
156	I am writing to declare my support for the PolyMet Mining Co. mining and processing plant near Hoyt Lakes, Mn. I believe they have demonstrated in their EIS that PolyMet will operate a safe and environmentally sound mineral processing operation. The US is in need of an adequate reserve of these critical metals and we need a viable and safe processing operation to produce these metals. Also, this area is in need of a large scale business that will provide good and stable employment and help support a healthy business climate.	EOO,G6
<b>Sender Last Name:</b> Cahoy <span style="float: right;"><b>Submission ID:</b> 2284</span>		
2710	The PolyMet DEIS describes significant environmental issues associated with this proposed mine. These issues should be resolved before this mine is approved by the Minnesota Department of Natural Resources and the U.S. Army Corps of Engineers. As a avid and frequent user of the BWCA I am very concerned that we do everything in our power to preserve and protect the wilderness for our generation and generations to come. I raised my children with frequent trips to the BWCA for a experience not available anywhere else. Some day I hope to bring my grandchildren to the BWCA for similar trips. In the mean time we need to protected and cherish the wilderness so that will be possible.	G7A
<b>Sender Last Name:</b> Canaday <span style="float: right;"><b>Submission ID:</b> 2861</span>		

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
3211	I have personally been to the Boundary Waters Canoe Area Wilderness about 2 dozen times. I have brought with me from Indiana an average of six people per trip. We drive fourteen hours each way. We have purchased gasoline, eaten food, paid outfitters, purchased Entry Permits, paid User Fees, and stayed in lodgings on each trip. Why would I want to return to canoe and fish in waters that are polluted by chemical runoff, unsightly tailings, polluted skies? Please DO NOT permit this mining operation to ruin your beautiful area.	G2,G7,G11
<b>Sender Last Name:</b> Cannata		<b>Submission ID:</b> 28
26	I'm from Hibbing, Minnesota, representing a company called Industrial Door Company, and I just want to put my statement in of this project of my approval of this project because the -- the potential for employment, the potential for the future of the different trades involved with this type of mining, and the ability to expand the region up here in Northern Minnesota; so voicing my opinion for approval of this project for the -- for those reasons. That's it.	EOO
<b>Sender Last Name:</b> Carey		<b>Submission ID:</b> 1104
1209	I am writing this letter in support of PolyMet Mining's NorthMet Project and here are my comments: 1. I think it is apparent that PolyMet will have 400 employees and hundreds of spinoff jobs that will provide significant economic benefits to Minnesota and the Arrowhead Region. This, in turn, will result in providing millions of dollars in local and state taxes to support our communities and educational system. 2. From an environmental standpoint, PolyMet can and will produce these metals in an environmentally sound manner and create hundreds of stable jobs that can support families, as already noted. It has been demonstrated that PolyMet will produce these critical metals while following Minnesota's strict environmental requirements to protect air, water and land. Furthermore, these metals that will be mined by PolyMet are essential to green technology (e.g. wind turbines and hybrid cars) and are also necessary for pollution prevention devices such as catalytic converters. From a personal standpoint, my roots come from the Iron Range. By way of example, my mother was raised in Chisom and returned there after graduating from college to teach kindergarten. My father was raised in Virginia and his work history over many years involved dealing with "big businesses" in the Iron Range area, including everyone from Bethlehem Steel to U.S. Steel, etc. I also had a grandfather that was a Judge in Virginia for 46 years and an uncle who practiced law in Virginia and was also a Judge. My twin brother, Tom, practiced law in Virginia and has since retired as a District Court Judge and lives with his wife in the Biwabik area. I mention this personal history so that you understand that my support of PolyMet is not just due to the fact that I am an investor. As the saying goes, "once a ranger, always a ranger" and having said that, my personal ties with Northern Minnesota is the primary purpose for sending this letter in support of PolyMet. One final comment. I just had a chance to read the letter addressed to you by Congressman Oberstar and for what it is worth, ditto.	EOO
<b>Sender Last Name:</b> Carlson		<b>Submission ID:</b> 3579
36	HUNTING, FISHING AND GATHERING RIGHTS UNDER THE TREATY OF 1854: Archaeological evidence shows that native people gathered copper on Isle Royale and on other Lake Superior area lands for many centuries prior to the Treaty of 1854. Some archaeological evidence even points to the possibility that Viking explorers obtained Lake Superior area copper from native people a thousand years ago. Before the Polymet project proposal is approved, Federal courts should determine whether this archaeological precedent should be the basis for including the gathering or mining of copper in the rights of native populations on lands involved in the Treaty of 1854. Such a Federal legal opinion could be the basis for a congressional amendment to the wording of the Treaty of 1854, if necessary.	G3,CR1,CR4
117	My thoughts are that, as I talk to people out there, that PolyMet has taken the precautions needed to have a -- to make a -- to not impact the environment in a negative way, I guess. And my hope is the DNA follows through and ensures that it is -- that it is good for the environment and, hopefully, the jobs will be created that we need.	EOO,G5

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
540	<p>SECTION 3.1.3 Proposed transport of ore. The first paragraph of this section states that "three trains, each consisting of up to twenty 100-ton side dumping ore cars and one 2,100 hp diesel-electric "Gen-set" locomotive, would transport the ore from the Mine Site to the Processing Plant." Genset diesel-electric locomotives are fairly new forms of switcher locomotive technology. Instead of using a single large diesel engine to generate electricity to power the locomotive, genset locomotives use two or three generator sets which are each powered by low horsepower diesel engines. Several locomotive manufacturers now build genset switcher locomotives which contain three diesel engines of approximately 700 hp each. Computer controls turn the diesel engines on and off to match the electrical power required for the load being moved by the locomotive. When genset switchers are used in railroad switch yards, exhaust emissions are reduced by up to 80%, compared to the emissions from older switcher designs. Genset locomotives are a logical modern source of power for these ore trains. Polymet may have even found examples of mining operations which use 2,100 hp genset locomotives to pull twenty 100 ton ore cars. However, it does not appear to be realistic to have up to twenty 100 ton ore cars powered by a single 2,100 hp locomotive at the Polymet site. At the time LTV Mining ceased operation, it was using a fleet of 1950s vintage Alco RSII 1,800 hp locomotives, with one locomotive powering each train of nine 85 ton side dump ore cars between the mine site and the primary crusher. Although a change in track grade could improve energy requirements, there is a substantial difference in mass between a train consisting of twenty 100 ton ore cars and a train consisting of nine 85 ton ore cars! Most mining operations rely on negative (down hill) track grades for gravity assistance in moving ore. Unfortunately, it takes a large amount of generated electrical energy to provide braking power as a heavy ore train is inched along during loading operations and when ore dump cars are being aligned with the rotary dumper at the primary crusher. The emphasis in this section needs to be on the use of locomotives which meet or exceed EPA Tier 2 locomotive emissions regulations during the mine transport operation and not on the horsepower or type of locomotive. Although mining trains appear to be sitting at rest during loading and unloading, the locomotive needs to burn a significant amount of fossil fuel to keep the train from running away on a grade. A high efficiency state-of-the-art locomotive may not meet EPA Tier 2 emissions regulations during its mine transport operation, if excessive demands for maximum power are constantly placed on it. It is also worth noting that the Burlington Northern Santa Fe railroad has rebuilt an experimental prototype genset locomotive, with the standard diesel electric generator sets replaced by hydrogen fuel cells. Perhaps hydrogen fuel cell locomotives should be considered in newly proposed mining operations.</p>	AQ3
772	<p>At several points in this environmental impact statement draft, the United States asserts that deeded mineral rights do not include the right to open pit mine the National Forest System lands. A federal court ruling on this U.S. government opinion has farther reaching impact than the Polymet proposal. The Polymet mining project would take place on a portion of lands once owned by LTV Mining. This author has learned from reliable government sources in Lake County, Minnesota that a significant portion of the land once owned by LTV Mining is now owned by a single individual with Saudi Arabian citizenship. It is further understood by this author that a significant portion of the U.S. Steel Corp. is now in Asian ownership. The question at hand is whether approval of the Polymet mining proposal would open a "Pandora's Box" and set a legal precedent for the pillage of American mineral resources by foreign investors and governments. Such an issue is especially significant if it weakens the economic and national security of the United States.</p>	PRO4
2599	<p>MR. CARLSON: My name is David Carlson, D-A-V-I-D, C-A-R-L-S-O-N. I just want to make a statement that I support the PolyMet project up in Northern Minnesota. We need to jump start this economy somehow, and this is a perfect way to get jobs in Northern Minnesota. PolyMet I was actually at a UMD conference and talking to the professors up there, they spelled out that is it is a very safe way of mining. I support it 100 percent.</p>	EOO
3142	<p>Virtually everyplace in the world that sulfide rock has been distributed to extract metallic minerals, it has produced acid mine drainage and polluted the water. Please keep the Boundary Waters clean and do not allow sulfide mining. The time has come to find new ways to produce metals, start reusing the existing materials that are out there.</p>	EOO

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
3721	SECTION 3.1.3 Proposed transport of ore. The first paragraph of this section states that "three trains, each consisting of up to twenty 100-ton side dumping ore cars and one 2,100 hp diesel-electric "Gen-set" locomotive, would transport the ore from the Mine Site to the Processing Plant." Genset diesel-electric locomotives are fairly new forms of switcher locomotive technology. Instead of using a single large diesel engine to generate electricity to power the locomotive, genset locomotives use two or three generator sets which are each powered by low horsepower diesel engines. Several locomotive manufacturers now build genset switcher locomotives which contain three diesel engines of approximately 700 hp each. Computer controls turn the diesel engines on and off to match the electrical power required for the load being moved by the locomotive. When genset switchers are used in railroad switch yards, exhaust emissions are reduced by up to 80%, compared to the emissions from older switcher designs. Genset locomotives are a logical modern source of power for these ore trains. Polymet may have even found examples of mining operations which use 2,100 hp genset locomotives to pull twenty 100 ton ore cars. However, it does not appear to be realistic to have up to twenty 100 ton ore cars powered by a single 2,100 hp locomotive at the Polymet site. At the time LTV Mining ceased operation, it was using a fleet of 1950s vintage Alco RSII 1,800 hp locomotives, with one locomotive powering each train of nine 85 ton side dump ore cars between the mine site and the primary crusher. Although a change in track grade could improve energy requirements, there is a substantial difference in mass between a train consisting of twenty 100 ton ore cars and a train consisting of nine 85 ton ore cars! Most mining operations rely on negative (down hill) track grades for gravity assistance in moving ore. Unfortunately, it takes a large amount of generated electrical energy to provide braking power as a heavy ore train is inched along during loading operations and when ore dump cars are being aligned with the rotary dumper at the primary crusher. The emphasis in this section needs to be on the use of locomotives which meet or exceed EPA Tier 2 locomotive emissions regulations during the mine transport operation and not on the horsepower or type of locomotive. Although mining trains appear to be sitting at rest during loading and unloading, the locomotive needs to burn a significant amount of fossil fuel to keep the train from running away on a grade. A high efficiency state-of-the-art locomotive may not meet EPA Tier 2 emissions regulations during its mine transport operation, if excessive demands for maximum power are constantly placed on it. It is also worth noting that the Burlington Northern Santa Fe railroad has rebuilt an experimental prototype genset locomotive, with the standard diesel electric generator sets replaced by hydrogen fuel cells. Perhaps hydrogen fuel cell locomotives should be considered in newly proposed mining operations.	PD7
3722	At several points in this environmental impact statement draft, the United States asserts that deeded mineral rights do not include the right to open pit mine the National Forest System lands. A federal court ruling on this U.S. government opinion has farther reaching impact than the Polymet proposal. The Polymet mining project would take place on a portion of lands once owned by LTV Mining. This author has learned from reliable government sources in Lake County, Minnesota that a significant portion of the land once owned by LTV Mining is now owned by a single individual with Saudi Arabian citizenship. It is further understood by this author that a significant portion of the U.S. Steel Corp. is now in Asian ownership. The question at hand is whether approval of the Polymet mining proposal would open a "Pandora's Box" and set a legal precedent for the pillage of American mineral resources by foreign investors and governments. Such an issue is especially significant if it weakens the economic and national security of the United States.	PD1
3723	During the Great Depression of the last century, the United States nationalized the ownership of gold. The ownership of mining rights to platinum in the United States needs to be addressed on the Federal level before any new copper/nickel mining operations are approved by the Minnesota Department of Natural Resources or the U.S. Army Corps of Engineers.	G1
3725	I think the risks far out way the reward. I think its ridiculous that we could even think about doing such a thing in of Minnesota's most beautiful places. The very chance that sulfuric acid could get to the boundry waters is reason enough to say no.	EOO,G7

*Alphabetical by sender's first name*

<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
3843	<p>Several unique factors make my comments relevant in assessing the NORTHMET PROJECT ENVIRONMENTAL STATEMENT DRAFT. Being a retired Earth science teacher is probably the least significant of those factors. In addition to having a masters degree in physical science education and holding Minnesota teaching license certifications in every area of science licensed in Minnesota, I have also completed an unlicensed undergraduate major in political science. Prior to becoming a teacher, I was employed for nine and a half years by the State of Minnesota. The highest position I held with the State of Minnesota was Senior Management Analyst/Project Manager for a major federally funded computer system development project. During my time with the State of Minnesota, I received four suggestion system awards, including an award for an innovation which ended up saving Minnesota taxpayers more money than I received in salary and fringe benefits for the duration of my State of Minnesota employment. In recent years, I have been teaching in a federally funded graduate level summer school program which provides Earth and environmental science education methods training to inner city teachers. I have written the curriculum for two of the three graduate level summer school courses, which are offered through Hamline University. One of the courses I developed is an Advanced North Shore Field Study course, which covers the geology and the water issues in the geographic area included in the NORTHMET PROJECT draft. For several summers, I have also been a volunteer for the Minnesota Minerals Educators' Workshop (MMEW), which has been presented for teachers through the Division of Lands and Minerals, Minnesota Department of Natural Resources. I believe I have a good understanding of political, economic and scientific issues at stake in the expansion of mining in the State of Minnesota. Through the MMEW, I have become acquainted with MN DNR employees and with employees of the mining industry involved in the NORTHMET PROJECT draft. I have toured the Polymet Project site with the MMEW, and I have made several tours of the Northshore Mining taconite facility in Silver Bay. I personally own 83 acres of forested recreational land at 710 Wales Road, less than a mile from the Highland ore car scales, where the Canadian National Railroad weighs the taconite loads being transported to the Two Harbors ore docks. My property is about twenty miles south of the source of the St. Louis River. I am very familiar with wetlands in the area. Beginning in 2010, I will be conducting lake and stream testing in parts of Lake County as a volunteer for the Minnesota Pollution Control Agency. As an additional side note, I am a model railroader who owns a video tape of the former LTV Mining operation (Pentrex PEN-LTV, copyright 1992). This video tape shows highlights of the full LTV mining operation, beginning as the large mine trucks are loaded with ore. The video shows the initial railroad transport system, ore dump car unloading at the crusher house, taconite production, and the final ore train transport and unloading into the ships at the ore docks. This video tape shows some mining operations which were never a part of public tours. When I toured the Polymet property with the MMEW, I was surprised at my level of familiarity with our tour sites, based on my prior review of the LTV Mining video. I have viewed this video tape several times as I have reviewed the NORTHMET PROJECT draft. Amazingly, this video tape has made it very easy to visualize Polymet property locations on the draft proposal diagrams.</p>	EOO
3844	<p>GENERAL CONCERNS REGARDING MINERAL RIGHTS: Mineral rights in much of the western United States originated as incentives in land grants to railroads. The purpose of these land grants from the 1800s was to provide a mechanism for transport of settlers to new states and territories and to provide the incentives for developing the natural resources on wilderness land. Mineral rights were included with those land grants to assure that the United States moved forward with other large nations in the development of industrialization. At the time, it was in the interest of the economic growth and national security of the United States to put mineral rights in the hands of those who could develop the mining industry as rapidly as possible. Historians have fully documented the fact that a substantial number of these land grants and mineral rights were handed out through illegal acts of cronyism and profiteering among elected officials, whose first and foremost interest was personal gain. There is good reason to believe that federal courts might rule against the legality of those ancient mineral rights, should it become evident that they no longer serve the better interest of national security and economic growth. At the time these mineral rights were established, the full extent of types of minerals in the land was unknown. Also unknown were the new uses which would develop for some minerals and the role of those mineral uses in national security. Also unknown was the potential for environmental destruction by then unknown new mining techniques. It is unreasonable to assume that the federal government ever intended mineral rights over a parcel of land to extend in perpetuity for all possible minerals and all possible mining methods.</p>	G13

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
3845	<p>In a worse-case scenario, no new mining jobs would be provided for Minnesotans by foreign investors. Instead, they could bring in their own citizens on short-term work visas, strip American land of its resources, and leave an environmental mess which could plague the United States for centuries. Unless written into prior international economic trade agreements, the chances of recovering the costs of dealing with poorly managed mine wastes is zero to none. The most that the United States might recover would be the title to mineral-depleted land. It would not be unreasonable for federal courts to rule that currently existing mineral rights only extend to the single primary mineral that a mining operation has been designed to extract. In such a case, mineral rights owned by iron mining entities would not include the mineral rights to trace elements which might be extracted as a byproduct from iron mining wastes.</p>	G1
3846	<p>PLATINUM: According to page 3-2 of the DEIS, Polymet expects to produce 22,184 ounces of platinum per year. Compared to the Polymet projections of 38,821 tons of copper and 9,037 tons of nickel, the expected production of platinum appears to be of minimal significance. However, Polymet's projected platinum production is roughly equal to one half of one percent of the entire world's current annual usage of platinum for automobile and truck catalytic converters! It is an unfortunate fact of geology, that very little pure platinum metal is found in nature. The vast majority of today's platinum is produced as a small quantity byproduct from sulfide bearing rock, during the mining of copper and nickel ore. Most of the world's currently known platinum is mined in Russia, South Africa, and Canada. A relatively small percentage of current world-wide platinum production comes from the State of Montana. As greater and greater efforts are made to control greenhouse gas production, it is reasonable to expect the industrial need for platinum catalytic converters to rise significantly beyond what is currently mined or recycled. New platinum catalytic converter technologies can be expected to include new factory combustion processes and a wider range of fuel burning forms of transportation. In the past, the price per ounce of platinum has been driven by industrial demand to a far greater extent than the price of other trace metals. World-wide platinum production can be most easily increased by increasing the production of copper and nickel. Consequently, there is a real possibility for copper and nickel to flood the market as platinum production is stepped up. Increased platinum prices might not compensate for a decrease in the prices of copper and nickel! Decreased market values for copper and nickel may, in fact, result in a decrease in overall profits during the projected life-span of the Polymet project. To compensate for its decrease in profits, Polymet (and other future copper/nickel mining projects in Minnesota) may be forced to take one of the following two actions: 1) Increase copper and nickel mining beyond what their mining operation was designed to handle, in order to increase revenue from the sale of platinum. 2) Petition for a decrease in expenditures for the environmental treatment and containment of sulfide mine wastes. Both of these actions may be necessary in order to keep an established copper/nickel mining operation running in the black. If the production of platinum becomes the driving force in successful copper and nickel mining, serious issues arise in cases of foreign-owned mining lands. Platinum is a low volume product with a very high value. Does the mined platinum stay in the United States, or will the foreign investors export it for their own needs? Platinum does not need to be processed into pure metallic form to be shipped out of the United States. Platinum slurry is a difficult material to identify and could be transported unobtrusively, before it can be accounted for in taxes paid to the United States government. In the past, mining has been performed on large tracts of northern Minnesota land. The burden of inspecting the new copper/nickel mines for environmental compliance would require a substantial staff of government inspectors. Foreign mining operations could easily step up platinum production and leave excessive quantities of sulfide bearing waste rock behind in a manner which would foul our ground waters and delicate wetland soils for indeterminate periods of time. Environmental damage and substantial restorative costs caused by excessive rates of copper/nickel mining could also prevent more desirable alternative uses of northern Minnesota land. It is consequently very important that the Polymet project and its review and approval process set appropriate legal precedents for future copper/nickel mining proposals in the same geographical setting. NATIONALIZATION OF PLATINUM PRODUCTION IN THE UNITED STATES: It</p>	G1

Sender Last Name: Carney

Submission ID: 1181

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
1296	I saw the "Precious Waters" video tonight. I am opposed to the NorthMet project. the affect of this project will negatively affect out water in the area around Ely & the BWCA. Do not proceed with this project.	EOO,G7B
<b>Sender Last Name:</b> Caron		<b>Submission ID:</b> 1115
1221	I attended the town-hall meeting in Hoyt Lakes last summer. At the meeting, the Poly-Met representatives there, had a very convincing proposal for constructing this project environmentally responsibly.	EOO
1222	I am personally convinced that they have done their research thoroughly. I also believe that all this research should be subject to audit, both privately and publically, as well.	EOO,G10
1223	I think a lot of issues are at stake in our state, both economically and environmentally. I believe that there should be an earnest effort to conclude this research, so that our state can begin to recover economically (like North Dakota already has) with the bag-houses, and sequestration projects underway for the coal fired power production units there. I know a lot of this technology is new, like the Nugget facility, (on a large-scale), but I don't think some national attention to a forward-mined project would hurt us right now. Best wishes on your on-going research, and I do hope for the best for the PolyMet precious meter mining project proposal.	EOO
3186	I cannot understand why anyone would so want to endanger our water or any natural resource as this project would do.	G7
<b>Sender Last Name:</b> Carron		<b>Submission ID:</b> 3580
50	Further, negative socioeconomic impacts of the boom-and-bust mining economy will extend across Northeastern Minnesota.	SE3
541	The addition of significant amounts of greenhouse gases from the destruction of wetlands literally will add to a global problem.	AQ3
1072	The addition of significant amounts of greenhouse gases from the destruction of wetlands literally will add to a global problem.	WE5
1073	Wetlands: The complete or partial destruction of over 1400 acres of wetlands is outrageous. The value of these lands for oxygen production, carbon storage, and habitat infinitely outweighs the value of the short-term employment opportunities offered by the Project.	WE2
1144	Part III.A.-Evaluating impacts within only a five-mile radius around the major components of the Project is misleading and inadequate. For example, the habitat destruction in the Project area will have significant impacts on wildlife now living outside the Project area because of, among other things, the displacement of members of species currently using the Project area and the concomitant increase in competition for space and food.	WI2
1145	Wildlife: The loss of critical habitat for Canada lynx and the gray wolf alone should be sufficient to compel implementation of the No Action Alternative. The DEIS's blithe reference to "increased risk of vehicle strikes to Canada lynx and gray wolf at the Mine Site" is frosting on the cake.	WI1
1332	Geotechnical Stability: The admission by the DEIS that Tailings Basin embankments "would have a low margin of safety" compels the adoption of the No-Action Alternative. If the Tailings Basin collapses, the resulting pollution and habitat destruction would vastly exceed any amount considered acceptable by even the most shameless mine booster. The intent to defer considering mitigation until the presumed permitting process is unacceptable.	GT1,GT2



*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
1977	Part III.B.2.-Water Resources: The chemical and physical alteration of surface waters and groundwater predicted to result from the proposed Project by the DEIS is unacceptable. The DEIS admits that the Proposed Action will contaminate groundwater with antimony, manganese, and nickel. This pollution will exceed Primary Maximum Contaminant Levels and/or Health Risk Limits "potentially for the long term." What is the long term? The tribal cooperating agencies believe that it is potentially thousands of years. The DEIS is silent as to the likely extent of the dispersion of this poisoned groundwater; this silence suggests that the likely extent of the dispersion is either unknown or obviously unacceptable. The DEIS admits that significant (9%) reductions in flows would occur in the Partridge River, and that the frequency of low flows would increase. It further admits that groundwater seepage downgradient of the Tailings Basin would result in significant seepage upwelling and impacts on wetlands. "High risk situations" for mercury methylation would likely result from high sulfate concentrations in seepage from the Tailings Basin. In sum, it is clear that the pollution by metals and the changes in streamflows and wetland levels would seriously disrupt the stability of both aquatic and terrestrial habitats; the actual extent of the damage is uncertain because the DEIS admits to "a high degree of uncertainty regarding key input assumptions" to the models.	FM1
1978	Fish and Macroinvertebrates: The DEIS admits that the Proposed Action would create the possibility of (a) degradation of aquatic habitat in the Partridge River because of the duration and frequency of low flows and (b) increased methylmercury in wetlands and the Embarrass River because of the discharge of sulfates from the Tailings Basin; the poisonous impact of mercury in the environment, particularly with respect to consumers high in the food chain, such as fish and homo sapiens, is well-known. Maintenance of healthy aquatic ecosystems is crucial to the health of the earth and all its inhabitants. The Proposed Action should not be allowed to proceed given the possibility of the impacts described in the DEIS.	EOO
3290	Both surface and groundwater pollution by acid mine drainage and leached metals will certainly flow well beyond the five-mile radius imposed by the DEIS.	WR1E
3291	Part III.B.2.-Water Resources: The chemical and physical alteration of surface waters and groundwater predicted to result from the proposed Project by the DEIS is unacceptable. The DEIS admits that the Proposed Action will contaminate groundwater with antimony, manganese, and nickel. This pollution will exceed Primary Maximum Contaminant Levels and/or Health Risk Limits "potentially for the long term." What is the long term? The tribal cooperating agencies believe that it is potentially thousands of years. The DEIS is silent as to the likely extent of the dispersion of this poisoned groundwater; this silence suggests that the likely extent of the dispersion is either unknown or obviously unacceptable. The DEIS admits that significant (9%) reductions in flows would occur in the Partridge River, and that the frequency of low flows would increase. It further admits that groundwater seepage downgradient of the Tailings Basin would result in significant seepage upwelling and impacts on wetlands. "High risk situations" for mercury methylation would likely result from high sulfate concentrations in seepage from the Tailings Basin. In sum, it is clear that the pollution by metals and the changes in streamflows and wetland levels would seriously disrupt the stability of both aquatic and terrestrial habitats; the actual extent of the damage is uncertain because the DEIS admits to "a high degree of uncertainty regarding key input assumptions" to the models.	WR1E,WR3E,WR4B
3292	Fish and Macroinvertebrates: The DEIS admits that the Proposed Action would create the possibility of (a) degradation of aquatic habitat in the Partridge River because of the duration and frequency of low flows and (b) increased methylmercury in wetlands and the Embarrass River because of the discharge of sulfates from the Tailings Basin; the poisonous impact of mercury in the environment, particularly with respect to consumers high in the food chain, such as fish and homo sapiens, is well-known. Maintenance of healthy aquatic ecosystems is crucial to the health of the earth and all its inhabitants. The Proposed Action should not be allowed to proceed given the possibility of the impacts described in the DEIS.	EOO,WR4B

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<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
3848	Parts III.C. and III.D.-The Mine Site and Tailings Basin Alternatives amount to an attempt to put lipstick on a pig. Nothing in the Alternatives alleviates the massive destruction of landscape and habitat, or the serious pollution threats, resulting from the Proposed Action. The Project runs counter to the values of clean water and intact habitat that are dear to most Minnesotans, as shown by the overwhelming approval of the Clean Water, Land, and Legacy Amendment adopted by the voters in the 2008 election. The No-Action Alternative is the only acceptable outcome for this Project.	EOO,G2
<b>Sender Last Name:</b>	Casillas	<b>Submission ID:</b> 1167
1282	I believe no mining should be done, no matter what the metal, if our wilderness is at risk. I support the project's effort to stop this and protect Earth's waters. Finally someone is taking action and opening people's eyes to the problems the environment is facing. Today, many animals are suffering because of human's mistakes and if one problem can be solved there will be hope for solutions else where.	EOO,G2C
<b>Sender Last Name:</b>	Cason	<b>Submission ID:</b> 2195
2601	MR. CASON: Hi there. My name is Joe Cason with the Labors 563, Minneapolis Local. I live in Columbia Heights, Minnesota. I strongly agree with this project that is going forward, the PolyMet project that is going up north. I think that with 10,000 construction workers out of work that this would be a great economic plus for the area, and I think that that is what we need is more economic development. I think that they have plenty of -- they have plenty of regulations in place so you won't have the pollution concerns that they are talking about, and I think jobs is what it's all about. That is my story, and I'm sticking to it. Thank you.	EOO
<b>Sender Last Name:</b>	Chaffin	<b>Submission ID:</b> 2556

*Alphabetical by sender's first name*

<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
3122	<p>I will never forget the pollution I witnessed on a recent business trip to Shanghai, the epicenter of China's newfound affluence. My lungs burned as I simply walked the streets. And when I looked out my window on the 54th floor in a city dominated by skyscrapers, all I could see was smog. When I returned home I made a point of taking a deep, cleansing breath as I walked out of the airport. While I knew that the economic boom and resulting pollution I witnessed in China impacted my life in Minnesota to some extent, the problem still seemed a world away. Little did I know how directly it could impact the environmental health of my own backyard. One of the by-products of China's economic growth has been an exponential increase in their demand for precious metals like copper and nickel, key ingredients in the production of a wide range of products including cell phones and laptops. To answer this demand, mining companies around the world have stepped up their efforts to mine these metals. Among them is PolyMet Mining Inc. and their proposal to operate an open-pit sulfide mine and processing facility at the edge of the Boundary Waters Canoe Area Wilderness. As you know, the sulfide mining that PolyMet proposes is fundamentally different than the traditional iron mining that has come to define much of Northern Minnesota's cultural and economic identity. Sulfide mining involves the extraction of metals from sulfide-bearing ores, while traditional iron mining deals with oxide ores. The difference between the two comes into stark relief once you introduce water. When precipitation comes in contact with the waste rock from traditional iron mining, it creates rust. When precipitation comes in contact with the waste rock from sulfide mining, it creates sulfuric acid. The findings contained in the DEIS are too many to fully address in this short note. For the sake of brevity, I will summarize four key findings with regards to water resources given the critical role that water plays in sulfide mining. According to the DEIS: 1) water from waste rock piles will be polluted for up to 2,000 years, 2) at year 65, the West pit will begin to discharge polluted water into the surrounding wetlands, rivers and lakes, 3) the polluted water will contain high sulfate concentrations that represent "high risk" situations for mercury methylation, which can cause mercury to accumulate in fish, and 4) PolyMet has proposed the construction of a wetland to treat contaminated waters. However, "the effectiveness of constructed wetlands to remove metals has strong seasonal variability... also a limited literature review revealed a wide range of variability in the pollutant removal effectiveness of constructed wetlands." Based on the impact to water resources alone, the science seems to make a clear case against sulfide mining in Minnesota. However, as we have seen so often around the world, socioeconomic factors can cause people to disregard the science in an effort to address more immediate and personal concerns. Minnesota's taconite industry has been gutted by the current recession so it is no surprise that PolyMet's promise of 400 new jobs over the 20-year lifespan of the mine has Iron Range families and politicians alike speaking out in favor of the proposed mine. On December 10th, I attended a public meeting in Blaine hosted by the MnDNR and the USACE meant to inform the public on the scientific findings of the DEIS. However, the influence of socioeconomic and political issues on this process was obvious to me. The day before the meeting, Governor Tim Pawlenty announced that the public would not be allowed to speak at the public meeting. Instead, two Iron Range politicians were allowed to address the crowd with stump speeches about job creation before a single scientific word was spoken. I urge the MnDNR, the USACE and anyone else involved in making a decision on this matter to not allow China's copper rush and a Canadian company's business plans risk the long-</p>	G1,G2,G7A,G9
	<p><b>Sender Last Name:</b> Chambers</p>	<p><b>Submission ID:</b> 3701</p>
1	<p>The PolyMet demands on the public for rate increase is being done without public notice in the form of a blank check. The illegally executed contract between PolyMet and Minnesota Dower done in violation of environmental laws which require connected actions be administered as a part of an Environmental Impact Statement was violated. This is similar to the Wetland Mitigation agreement between St. Louis County and PolyMet, that was sued on and held to be illegal in District Court. Clean energy is being blamed for rate increase because to mention PolyMet would be an admission of a violation of the law so the PUC and Minnesota Power will do it secretly.</p>	PRO7

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
1	The DNR has joined the PUC in hiding information from the public. In the EIS the tribal partners concerns have been placed in appendix 3 and many of the claims given little or no explanation. It is not the job of the PUC to aid corporations in hiding public information, it is not for Minnesota Power to do economic development, or expose the public to risky business ventures including losses on real estate in Florida. The power company is a regulated monopoly whose responsibility is solely to provide power to consumers. Minnesota Power will not spend money on improving our power system because they don't like the conservative lower rate of return this provides. The public has given and continues to give them our dammed rivers and a monopoly. They owe us more than the arrogant claim of trade secrets that they have made and we must put pressure on our politician's to force them to keep their side of the bargain. If PolyMet is going to provide Minnesota Power with an excuse to raise our power rates, we should oppose PolyMet.	PRO3
2	Note: At this years Consumer Electronics Show one of the main topics and displays was Wireless Television, no cables. They have had for some time wireless sound systems, but now the predictions are that in the next five years most of our electronics will be wireless. What will that do to the price of copper? If the world price of copper goes down will PolyMet abandon any mining begun here as has been done so many times in the past by other copper mining companies? My guess is they would, leaving us the cost of cleanup.	SE3,G1
3	The project's carbon footprint. What would be the true measure of greenhouse gas and particulate emissions? How will the destruction of extensive bog affect the area's value for carbon sequestration?	AQ3
4	(4.13-2) The stability of the existing LTVSMC tailings basin that PolyMet plans to use for their disposal is a well-recognized concern. The existing basin has been documented to contain fines and underlying soils that create a "low margin of safety" for its long-term stability. Rather than generating a plan that satisfactorily increases the safety margin of the basin, PolyMet concedes that "further design and analysis is needed."	GT2
5	The DEIS text has only five citations to the Regional Copper-Nickel Study. This is a glaring omission of important data that was prepared especially for this environmental impacts evaluation of copper-nickel mining. This environmental impact statement is for copper/nickel/metals mining in the very same area of the Study. The DEIS does have a few citations for the Study so its authors knew the Study existed, but the DEIS does not even discuss the fact that the Study exists, its purpose, and applicability. The DEIS cannot be adequate without acknowledging and utilizing the Study data and subsequent research.	WR1E,PD8
6	Require the PolyMet Company to show that their waste rock and tailings piles won't collapse and dump uncontrolled pollution into nearby waters and that they will not create water pollution that lasts for hundreds or thousands of years.	GT2
6	Analyze all of the impacts (air and water) of increased mercury in fish from the PolyMet project and other nearby pollution sources. Mercury in fish causes brain damage to children and to the fetus.	WR4B
7	4.6-32-However, while energy use is reduced by one-half, greenhouse gas emissions do not decline per unit of production from what would be expected ... principally because of the large load of non-energy process emissions associated with hydro processing." How could a cap and trade policy or carbon tax affect the economic viability of this plant?	PD4,AQ3
8	As the owner of both a resort facility and a Boundary Waters canoe outfitting business, I find it unbelievable that the DNR and the Corp of Engineers, have the sole power to determine if northeastern Minnesota will exchange its present sustainable tourism industry (a billion dollar industry- www.exploreminnesota.com) for a "non-sustainable" sulfide mine (and possible sulfide mining district) that will destroy our natural resources and forever more alter the incredible beauty of the lakes region of northeastern Minnesota for the sake of PolyMet's 400 short term jobs, and additional spin off jobs for a lifespan of just 20 years. The questions for you to evaluate are: Is this really what we want for this part of our state? Do we want to forever more change surrounding forests and wetlands as they are today? To no longer count on clean water? To deal a fatal blow to the sustainable tourism economic base of this area?	WR4C,G7B,G7C,G11

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9	I think mining and processing sulfide ore bodies would be a mistake because of possible toxin and most certainly long term pollution problems. If the mine went into production and there were immediate problems, would it be possible to even stop production to resolve problems with pollution, I don't think so. I think the mine would stay in production and the EPA would have them resolve them but centive production. Assuming the mine life we reached, I think the long term pollution risks are very high. Apparently the project will use an existing waste basin that has problems of its own now. I don't think that should be used. Even using the latest technology to use the pits it wouldn't be long enough to hold the pollution indefinitely. This is not acceptable. Minnesota tax payers will have to pay for maintenance of the waste rock.	EOO,G4A
10	younger workers as well as retirees and other populations in its midst." I'm for retiree's. This is age discrimination being promoted by PolyMet's business partner and is indicative of an illegal civil rights violation Don't count on Minnesota Power. Margaret and PolyMet are with corporate health care and they want to profit from their pollution making you and your grandchildren sick and disabled.	EOO
11	It is a resilient aspect of Anglo Property Law that the use of land should be privately withheld from use. This is the Rule of Perpetuities in estates that provide for the public policy in favor of the marketability of land. The Brownfield that will be created by PolyMet is against public policy and violates the Rule of Perpetuities. The Brownfield will result in unusable land for the foreseeable future. It is a violation of principles of morality and good public policy to spoil a valuable commodity such as land. The Ladysmith Mine in Wisconsin was set up as an industrial park. No private businesses have chosen to locate at the Ladysmith industrial park and none are expected.	EOO
12	1) Analyze the land that is going to be exchanged for Superior National Forest land to make this project possible. Make sure that the land swap would protect wetlands, endangered species, hydrology, tribal rights and taxpayers' interests.	PD1
13	4) Get better information on existing pollution, the nature of wetlands, endangered species, wild rice stands and other resources that would be affected by the project.	WR1E,WI5,WE2
14	5) Require the PolyMet Company to show that their waste rock and tailings piles won't collapse and dump uncontrolled pollution into nearby waters and that they will not create water pollution that lasts for hundreds or thousands of years.	GT2

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15	<p>Mining in Minnesota has never been quite as magical as politicians and offspring of miners who have left the area and the mining work behind would make us believe. Although Amy Klobachur plays the "My Family were Miners Card" often in public, I would bet that her grandfather didn't sit her down and try to talk her into being a miner and not going to college. Do we think less of the unemployed in Northeastern Minnesota? Don't they deserve an education and training so they may be a part of the growing information, networking, knowledge communities that will continue to grow and expand for hundreds of years? Or do we need to consign them to another short cycle non-sustainable extractive industry. When iron mining started its economic decline here about 25 years ago, politicians made one of the biggest economic blunders in Minnesota history. They dictated that mining in Minnesota should increase and threw millions of taxpayer dollars into that very specific effort, which continues to the day. This is akin to dictating to state agencies, at the beginning of the oil crisis that we find ways to use up more oil. The DNR's Department of Minerals and the University of Minnesota have been "endowed" with the legislative edict to "increase mining in Minnesota" How much money has been spent in this endeavor will probably never be totally accounted for. But from the amount spent recently on the Polymet pep rally in Aurora, paid for by Minnesota taxpayers and meant to be a public meeting by the DNR for the exposure and discussion of the DEIS on the first project for Cu-Ni mining in Minnesota, it is more than apparent that mining is still a very narrowly defined expensive effort being severely and intently pushed on the Minnesota populace. (See Exhibit A , end of comment section) When iron mining started its decline would have been an opportune time for everyone in the state to re-evaluate the "all our eggs in one basket" economic approach of mining in Minnesota. Especially in light of the one of a kind boreal forest wetland resource beginning to be transformed into the Boundary Waters Canoe Area Wilderness. Someone realized the value of this land; unfortunately it was not the same group of people who controlled the funding for mining development in the state. To this day there are northern Minnesotans who are trying to "get over on the man" with their illegal excursions and activities in the BWCAW, with applause and support of a few others here. It is understandable that people would be upset with the loss of jobs, the decline of an industry and the replacement of a personal no-rules playground with a structured somewhat restricted public area with rules. So the initial reaction of let's find ways to bring mining back and the reaction to the forming of the BWCAW might be understood. But years later, some have not progressed beyond the knee jerk reactions formed over 25 years ago. Where might we be today if at least a part of the funding that has gone towards mining, a proven cyclical industry with a hard down side, had been put toward an effort for new sustainable truly long term jobs? We have a very specific state department for expanding mining, The Department of Minerals. We do not have a state department for the establishment of long term sustainable jobs that concentrate on the health of individuals and the planet. Nature has so many other uses besides extractive industries it is rather amazing to "an outsider," I've only lived here about 26 years. That Minnesota hasn't made a concerted effort to put at least some of their eggs into a healthier relationship with the value of Nature in this state is sad and amazing. The Trust for Public Lands has published an eye opening document entitled "Conservation: an Investment that Pays" that points out the economic value of Nature. The inspiring part of this document is that it is based on research. It is not an opinion piece; it offers many pages of references to the research upon which their con</p>	G1
16	<p>JOBS JOBS JOBS! Another of the mining companies Mantras. And, they are important, too important to leave to foreign extractive industries. How about repairing our bridges, roads, dams, pipes and the rest of our crumbling infrastructure? How about rebuilding the decimated American Forests, clean energy, information systems, computer and networking and telecommunications systems to make us again a leading nation rather than the laggard we've become. Building knowledge communities? Many other nations are doing just that. Many of our "leaders" haven't even heard of it. How about cleaning up our polluted planet? Why can't Minnesota be a leader in earth stewardship? We could be. Any of the above job ideas could be significantly more rewarding for workers than anything you can dream up with extractive industries, and better for the planet. It's past time for us to significantly alter our ways.</p>	G1
16	<p>Please pay close attention to the comments of the tribal communities and individuals, scientists, and ex-iron miners who have weighed in on this issue and disagree with proceeding with Copper Nickel Sulfide Rock Mining in Northeastern Minnesota. I agree with the There is currently no scientific justification for it. A moratorium is the only sensible approach, one comparable to Wisconsin's.</p>	EOO,G12

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Comment ID	Comment Text	Theme Codes
17	On a global scale how much fresh water do we have in Minnesota? What is its value? What is its value polluted with heavy metals and acid mine drainage? What is the value of an unpolluted 100 mile swamp for sequestering carbon?	AQ4
17	I searched and could not find any such Executive Order for the State of Minnesota relating to sustainable, healthy, environmental, eco-system improvement, re-forestation, protection of our states resources, or protection and expansion of our thriving nature based tourist industry. Unfortunately for all of us we have not progressed beyond the beliefs and directives of 1985. And, unfortunately no one, then or now has looked past these shackles to determine a better course of action. Fortunately there are MANY better courses of action for the state than Copper Nickel Sulfide Rock mining at this point in our nation's history.	EOO
18	"A thing is right when it tends to preserve the integrity, stability, and beauty of the biotic community. It is wrong when it intends otherwise" Aldo Leopold I started my search for information on Copper Nickel mining believing that I would find someone who could show us that a safe way to do so had been developed; and, that No pollution would be permitted by such mining since it would take place in one of the last major fresh water reservoirs in the world. (Watch the video "The Flow" to understand just how rare and valuable the fresh water of our region is globally <a href="http://www.flowthefilm.com/trailer">http://www.flowthefilm.com/trailer</a> .) But, all that we have been given are mining company propaganda and bullet points and political and governmental agencies who are trying harder to justify pollution, yes they are trying to minimize, but everyone admits many pollutants will be placed in our water supply by this mining and the cleanup will go on for centuries. This is totally unacceptable to me in this point in the history of our polluted planet. We personally believe that the way to true long term rewarding jobs is with Nature not against it. A recent MPR article probably represents best what our customers feel, or would feel if they knew about the threat of Copper Nickel Sulfide Rock mining here. Copper Nickel Sulfide Rock mining is probably the greatest threat to tourism and will severely affect all of our businesses if permitted to pollute the watershed here. <a href="http://minnesota.publicradio.org/display/web/2010/01/12/loch/">http://minnesota.publicradio.org/display/web/2010/01/12/loch/</a> The first lumbermen to discover the vast stands of white pines in Minnesota probably didn't think they could ever cut them all. But, those hard working lumbermen left us only about 2% of the white pines and none of the yellow birch. Across this country 95% of the old growth trees are gone. The Texas oilmen at the turn of the century claimed they would be able to pump oil "forever" from the vast oil fields there. Today there is little oil left in Texas. No one ever imaged that we would be able to deplete the oceans seafood supply, but we are well on our way to doing so. 95% of all the big fish in the ocean are gone. And certainly no one would have thought we would have allowed over 300 water pollutants into our water supply, 80% of which are not removed by current municipal water treatment and go untested in over 98% of municipalities. We ignore the mistakes of our past at our own peril. We do not however have to participate in any further degradation of our water supply and water table here in northeastern Minnesota. We can stop and think and NOT act on permitting Copper Nickel mining here UNTIL we know for certain that NO DAMAGE to the environment will occur because of it. The copper here isn't going anyplace and will only increase in value over time, giving us time to require an absolutely safe non-polluting mining method that is fully real-life tested, elsewhere first. Copper Nickel mining has never been done without significant pollution and high costs of cleanup in the communities where it has been allowed. And, those mines have always been allowed with the grand expectation of jobs and wealth for those communities. But, the wealth goes to foreign corporations and the cleanup costs goes to the local community and the public. Study closely what has happened in Wisconsin and you can only come to the conclusion that since no mining companies have ever gone back to prove to Wisconsin that Copper Sulfide Rock mining can be done in an environmentally safe manner that it probably isn't possible. PolyMet has only "proven" their system on a very small scale pilot plant operation. I'm certain that in the laboratory or pilot scale this might be possible. But, we cannot afford any failure, the cost to our well and water system is just too great.	G7A
18	What could be the value of a re-constituted forest industry, not just Popular for pulp, but a sustainable, white pine, red pine, and hardwoods forest mixture designed for the long term health and wealth of Minnesota and Minnesotans.	EOO

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18	The remedial efforts described in the DEIS are so puny and inappropriate for the protection of that ecosystem that the whole process needs to be scrubbed and reworked. We the people of Minnesota, the drinkers of its waters, do not want any addition to the pollution already occurring from existing tailings ponds. Demand that the mining companies stop trying to "whitewash" their process with terms such as "mining sand" when in fact it is the same consistency as "mining slime" from the taconite industry but worse do to its acid nature and content of heavy metals.	WR1E
19	By the way, I didn't see any mention of the manner in which amphibole asbestos fibers will be handled or "remediated." Isn't that a significant oversight? Some mining company representatives have been upset with the non-scientific presentation of information against their proposals.	AQ4C
19	And, the manner in which Polymet attempts to circumvent the 100 mile swamp and "dilute" pollutants in the Partridge River is not acceptable. The effluent "into and out of the well" shell game is preposterous. Have none of these engineers looked at the history of Dow Chemical Companies' disastrous results in putting waste back into wells they had pumped out? Are they unaware of recent data showing that pollutants thought to be contained in deep wells were leaking into a multitude of levels. Some pollutants, thought contained, reappeared even at ground level because NO ONE knows where the faults and underground water passages are.	WR1E
19	Our present life style and lax regulation of industrial polluters is permitting pesticides, herbicides, pharmaceuticals, plastics and a myriad of chemicals to end up in our water supply. These are believed to be one of if not the cause of rapid increases in asthma, Alzheimer's, youth behavioral problems, cancer, autism, and Parkinson's diseases, and others. What more do we need to know about that connection? We cannot afford any further degradation of our water supply and should be doing all that we can to improve it, but we are not. Instead, our politicians have decided that we can tolerate a little more pollution of our waters, within regulations (regulations that equal a permit to pollute), for the politically expedient and popular JOBS they promise. Take a look at the pollution on both coasts, The Chesapeake Bay and the Duwamish River in Seattle in "Poisoned Waters" <a href="http://www.pbs.org/wgbh/pages/frontline/poisonedwaters/view/">http://www.pbs.org/wgbh/pages/frontline/poisonedwaters/view/</a> A Boei ng environmental engineering stated that he didn't think we should expect to ever again subsistence fish, as the Native Americans attempt to do, in the Duwamish River currently a Federal Mega Super Fund Site. It seems once we create pollution we cannot clean it up. How about, we just don't muck it up in the first place? We all need to live in a healthy environment and to be healthy. How can you live without health or without life giving clean water? Where ever you live you tap into the water supply, municipal, personal well, or purchased from some supplier. How much mercury, heavy metals, pharmaceuticals, acid or other pollutants would you allow in your well or source of water, none, just a little, or a lot? Few of us would allow any if we thought about it. But, it seems if the well is big enough and a few miles from our personal well, we somehow think that will not affect us if we allow or permit that pollution. It all adds up and ends up in OUR well. Let's not! Another very good video pointing out how serious pollution of the planet is can be seen in "11th hour" <a href="http://www.youtube.com/watch?v=71BG2V98IBY">http://www.youtube.com/watch?v=71BG2V98IBY</a> The water, the wetlands, the plants and myriad creatures from the microbes to the mega fauna, many of which we have yet to identify according to the Biologist E. O. Wilson, depend on uS not to destroy a balance we have little or no knowledge of.	G7B
20	I have been associated with mining all my life. My father worked for a mining –dependent industry—the railroad in Two Harbors. My father-in law was a miner in Bessemer, WI. My late husband was a metallurgical engineer, was Ass. Superintendent of the milling dept. at Tennessee Copper and Supt. of Pilotac, the experimental plant that preceded U.S.X's Minntac. The smelter emissions at Copper Hill, Tennessee killed vegetation within the 100 sqa re mile Copper Basin. Fertilization brought some vegetation back.The ores have given out so the area is probably now green. A proposed autoclaving process that Polymet will use has not been tested in a full-scale operation, will emit 12 1/2 T/yr. of sulfuric acid mist, 68 T./yr of NOX + other pollutants. A Dr. Thomas Powers from Montana has testified that mining is not as big a part of our economy as most people think, maybe as low as 35%. Once mining is over, tourism will be the mainstay of our economy. Tourists will not come here is there are fish adviseries.	G11



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21	The metal content of Polymet's ores is low so 350' high piles of waste rock will be built. These piles will be lined, but the leakage from liners can be predicted. Sulfates will leak into the groundwater and tributaries of the St. Louis River, interact with mercury and bacteria in the sediments to produce methyl mercury, the substance responsible for fish advisories. Brain damage is the result if pregnant women and infants drink water contaminated with methyl mercury. The health of adults who eat a lot of fish will be adversely affected. Nickel is known carcinogen. If cobalt and nickel are together, the mix is toxic to fish. The platinum group of metals are toxic. The DNR and the PCA should check Nickel's operation at Sudbury, the Tennessee Dept of Health for similar affects due to Tennessee Copper's operations and the Montana dept of Health for numerous health and environmental effects caused by mining operations there. Dr. Samuel Blowes of the University of Waterloo has examined about 10,000 mine sites, found varying amounts of damage in all.	EOO,WR4B
22	In telecommunication, fiber optics are taking the place of the copper wire. Wetlands will be destroyed by mercury affected waters; migration patterns of wildlife will be disturbed. If Polymet is permitted five other companies will follow audit. Drainage from some of these will reach waters of the Boundary Waters Canoe Area Wilderness, eventually running into Canada. This could cause an international incident. We could end up with one or more Superfund sites. A South Dakota company went bankrupt, forfeiting a sizable bond that taxpayers had to pay for.	G2C,G7C,G9
23	A cost benefit analysis which weights the impact of jobs and tax revenue versus the cost of serious environmental and health effects plus the cost of rehabilitating Superfund sites should be done before a permit is granted. Short term benefits should not out weigh long term costs.	SE3
24	The Minnesota DNR and the Army Corps. of Engineers are creating an Environmental Impact Statement on a new type of mine being proposed for Northern Minnesota near the Boundary Waters Canoe Area Wilderness, and 50 miles from Voyager National Park. This mine is different from long established iron ore mines that Minnesota has had over the years. These proposed mines~ contain among the copper, nickel, platinum, and silver, significant deposits of sulfide. The sulfur in the resultant mine tailings could leach off into the surface and ground water, creating yellow and red streams and creeks with toxic heavy metals and sulfur. Water that contains heavy metals and sulfuric acid kills fish, birds and other aquatic life. The watershed for these proposed sulfide mines includes the Kawishiwi River which flows into the Boundary Waters Wilderness, and includes the St. Louis River which flows into Lake Superior. Contaminated water flowing from abandoned mines is one of the most significant contributors to water pollution in the United States. A toxic form of pollution caused by sulfide mines is called Acid Mine Drainage (AMD). AMD can have severe impacts on aquatic resources, killing microorganisms, insects, fish and other aquatic life. It stunts terrestrial plant growth, harms wetlands, contaminates groundwater, raises water treatment costs, and damages concrete and metal structures. There are several thousands miles of streams impacted by AMD within the United States. The economic losses on fisheries and recreational use mounts to hundreds of millions of dollars' annually. See appendices C and D. AMD causes elevated levels of dissolved metals and sulfates, which render the stream unsuitable as a source of drinking water for humans, livestock or for use as aquatic habitat for wildlife. Because of the potential for Acid Mine Drainage, sulfide mines require treatment systems to ensure that acidic water is not discharged. These systems must be in place for the life of the mine, and continue in perpetuity to treat acidic waters after the mine is closed. Due to the ongoing treatment process, the risk of discharging acidic water increases over time. Water treatment systems at reclaimed mining sites is complicated by changing levels of ground water and fluctuating rain fall levels over decades and centuries. If movement of the acidic water is not contained within an impermeable barrier (e.g. pipe, plastic, glass, etc.) the acidic water flows into the underlying groundwater system. Once the acidic water enters the groundwater system, the detrimental affects on flora and fauna becomes widespread. Containment and treatment of the affected groundwater system is difficult, if not impossible.	WR1E,WR3I
25	Unlike many dry Western states, Minnesota is rich in water resources that are especially vulnerable and are a great part of Minnesota's outdoor heritage for anglers, canoeists, duck hunters and of course wildlife. Our neighbors in Wisconsin have a moratorium on mining metallic sulfide ores written into law. In effect, the Wisconsin law says: "Industry can mine metallic sulfide ores in Wisconsin when it can show one mine in the United States or Canada that has operated and been closed for ten years without significant damage to its watershed." See Appendix A.	EOO

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25	Therefore, funding for long-term treatment of acidic waters and long-term responsibility and liability for environmental protection is on going. Mining companies and sulfide handling operators may not be perpetual and often go bankrupt. As a result, there are many examples of operators abandoning properties that discharge acidic water and requiring public money to clean up the site. See Appendix B.	PD4
26	Honestly how do you think this kind of mining can be safe as far as pollution is concerned when it's NEVER been non-polluting before?? NEVER! And NEVER has a mining company taken responsibility for the clean up. NEVER! I live in the Superior National Forest. THis will affect me and I'm outraged that this project may proceed before you're sure its safe for the environment.	EOO
26	To ensure the protection of Minnesota's water resources which are critically important for anglers, canoeists, hunters, and the wildlife which depends upon these water resources, which include the Rainy River drainage which flows into the Boundary Waters Canoe Area Wilderness and Voyageurs National Park, and the st. Louis drainage which flows into Lake Superior, the Walter J. Breckenridge Chapter of the Izaak Walton League of America supports legislation which bans the use of perpetual treatment systems for mine tailings and the discharged water that is produced by mines. The Walter J. Breckenridge Chapter of The Izaak Walton League of America further urges Minnesota to not permit any new mines that require ongoing water treatment after the mine was reclaimed.	G7A,G11
27	I live in Embarrass, Minnesota and I am concerned about the effects that copper nickel mining might have on my water supply. The DEIS seems to think that it's ok to have a lot of metals and chemicals in our water. I am concerned about the cumulative effects of these metals and chemicals on our health.	EOO
28	How will this mining affect the wildlife in my area? The people here enjoy living where we can see a lot of wildlife. How will water pollution affect the fish?	WI5
29	The PolyMet DEIS shows me that this mine will be very damaging to the environment, that there will be a lot of waste rock, and that our water will be filled with chemicals that we don't want to drink. What laws allow this to happen in one of the least contaminated parts of the state?	G2,G7B
30	We understand the struggle to find jobs and support families and local economies. However, the boom and bust cycle that mining brings is not the sort of sustainable economy we need. The new jobs projected for the project are speculative and short term. Many of them may well be contracted out to companies with no ties to the northland; locals may see few benefits. PolyMet's profits belong to a Canadian company and the minerals that would be mined will be sold on a world market; our state, even our nation, will see few if any benefits. Weigh this against our healthy tourism industry along with the invaluable ecosystem functions provided by healthy lands and waters, and the proposed action makes no	G1
31	Impacts of acid mine drainage. There has never been a mine of the type proposed that has failed to pollute adjacent land and watersheds. The DEIS claim that PolyMet can avoid this seem to be based on new untested technologies. There must be detailed plans in place in case these new technologies fail. Similar operations in dryer environments have been disastrous; here, in an area rich in surface and ground waters, all interconnected, the result could be catastrophic.	WR1E
31	The exchange of public land for a project that will destroy the natural values that current management (by the Forest Service) protects. The site of the proposed mine was singled out as being unique and significant by Forest Service and DNR scientists in the late 1990s. The proposed action would permanently erase a good part of an already dwindling resource.	PRO4
32	Disposal of waste. PolyMet plans to use tailings basins that are currently leaking and in violation of state law. State and federal regulatory agencies have failed to take action. How can we be assured that our health and natural resources will be protected from the more toxic waste that will be generated by the proposed action? The DEIS does not answer this question.	PD2
33	Very long term effects. Impacts to the environment that may occur after Poly Met is gone (which may be sooner than the projected 2 - 3 decades, due to market fluctuations, the company's solvency or adjusted priorities, etc) need to be scrutinized in detail. Exactly how will adequate water treatment be accomplished as the decades and centuries roll by?	RFI

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
34	Risk to aquatic resources. There is a high potential for mercury methylation as a result of increased sulfate concentrations in seepage from the tailings basin to surrounding wetlands. Impacts to wild rice stands are just one of the many aquatic resources that the DEIS fails to address, or addresses inadequately.	WR4B,WR4F
34	Financial assurances. In light of the history of similar mining projects around the world, assurances that taxpayers won't be left with a colossal clean up bill must be iron-clad, and currently, they are not.	PD4
35	Loss of habitat for the Canadian Lynx. Can this loss, to an endangered species, of hundreds of acres of critical habitat be adequately rationalized or mitigated?	WI1
36	Damage to the wild character of the area. The impacts of the proposed project on the character of an area that millions from around the world visit for its beauty, peace, good fishing, spiritual renewal and all sorts of intangible values should be considered. Will people continue to flock here with this sort of mining going on?	EOO
37	Please postpone final approval of this mine until the company commits to additional environmental and economic protections. I believe it is important that waste pits should be leak-proof for hundreds of years, rather than the 65 years the company proposes. Additionally, we must have ironclad guarantees that the money for cleanup is in a fund that is secure against any changes in ownership. Otherwise, a future bankruptcy could dump massive cleanup costs on taxpayers.	G4A
37	In my role as CEO of a Minnesota-based company, I keep a close watch on significant potential developments that may affect the economy and, in turn, the market for my company's product. Although the recession has slowed momentum on some of the major industrial developments on the horizon for Minnesota's Iron Range, the growth prospects there remain critical to the future of our company and the job security of our employees. I believe that Polymet can run its operation in an environmentally sound manner and create hundreds of good jobs to help turn around a weak economy in our region. Perhaps, more importantly, if Minnesota can show the world we know how to strike a balance between jobs and legitimate environmental concerns, the NorthMet project can be just the beginning of an exciting new industry in our state. As an avid outdoorsman, I wholeheartedly support the diligence that's gone into making sure that Polymet's processes will be conducted in such a way that Minnesota's environment is protected and sustained for generations to come. As I understand it, this project has been designed to minimize environmental impacts; reusing a brown-field site, reusing existing infrastructure, minimizing disturbance of wetlands and utilizing multiple safeguards to protect the environment. I appreciate the thoroughness of the review process to date and I believe it's time to move forward. That's why I'm writing to urge approval of the EIS. Thank you for your consideration.	EOO,G6
38	WHEREAS, PolyMet Mining Co. proposes developing a copper, nickel, platinum, palladium, gold and cobalt mine and an ore processing plant at the former LTV Steel Mining Company plant near Hoyt Lakes; and, WHEREAS, It is projected that PolyMet will create 400 fulltime jobs with a payroll of \$40 million and more than 500 spin-off jobs with a \$242 million payroll in St. Louis County alone; and, WHEREAS, Construction of the \$600 million NorthMet Project will require about 1.5 million construction hours over two years; and, WHEREAS, PolyMet worked with federal and state regulatory agencies in drafting an Environmental Impact Statement (EIS) exploring potential impacts and ways to address them; the draft EIS demonstrates PolyMet can mine these metals AND protect air, water and natural resources; and, WHEREAS, PolyMet will provide millions of dollars in local and state taxes to provide much needed support to our communities and educational system; and, WHEREAS, PolyMet will have a positive economic impact on the City of Hibbing just as LTV Steel Mining Company had when it was operating. NOW, THEREFORE, BE IT RESOLVED, That the City Council of the City of Hibbing hereby go on record in full support of the Poly Met Mining NorthMet Project. The motion to adopt the foregoing Resolution was duly supported by Councilor Jack Lund and upon being put to a vote, carried as follows:	EOO
38	I also ask that you continue the public comment period on this issue beyond February 3. Many of us only became aware in the past several weeks of the plan to mine copper in Northern Minnesota. We need time to research this issue and offer informed comments.	PRO6

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
39	<p>We the members of the East Range Sportsmen &amp; Conservation Club appreciate the opportunity to express our support for the PolyMet Mining Co. project. We are all concerned about our environment. We want to protect it, so that our children will be able to use it Anne enjoy it as we have. From what we can see from the 700 plus review, PolyMet Mining Co. will do the utmost to preserve and protect the surrounding environment. PolyMet Mining Co. will go forward with the state of the art design to manage waste rock and protect the surrounding waters. We would like to thank you for your effort with this environment statement. We the members of the East Range Sportsmen &amp; Conservation Club strongly urge you to approve the statement so that PolyMet Mining Co. can start forward with their operation and bring the long needed jobs to our communities.</p>	EOO
39	<p>(4.1-112) PolyMet's proposal to construct a wetland for the purpose of treating contaminated water is - at this point - merely an idea. It would be prudent to require full-scale testing of this key component before relying on it to protect such high quality watersheds and important wilderness areas as the nearby BWCAW. From my understanding, a treatment wetland of this scale has never been tried. Previous tests of small-scale treatment wetlands have shown wide seasonal variations in effectiveness. Moreover, no-one knows if these wetlands can continue to uptake pollutants over the hundreds or even thousands of years that they will remain necessary. Failure of this system would require very long-term and costly treatment by alternate means - most likely paid for by Minnesota's taxpayers.</p>	WR3B,WR3L
40	<p>As climate change continues to threaten the water supplies of many western states, and Minnesota's own population continues to grow, I have no doubt that high-quality water will be in short supply. According to the U.S. Government Accountability Office, at least 36 states will face catastrophic water shortages within five years due to a combination of drought, rising temperatures, pollution, urban sprawl, and population growth. In light of these circumstances, it is easy to see that Minnesota's access to abundant, clean water is precious and unique. In fact, it is, or soon will be, much more precious - and essential- than the metals contained at the PolyMet mine site. Water also happens to be a renewable resource able to sustain Minnesotans for generations - if protected. In contrast, the metal contained at the NorthMet site is expected to be gone in one generation. Trading away generations of valuable, clean water for a quick profit is not a tradeoff that is in the best long or short-term interests of Minnesotans.</p>	G7B
40	<p>My second concern with the NorthMet DEIS is in regards to the probable negative impacts the project will have on the area's water quality. The DEIS states that water from waste rock piles will likely remain contaminated with heavy metals - including mercury - and sulfates for up to 2,000 years. After only 65 years, this contaminated water is expected to overflow from the west pit, contaminating nearby water bodies for up to the following 1,945 years. In addition, seepage from the tailings pit is expected to create "high risk situations" for mercury methylation in wetlands and lakes downstream on the Embarrass River.</p>	WR4B
41	<p>We are writing to you to express our deep concern over the proposed PolyMet Mining Project near Hoyt Lakes, Minnesota. This non-ferrous mining project is fraught with serious environmental issues concerning water and air quality in the BWCAW and surrounding areas. We know you have reviewed the environmental Impact Study that was recently released for the project. Therefore, you are aware of the significant threat this type of mining operation poses to our environment, including acid mine drainage, mercury methylization, and the use of the same LTV tailings basin that is already leaking. This new operation poses new threats for sulfuric acid runoff and higher levels of mercury contamination to our already polluted waters. The technology that PolyMet proposes to use to control these and many other pollution issues is untested and unproved. The State of Wisconsin has banned non-ferrous mining as a result of the environmental concerns with this type of mining and as a result of the past environmental disasters associated with it. The economic benefits of the proposed project and others like it are relatively short term and are not sustainable. The environmental costs, however, are long term and will impact our grandchildren and future generations for many, many years to come. The jewel we know as the BWCA Wand its surrounding areas are too delicate and too important for our culture and to our environment to trade for short term gain. We respectfully urge you to deny your support for non-ferrous mining in Minnesota, until the mining industry, and especially PolyMet in the short term, can demonstrate the "proven" technology needed to prevent serious environmental impact. Future generations are depending on you to do the right thing. So are we.</p>	G2C,G7A,G12

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Comment ID	Comment Text	Theme Codes
41	<p>The voting members of the Community Economic Development Joint Powers (CEDJP) support the Polymet Mining Company NorthMet Project. The CEDJP was created under Minnesota Statute and our purpose is to create and support a sustainable economy for our area and to enhance the quality of life for our residents. The Community Economic Development Joint Powers recommends the decision of adequacy for the Environmental Impact Statement. We firmly desire that the project protects the environment. We live here and our community members care as much or more about protection of the environment. We believe the Draft Environmental Impact Statement supports an informed decision by the multiple agencies with responsibility to approve the project that meets the intent of the National Environmental Policy Act (NEPA) to fully and thoroughly disclose the potential environmental, social and economic impacts of the project. The draft EIS also includes numerous measures and proposed actions with recommended alterations and mitigations to assure that it meets the needs of the project proponent, the economic needs of the local communities and protects the environment. The economic benefits of the NorthMet Project are substantial and that is critical to the long term sustainability of our local area's economic well being. Clearly, local communities will be harmed if the project is not approved for anything but clearly legitimate reasons. The project will significantly contribute to the state and local economy with over 400 employees and hundreds of spinoff jobs. If the agencies do not approve the project, all local people and communities will be substantially harmed. The economic benefits of wages, services and taxes to support our communities and educational system are huge. The jobs created by the project are needed by our region and state. We believe in environmental responsibility. The draft EIS thoroughly discloses the impacts and how they can be minimized to acceptable levels to achieve the purpose and need of the NorthMet Project. Polymet Mining Corporation has demonstrated its commitment to environmental protection of this area that we as locals expect to be protected, with the years of exhaustive study that have been performed to fulfill the purpose of the NEPA and support an informed decision to approve the project. The EIS has been prepared with the full participation and oversight of several federal and state agencies with jurisdiction over the project and permits, including the Minnesota Department of Natural Resources, the Army Corps of Engineers, Minnesota Pollution Control Agency and other cooperating agencies. We as local communities must depend upon these agencies with the technical expertise to perform this analysis. Based upon our participation in the process and review of the EIS, we believe these agencies have fulfilled their obligations to the communities and citizens of the State of Minnesota to supervise and direct the preparation of the EIS. The environmental impact statement has been performed in consultation with the local communities. In addition to formal scoping directed under the direction of the agencies, Polymet has taken numerous and extraordinary measures to inform the public, including several open houses to inform the public of the proposed project. We note that in addition to supporting economic development and assuring environmental protection, the project can produce metals essential to our national security and to green technology such as wind turbines and hybrid cars and metals necessary for pollution prevention devices such as catalytic converters. The positive outcome of the project, in addition to the jobs created, will be a domestic supply of critical metals needed in medical applications and multiple technological products essential to the livelihood and security of our state, country and world. It has been a longstanding policy of the state to encourage the development of minerals. Northern Minnesota has a</p>	EOO,G10
42	<p>I grew up in Duluth, and I understand the desperate need for jobs in northern Minnesota. However, it is completely unsustainable to allow sulfide mining in Minnesota for a short-term gain in jobs at a very long-term loss in water quality. The clean-up costs associated with the sulfide mining contamination over the 2,000 years expected by PolyMet (DEIS, Table 4.1-45), will drain the Minnesota economy far greater than sulfide mining will contribute to the economy. New Mexico has required that some mining companies pay \$400 million upfront in financial assurance for clean-up costs. Minnesota - at a minimum - should require the same from PolyMet.</p>	PD2
43	<p>(4.1-112) PolyMet's proposal to construct a wetland for the purpose of treating contaminated water is - at this point - merely an idea. It would be prudent to -require full-scale testing of this key component before relying on it to protect such high quality watersheds and itnpoliant wilderness areas as the nearby BWCAW. From my understanding, a treatment wetland of this scale has never been tried. Previous tests of small-scale treatment wetlands have shown wide seasonal variations in effectiveness. Moreover, no-one knows if these wetlands can continue to uptake pollutants over the hundreds or even thousands of years that they will remain necessary. Failure of this system would require very long-term and costly treatment by alternate means - Most likely paid for by Minnesota's taxpayers.</p>	WR3B,WR3L

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Comment ID	Comment Text	Theme Codes
44	(4.13-2) The stability of the existing LTVSMC tailings basin that PolyMet plans to use for their disposal is a well-recognized concern. The existing basin has been documented to contain fines and underlying soils that create a "low margin of safety" for its long-term stability. Rather than generating a plan that satisfactorily increases the safety margin of the basin, PolyMet concedes that "further design and analysis is needed."	GT2
45	What concerns me is the 1200 acres to be filled or drained at the headwaters and watershed at the Partridge River, by Polymet. The Partridge River feeds Colby Lake, where the city of Hoyt Lakes gets its drinking water! It appears to be the only source of water, as the city has drilled wells in earlier times without success. The feeder creeks are extremely low in the summer and some dry up, that feed the Partridge. Even that river gets very low at different times! Colby Lake needs a certain depth of water, as Minnesota Power has its generator plant located on the lake and uses the water for cooling. Further, a diversion plant was put in to feed Whitewater Lake (man made) next to Colby to divert water back to Colby during low water times of the year. Minnesota Power owns all the land around Whitewater Lake and is developing lots for sale and private holdings. If Polymet screws up the water levels or quality of the water from the Partridge it will cause major problems for Hoyt Lakes, Minnesota Power, Whitewater Lake and the St. Louis River!!!.	WR3F
46	This letter will serve as official notification that I support PolyMet Mining. Based on the extensive documentation as outlined in the DEIS, I am confident that impacts to the air, water or land will be minimal, if any. I believe that PolyMet will produce these metals in an environmentally sound way and generate significant economic activity in a depressed area. I have lived in this area most of my life and I am obviously concerned about our environment, not only for myself but for my family as well. My husband and I also own a couple of businesses in this community and therefore certainly invite an economic boost to the area. We also are outdoors people and are very interested in maintaining a healthy natural environment, not only for my own enjoyment but for the enjoyment of future generations. I also serve as the Mayor of the City of Aurora. As a local elected official, I have a responsibility to ensure the long-term health, sustainability and vitality of my community. As a person who lives, works and plays in the area, I understand the need to balance use of resources like minerals and preservation of resources such as water and air. I feel this EIS lays the proper groundwork for developing an environmentally and economically sustainable project.	EOO
47	The short-term economic gains of the PolyMet proposal NEED to be balanced against long-term risk and cost of clean-up. Additionally, Minnesota's natural water resources are priceless, and the key to its long-term image and sustainable economy. I know that many decision along with many of my friends, family, and colleagues choose to remain in or move to Minnesota because of the BWCA and other natural areas in Northern Minnesota. I was married on the shores of Lake Superior and thousands of others are each year. There are reasons to reject the PolyMet proposal beyond economics. The identity of Minnesota and Minnesotans is at stake. Even if the possibility of environmental disaster is minimal, the destruction would be infinitely catastrophic and a fraction of infinity is still infinity. Do not approve the PolyMet mining proposal.	EOO,G7
48	I believe that the PolyMet DEIS process is not following NEPA regulations. PolyMet is being treated as an isolated mining project, when in truth it is part of copper-nickel-precious mineralization that includes two separate watersheds.	WR31,PRO4,G9

*Alphabetical by sender's first name*

**Comment ID    Comment Text**

**Theme Codes**

- 48 I would like to write in support of the Polymet Mining project that is being considered for implementation. To understand why I support the project, it is necessary to know some information about me. I have lived on the iron Range since the age of eight. From the age of twelve, I knew that I wanted to be an attorney. Seventeen years later, I have my own solo practice in Virginia, MN, but while in law school at the University of St. Thomas, I received my MBA as well. Prior to opening my practice, I looked at a number of factors in consideration of opening a firm. One primary reason that weighed in favor of making an affirmation decision to start my practice here was Polymet. People on the Iron Range have become accustomed to the boom and bust cycle of the mining industry and that will not change. Polymet raises the economic floor of the entire region so that the economic busts are not quite as bad. In addition, more people, like myself, will be more inclined to begin opening businesses and venture into the entrepreneurship waters. Mining is the way of life here and that will not change. Outdoor activities are also a way of life here, but that pales in comparison to the need for clean drinking water, fresh air, and uncontaminated soil. No one wants pollution; however we live in an area where some pollution is required in order to sustain the rest of the world. If people want pristine areas, such as the Boundary Water Canoe Area, then they must alternatively have places like the Iron Range. The goal, then, is to have the safest and cleanest form of mining possible. Polymet has achieved that standard by pursuing the policy of having the cleanest copper mine in the world. I know this because of the various statements made by its president and legal counsel, but also because of the EIS itself. The EIS is like a contract and Polymet is the bound party. That policy will be continued as the DNR, MPCA and other various governmental and private agencies monitor Polymet's continued activities, assuming the plan is adopted. Therefore, not only is Polymet starting at an extraordinary high standard but it is seeking to sustain that standard into the future. Therefore, the Iron Range achieves the best of both worlds: continued economic growth And development and doing so in a responsible and clean manner.
- 49 The premature PolyMet DEIS process denies the public scoping and analysis of the full extent of this mining district.
- 50 My name is Maureen Johnson. Not far from Ely near the BWCA W, my family, my spouse and I have a place that my grandfather realized was very special and kept for his family to visit. I visit this place whenever I can in any season, to find peace, solitude, and quiet, but also health, hunting, hiking, and friends. I studied biology for my B.A. Several of my jobs were water research in the Ely area by USEPA and the USFS, including field sampling, lab work, and quality checking data. I have 21 years of Superfund work and project management at the Minnesota Pollution Control Agency. I have worked with and learned from scientists in all the fields that relate to environmental studies but especially those that deal with hazardous waste, acutely toxic chemicals, and waste with long-term effects on land, ground water, surface water, and air, and on people and biota. During my work in Ely in the 1970's, the Regional Copper-Nickel Study was gathering baseline environmental data and identifying potential problems, which would be researched subsequently, all for the time in the future when copper-nickel mining would be proposed. My spouse worked on the Study. The State of Minnesota and many government agencies spent a lot of taxpayer money for years of research on flora and fauna, climatology, ground and surface water quality, habitat, geology, minerals composition and developing an understanding of what might be affected and how. Why? The researchers and the funding legislators at the time understood that mining for metals across North America resulted in dead land and dead water. They knew the risks of toxic metals releases were not well understood, and wanted to create a record of the environmental background so that anyone looking at a mining proposal would have the necessary information to evaluate its impacts. A mining company would be able to point to it and say what mining would change and what the company would protect or affect. I understand that the resulting literature occupies four to five feet of a wall at the Legislative Library.
- 51 I also note that the DEIS generously uses terms to evaluate data including, but not limited to, slow, fast, low, little, high, elevated, significant, insignificant. These are editorial terms that do not belong in a scientific document such as the DEIS without actual data and a discussion about how it relates to other similar data and other numbers arising from the Copper-Nickel Study, toxicity studies, health concerns and risk, and regulatory standards. If other authors disagree about editorial terms, this should be included in, the text discussion. Footnoting disagreement is an insult and makes it appear that the DEIS authors think they know best. Good scientists know that they do not know everything and avoidance of the appearance of arrogance will be better evidence of non-bias.

EOO

PRO4

PRO4,PD4,G2

EOO,PD8,G8

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
52	As a former Superfund project manager, I spent years cleaning up industrial and agricultural contamination that was toxic and almost deadly to children and adults. These multi-thousands and multi-million dollar cleanups at taxpayer expense should serve as examples of what not to do. A new venture seldom understands its impacts until it is too late. It appears the preparers of the DEIS have not even read much of the Study or the subsequent research. It would be easy then for them to say, "I didn't know" when uncontrolled pollution begins to occur. The DEIS basically says that they think bad contamination will not happen, in spite of metals releases in several places nearby which have not yet been controlled and continue to pollute. PolyMet must show that they have a reliable, appropriate capture/ treatment/ extraction/ disposal systems for any and all contamination that might be released, in addition to the financial assurance for performance. No matter who pays the bill, it is always cheaper to prevent contamination than to clean it up later.	G4A
53	I strongly support the proposed PolyMet operation at Hoyt Lakes. As a native of Silver Bay, former resident of the Gunflint Trail, current Babbitt-area wetland and timberland owner, and hardcore conservationist, I am, like all of my neighbors, enthusiastic about the prospect for this new generation of mining operation coming to the area. PolyMet will provide a domestic supply of metals that Americans use every day-nickel, copper, gold, platinum, and palladium-in cell phones, computers, catalytic converters, electric cars, wind turbines, and medical devices. The global environmental and domestic economic impact of producing these critical metals here, and having to import less from elsewhere, will be very positive. After all, avoiding mining in Minnesota won't reduce American demand. By mining in the U.S., and specifically here in Minnesota, we can ensure that we have control of the operations and can ensure the most responsible stewardship possible. We should take a holistic view of the global environment. PolyMet's operation in Minnesota will be so environmentally and technologically cutting-edge that it will be a model for the world. The state and federal government's environmental requirements for this mine will be unprecedented. In fact, this mine might even have a positive effect on the global environment. Indeed, the entire human race would benefit from PolyMet's operation being established instead of a mine in some other, less environmentally conscientious country. It would be the epitome of good stewardship envisioned by our nation's great progressive conservationist forebears, like Teddy Roosevelt, who fought for the establishment of the national forest system for just such wise-use applications as this.	EOO
53	This mine is in the Lake Superior watershed, an international water, and the mine is a short enough distance from the international boundary to consider international air quality issues. The DEIS should discuss what obligations the mining company has to the International Joint Commission serving both the United States and Canada ...the Commission rules upon applications for approval of projects affecting boundary or transboundary waters and may regulate the operation of these projects; it assists the two countries in the protection of the trans boundary environment, including the implementation of the Great Lakes Water Quality Agreement and the improvement of trans boundary air quality; and it alerts the governments to emerging issues along the boundary that may give rise to bilateral disputes. (www.ijc.org) Was public notice of this DEIS specifically served to the IJC, the Minister of Environment Canada, and affected provinces?	G2B
54	Native American land and the tribal nations will be affected. They have great concern regarding this project. The final EIS must have the support and fully consider these sovereign nations.	G3,CR2,CR4
55	I feel the Draft Environment Impact Statement (DEIS) is inadequate. It does not go far enough to protect the vital watershed that will be affected - nor does it address the other two major watersheds that could potentially be affected. These watersheds could easily be negatively impacted, or ruined, for thousands of years.	WR2E
56	More research into the potential immediate and long term risks to human health resulting from mercury and acid contamination of the Lake Superior watershed, the Embarrass River, its tributaries and lakes-as well as the long-term affects on the wetlands and wild rice needs to be done. The DEIS is not going far enough to assess the immediate and long-term affects these toxins will have on all of us who depend on the quality of water, which encompasses ALL living things in this region.	WR1E,WR5A,PRO4



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Comment ID	Comment Text	Theme Codes
57	PolyMet needs to fully provide financial assurance to protect the taxpayers of Minnesota from the very real chance of long-term pollution. In other such arrangements, the assurance secured by the mining companies responsible for damage to the environment have been woefully inadequate. We need to protect the residents/taxpayers of Minnesota and the long-term viability of this region. It would be negligent not give this issue intensive scrutiny.	WR1E,PD4
58	Claims of "new technologies" by PolyMet have not been properly investigated or proven. Sulfide mining has been done in areas of the western USA and all over the planet Investigation of what the overall environmental effects have been from a random selection of current and completed projects is essential before proceeding .	PD8
59	Analyze all of the impacts (air and water) of increased mercury in fish from the PolyMet project and other nearby pollution sources. Mercury in fish causes brain damage to children and to the fetus.	WI5,WE2,FM1,AQ6A
60	I am writing to you as a citizen of Minnesota concerned about the PolyMet sulfide mining project proposed on 6,700 acres of public land in the Superior National Forest. Sulfide mining would be new to Minnesota. In other locations, sulfide mining has resulted in acid mine drainage causing extensive and expensive damage to water quality and the environment. Often, taxpayers have been stuck with the costs. The PolyMet project in Minnesota could degrade water quality, increase mercury in fish, destroy wetlands and peat bogs, fragment the habitat of endangered species, interfere with tribal rights guaranteed by Treaty and with tribal resources, like wild rice, increase air pollution that results in regional haze and create a risk of perpetual pollution without adequate financial assurance that the public won't end up paying the costs. The Indian tribes working on the EIS and the United States Environmental Protection Agency have provided helpful information on the inadequacy of the PolyMet draft EIS. Before this sulfide mining project is even considered for permits, please fill these gaps:	WR1E,PD1,G2B,G2C,G4A,
61	As the U.S. EPA suggested, make sure that financial assurances for the public are included in the EIS long before any permitting process gets underway.	PD4
62	The project could also increase air pollution that results in regional haze and create a risk of perpetual pollution. The PolyMet DEIS states that PolyMet would have no significant effect on regional air quality. This conclusion is taken in isolation. Cumulative effects of other proposed mining must be included in order to make the DEIS adequate.	AQ4,AQ4B
63	Furthermore, the most important fact is that PolyMet does not even own the 6700 acres yet. Explain to me how the state can even consider permitting this mining company without even following the proper protocol for a land exchange? Sounds like you are putting the cart before the horse:	PRO4
64	The PolyMet "NorthMet" copper-nickel strip mine project is proposed to be sited on approximately 6,700 acres of United States Forest Service lands in the Superior National Forest. Pursuant to law, the project depends on the completion of a successful land exchange of Superior National Forest lands for non-federal lands. (POE IS), p. 1-3. The proposed land exchange tracts and the characteristics of such land are not described in the DEIS and have not yet been publicly disclosed. Across Minnesota, there are dozens of applications for permits to prospect for nonferrous metals. Understanding land exchange and mineral rights is critical for the PolyMet Project and for future proposed strip mine development. The need for a land exchange prior to permitting of the PolyMet strip mine project must be transparent to the public and the DEIS, for the PolyMet project must include an analysis of the environmental impacts of the land transfer, including potential impacts on tribal rights. This precludes any possible permitting of the PolyMet DEIS as it stands now. Thus, before PolyMet can be permitted for the land that is to be exchanged for Superior National Forest land to make this project possible must be analyzed. Include impacts of the land swap on wetlands, endangered species, hydrology, tribal rights, and taxpayers' interests.	PRO4

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
64	I believe that we as a state have to follow the environmental review law. No way are 400 short term mining jobs worth the risk to our environment, especially our precious water and air. We have to start to think about our future generations and not be so easily persuaded to exchange our natural resources for very few jobs now just because of the poor economic conditions. In better times I doubt we would even consider this drastic proposal. Why are we in Minnesota so gullible to let this happen? Our neighbors to the east have a moratorium on this type of mining ... why don't we have this until PolyMet and other hard rock mining companies can prove that is a 100 percent clean project which would result in zero damage to the environment?	WR5A,G10,G12
65	Sulfide mining would be new to Minnesota. In other locations, sulfide mining has resulted in acid mine drainage causing extensive and expensive damage to water quality and the environment. The PolyMet project in Minnesota could degrade water quality, increase mercury in fish, destroy wetlands and peat bogs, fragment the habitat of endangered species, and interfere with tribal treaty rights and tribal resources, like wild rice. The state must analyze ALL of the CUMULATIVE impacts (air and water) of increased mercury in fish from the PolyMet project and other nearby pollution sources. Mercury in accumulates in fish and causes brain damage to children and to fetuses.	WR3I, PRO4,G7B,G7C,G8
66	I find it unbelievable that the DNR and the Corp of Engineers, have the sole power to determine if northeastern Minnesota will exchange its present sustainable tourism industry (a billion dollar industry-www.exploreminnesota.com) for a "non-sustainable" sulfide mine (and possible sulfide mining district) that will destroy our natural resources and forever more alter the incredible beauty of the lakes region of northeastern Minnesota for the sake of PolyMet's 400 short term jobs, and additional spin off jobs for a lifespan of just 20 years. The tourism industry of Minnesota contributes substantially to the tax base-... "Unlike US Steel which paid precious little in property taxes on its 3,000 acres ... " Timberjay Newspaper, January, 21, 2010. The questions for you to evaluate are: Is this really what we want for this part of our state? Do we want to forever more change surrounding forests and wetlands as they are today? To no longer count on clean water? To deal a fatal blow to the sustainable economic base of this area?	G11
66	Please take the time to add supplements to the draft EIS and give people in Minnesota a fair chance to know what impact the PolyMet project would have on our State. The PolyMet DEIS describes significant environmental issues associated with this proposed mine. These issues should be resolved before this mine is approved by the Minnesota Department of Natural Resources and the U.S. Army Corps of Engineers	G10

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Comment ID	Comment Text	Theme Codes
67	<p>How can PolyMet be permitted without the land? How can PolyMet be permitting without completing a land exchange for the 6,700 acres needed? As an Industrial Engineer, every project I have ever developed begins with a solid foundation and from there the project proceeds. There are serious flaws in the PolyMet DEIS because the most important aspect of this project is the need for 6,700 acres of land--the foundation for the project, and the land has yet to be exchanged with the USFS. Both the Indian tribes and the United States Environmental Protection Agency have pointed out this very serious inadequacy in the PolyMet/NorthMet Draft environmental impact statement. Before PolyMet can even be considered for permits, the following gaps NEED to be filled: The PolyMet "NorthMet" copper-nickel strip mine project is proposed to be sited on approximately 6,700 acres of United States Forest Service lands in the Superior National Forest. Pursuant to law, the project depends on the completion of a successful land exchange of Superior National Forest lands for non-federal lands. (PDEIS), p. 1-3. The proposed land exchange tracts and the characteristics of such land are not described in the DEIS and have not yet been publicly disclosed. Across Minnesota, there are dozens of applications for permits to prospect for nonferrous metals. Understanding land exchange and mineral rights is critical for the PolyMet Project and for future proposed strip mine development. The need for a land exchange prior to permitting of the PolyMet strip mine project must be transparent to the public and the DEIS, for the PolyMet project must include an analysis of the environmental impacts of the land transfer, including potential impacts on tribal rights. This precludes any possible permitting of the PolyMet DEIS as it stands now. A. PolyMet reserved mineral rights do not support strip mining on Superior Forest Land. PolyMet proposes to develop a copper-sulfide strip mining operation located primarily on Superior National Forest Lands. Although PolyMet has claimed that the mineral rights "reserved" in its 1935 deed authorize mining in any form, the U.S. Forest Service has maintained that the deed does not permit strip mining, so PolyMet must buy land to exchange before obtaining permits for the NorthMet mining project. The analysis conducted by the U.S. Forest Service is consistent with prevailing law. Strip mining necessarily entails massive removal of soil and plant life to access underground minerals. This results in irretrievable loss to the environment as well as a fundamental change in forest land use. Prepared by Bride Seifert, William Mitchell Law School, Intern for WaterLegacy; Paula Maccabee, Counsel for WaterLegacy. Furthermore, why does PolyMet's DEIS not contain an alternative underground mine option? B. Land exchange process requires equal value and environmental review. In order for PolyMet to purchase Superior National Forest land, a land exchange needs to occur. PDEIS, p. 3-1. Under The Federal Land Policy and Management Act of 1976 § 206,43 U.S.C. § 1716, lands exchanged must be of equal value, in the public interest and in line with the forest land and resource management plans. Public interest assessment examines the needs of State and local community, looking at the economy, recreation, fish and wildlife as well as food, fiber and minerals. 43 U.S.C. § 1716(a). Environmental concerns are clearly included. A critical first step in a public lands exchange is the public interest determination. No land exchange can take place unless it is in the public interest. The public interest determination considers the needs of State and local residents, fish and wildlife habitats, wilderness and recreation values, economic interests and cultural resources, and watershed issues. 36 C.F.R. § 254.3(1). C. Environmental Review - National Environmental Policy Act. The National Environmental Policy Act (NEPA) calls for the preparation of an Environmental Impact</p>	SE3,N1,CPLU4
67	<p>The advancement and possibility of PolyMet being permitted has destabilized the real estate market in areas of northeastern Minnesota where the MDNR has leased and offered for lease state mineral leases. People do not want to live near a sulfide mine and property values are already being affected by the possibility of PolyMet's approval.</p>	RFI,WE3,WE4,SE4,N1
68	<p>The economic analysis of the DEIS must be rewritten to address the above concerns</p>	EOO,RFI,WI5,WE2,N3,AQ
69	<p>Cumulative impacts must address the loss of revenue to the Boundary Waters Canoe Area Wilderness and Superior National Forest tourist industry as part of a sulfide mining district.</p>	RFI,SE4,N1,AQ3
70	<p>What is the economic liability of transporting crushed rock rather than semi-processed metals?</p>	RFI

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71	<p>How can PolyMet be permitted without the land? How can PolyMet be permitting without completing a land exchange for the 6,700 acres needed? As an Industrial Engineer, every project I have ever developed begins with a solid foundation and from there the project proceeds. There are serious flaws in the PolyMet DEIS because the most important aspect of this project is the need for 6,700 acres of land--the foundation for the project, and the land has yet to be exchanged with the USFS. Both the Indian tribes and the United States Environmental Protection Agency have pointed out this very serious inadequacy in the PolyMet/NorthMet Draft environmental impact statement. Before PolyMet can even be considered for permits, the following gaps NEED to be filled: The PolyMet "NorthMet" copper-nickel strip mine project is proposed to be sited on approximately 6,700 acres of United States Forest Service lands in the Superior National Forest. Pursuant to law, the project depends on the completion of a successful land exchange of Superior National Forest lands for non-federal lands. (PDEIS), p. 1-3. The proposed land exchange tracts and the characteristics of such land are not described in the DEIS and have not yet been publicly disclosed. Across Minnesota, there are dozens of applications for permits to prospect for nonferrous metals. Understanding land exchange and mineral rights is critical for the PolyMet Project and for future proposed strip mine development. The need for a land exchange prior to permitting of the PolyMet strip mine project must be transparent to the public and the DEIS, for the PolyMet project must include an analysis of the environmental impacts of the land transfer, including potential impacts on tribal rights. This precludes any possible permitting of the PolyMet DEIS as it stands now. A. PolyMet reserved mineral rights do not support strip mining on Superior Forest Land. PolyMet proposes to develop a copper-sulfide strip mining operation located primarily on Superior National Forest Lands. Although PolyMet has claimed that the mineral rights "reserved" in its 1935 deed authorize mining in any form, the U.S. Forest Service has maintained that the deed does not permit strip mining, so PolyMet must buy land to exchange before obtaining permits for the NorthMet mining project. The analysis conducted by the U.S. Forest Service is consistent with prevailing law. Strip mining necessarily entails massive removal of soil and plant life to access underground minerals. This results in irretrievable loss to the environment as well as a fundamental change in forest land use. Prepared by Bride Seifert, William Mitchell Law School, Intern for WaterLegacy; Paula Maccabee, Counsel for WaterLegacy. Furthermore, why does PolyMet's DEIS not contain an alternative underground mine option? B. Land exchange process requires equal value and environmental review. In order for PolyMet to purchase Superior National Forest land, a land exchange needs to occur. PDEIS, p. 3-1. Under The Federal Land Policy and Management Act of 1976 § 206,43 U.S.C. § 1716, lands exchanged must be of equal value, in the public interest and in line with the forest land and resource management plans. Public interest assessment examines the needs of State and local community, looking at the economy, recreation, fish and wildlife as well as food, fiber and minerals. 43 U.S.C. § 1716(a). Environmental concerns are clearly included. A critical first step in a public lands exchange is the public interest determination. No land exchange can take place unless it is in the public interest. The public interest determination considers the needs of State and local residents, fish and wildlife habitats, wilderness and recreation values, economic interests and cultural resources, and watershed issues. 36 C.F.R. § 254.3(1). C. Environmental Review - National Environmental Policy Act. The National Environmental Policy Act (NEPA) calls for the preparation of an Environmental Impact</p>	SE4,PRO2,PRO3,PRO4
71	<p>PolyMet's DEIS is based upon PolyMet using 1/3 of its plant capacity, as purchased from LTVSMC/Cleveland Cliffs. Excess capacity is planned to be utilized by neighboring Teck Cominco, Franconia, Kennecott and Duluth Metals. The Excess Capacity of PolyMet's processing plant is not addressed in the DEIS. The PolyMet DEIS is inadequate in not allowing for public knowledge or participation in the discussion of the creation of a sulfide mining district in the Arrowhead Region of Minnesota.</p>	SE4,PRO3,PRO4
72	<p>Contaminated discharge from waste rock piles. Water from waste rock pile swill be polluted for up to 2,000 years (DEIS, Table 4.1-45) The St. Louis River watershed is already contaminated with sulfates, which become part of a biochemical process converting mercury into methylmercury. This methylated form of mercury accumulates in fish, resulting in fish consumption adversaries. Allowing PolyMet to store tailings on top of already leaching L TVSMC tailings would increase the amount of sulfates in the watershed. DEIS: "Relatively high sulfate concentrations in seepage from the Tailings Basin would be released to wetlands north of the Tailings Basin and lakes downstream on the Embarrass River that represent 'high risk situations' for mercury methylation" (S-9) When mercury is "methylated" it can bioaccumulate in fish, making them unsafe to eat. The DEIS is inadequate in not addressing state standards regarding sulfates and methylmercury.</p>	WR3I,WR4B,PRO3,PD2,P

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72	The DNR's exploratory leasing is opening up the entire Arrowhead to become a sulfide mining district. An EIS needs to be completed on the mineralization of the entire Duluth Complex prior to the permitting of any one project.	PRO4
73	Plant closure plans extend to year 50 (30 years after closure) but do not account for acid mine drainage that can last for hundreds to thousands of years, requiring perpetual or near perpetual treatment. The DEIS does not provide adequate plans for monitoring or mitigation. There is no adequate means of enforcement for clean-up or for any financial assurances that the mining company will be responsible. Instead, the MN taxpayers will bear the burden of clean-up cost of toxic wastes for decades-and into perpetuity.	WR3I,PRO3,PD4,PD5
74	Please accept these comments that I am writing to you as a second generation resort owner and Boundary Waters Canoe Area outfitter on the South Kawishiwi River and Birch Lake in Ely, Minnesota. I am also a retired high school teacher with decades of experience and a Masters Degree in Industrial Engineering. Living on Birch Lake since 1946, I have seen the impact to the water quality and fisheries due to the rather benign pollution associated with taconite mining and ever present air and noise pollution due to the blasting from the mine. I know, first-hand, the effects of water and air pollution on the environment. Presently, a lawsuit is pending on Cliffs Erie, a subsidiary of Cliffs Natural Resources, for ongoing water pollution from previous taconite iron mining:	WR2E,PD4,G2
75	Explain the sense of moving forward with the approval of a permit for a much more dangerous mining operation-PolyMet sulfide mining- when other mining companies have yet to clean up previous pollutions from much more benign mining operations than sulfide mining? I have extreme concerns about the PolyMet NorthMet mining project Draft Environmental Impact Statement (DEIS) proposed on 6,700 acres of public land in the Superior National Forest, not only for the safety of the proposed project, but for its potential impact on Minnesota's natural resources, and the future of its present sustainable economy.	WR5A,PD3,PD4,G10
76	According to Tom Powers, economic rationality requires that mineral deposits be left in the ground undeveloped. Especially, since according to the Polymet data only 1 to 5 percent of the ore contains the non-ferrous metals, relegating the 95 to 99 percent not used to the tailings area. From my perspective, the environmental risk is one no rational person would take. Please review Comparison of Predicted and Actual Water Quality at Hardrock Mines: The reliability of predictions in Environmental Impact Statements and Predicting Water Quality at Hardrock Mines: Methods and Models, Uncertainties, and State-of-the-Art, Ann Maest and Jim Kuipers. The results of this study are: 100 percent of sulfide mines predicted compliance with water quality standards before operations began; 76 percent of mines, studied in detail, exceeded water quality standards due to mining activity; Mitigation measures predicted to prevent water quality exceedances failed at 64 percent of the mines studied in detail. Other environmentally conscious companies embarked upon "safe" sulfide mining projects with every intention of being environmentally friendly. However, the facts are that three out four ended up be polluters. Statistically, that means that the PolyMet project has a 75% chance of polluting! That risk is untenable and one that should not be taken.	ALT8,WR2D,G7B
77	We did not get any latitude to circumvent the law for our land exchange. Our economic contribution makes dollars that stay in the area, not like those of a Canadian mining company that extracts the natural resources, makes their money, layoff the workers, closes the plant, and leaves the polluted and toxic mess for the public to try to reclaim and clean up into perpetuity. This is the basis of the "Resource Curse" and the Iron Range is a perfect example of this "curse." If mining of any kind is so good, why then are present Iron Range communities struggling with loss of jobs, shrinking school enrollment, and blighted main streets---and the area is dotted with taconite and iron ore mines? Should not they be prospering? I think not, because an industry based on extraction can not survive.	RFI,WR2D,G1

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78	However, I believe that a total moratorium on mining must occur in Minnesota, the same which presently exists in Wisconsin after their Flambeau sulfide mining disaster. This would allow for time to further evaluate sulfide mining in Minnesota and its expressed dangers with full and transparent disclosure to the public, since current MN laws have plenty of "gaps" in safeguards that expose the state and its citizens to significant risks. Some of these gaps are 1) Only the DNR can make decisions in calculating the amount of financial assurances and in determining the appropriate form of financial assurance. Presently, the Pollution Control Agency and the Dept. of Management and Budget are not involved in this process. 2) Mining could also be allowed up to the very borders of the Boundary Waters Canoe Area Wilderness and adjacent to (or under) water bodies that flow into the wilderness. 3) Mining companies are not required to discuss financial assurance or damage deposit, in the DEIS for their mine proposals, which is a key opportunity for public involvement in the process. These present "gaps" must be addressed and changed for the protection and safety of the state of Minnesota and its citizens. Representative Rukavina has referenced "tough US environmental laws" in Minnesota that would hold PolyMet accountable in recent newspaper articles. However, the reality is that the leaking tailings ponds in his district are polluting public waters right now from past "benign" mining procedures. These same waters will be more dangerously polluted from the acid mine drainage from the stripping piles and the leaking tailings pond of the proposed PolyMet project. How then can you even consider permitting such a project?	RFI,WR3C,WR5C,G10,G12
79	Cumulative impacts must address the loss of revenue to the Boundary Waters Canoe Area Wilderness and Superior National Forest tourist industry as part of a sulfide mining district.	EOO,RFI,WR5A,G7A
79	Third, will we be trading a lakes district for a mining district in northern Minnesota?	RFI,WR5A,PD7
80	S-11- "If water quality monitoring demonstrated the need, treatment of the pumped seepage could be provided prior to discharge to the Partridge River." What would the treatment consist of and what impacts might the treatment have upon the water quality? Who does the monitoring, how often would the monitoring be done, and how would treatment be monitored?	WR1A,WR1B,G7A
81	4.1-135-"PolyMet proposes to mitigate the increased solute load expected in the East Pit from the disposal of the higher sulfide waste rock by pumping East Pit water to the WWTF for additional treatment for approximately 30 years (years 21-50)." What happens after 30 years? Does the pollution disappear?	WR3I
82	What role does the DNR have in monitoring the pollution and the treatment? Does the DNR have enough of a budget to maintain this?	WR1A
83	4.4-136-"Reservations existed about relying on just the low and average liner leakage rates for groundwater quality predictions, as it may not fully account for the essentially permanent use of the liner (e.g., liner degradation over time, differential settlement, and accidental tears during waste rock placement)." Exactly which liners would be able to be replaced in five years time, or as needed, according to statements made by Joe Scipioni and Frank Ongaro?	WR2D
84	4.1-137-"It should be noted that aluminum, beryllium, iron, , manganese, and thallium exceeded the groundwater evaluation criteria in the model; however, this was due to high baseline concentrations that were not attributable to the Project and these solutes were not carried forward for detailed transient flow modeling." If the modeling was not attributable to the Project, what is the significance of the modeling?	WR2E
85	4.1-143-"The deterministic modeling results suggest that three parameters (i.e., arsenic, cobalt, and selenium) could exceed surface water standards, in addition to relatively high sulfate concentrations. The Uncertainty Analysis for the Proposed Action suggests that copper and nickel could be underestimated by the deterministic modeling." What are the cumulative effects of these water quality exceedances?	RFI
86	How would the resulting acid mine drainage trail, especially that of the rail line, be addressed?	WR1D

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87	Please extend the comment period for public input about the EIS. Forums held to discuss this mine have been one-sided and tightly controlled. In at least one instance, only elected officials were able to speak to the audience, and all of them were advocates of rapid approval of mine permits. Media discussion of the proposed mine has been scarce and was all but absent prior to this winter. More time is needed for the public to study this issue and offer their views.	PRO1,PRO6
88	I also ask that the EIS not be approved until certain conditions are met. One, the current EIS anticipates leaks from waste storage areas within 65 years. That is not an acceptable protection for the surrounding ecosystem. Waste storage should be designed to be leak-proof for centuries, not decades. Two, the EIS plans for the necessity of treating waste water for 2,000 years. If that time frame cannot be reduced to several hundred years, I believe it is irresponsible to approve a mine permit.	WR2D,WR3I
89	I believe it is irresponsible to approve a mine permit. Third, it is essential that the fund for remediation of environmental damage be designed so that it will be truly "bankruptcy proof," and not subject to reduction or loss due to mergers, acquisitions, Chapter 11 actions, or other changes in corporate structure.	PD4
90	The liability of the mining company should be consequential. I feel there should be many hundreds of millions of dollars that's available to solve the pollution problems. The money should be in place long before the mine company starts production, they must maintain the site forever. If PolyMet claims bankruptcy then the money is available to resolve problems	PD4
91	In Section I.A., it is stated that this DEIS is being prepared by the Minnesota Department of Natural Resources (MnDNR) and the Army Corps of Engineer (USACE). I did not see the Forest Service was involved other than very superficially. Since they are the surface land holders it seems peculiar that they are not fully involved. I further noted that there is disagreement between PolyMet and the Forest Service. "The Mine Site is located on National Forest System lands; however, the mineral rights are privately held and under lease to PolyMet. It is the position of the United States that the mineral rights leased by PolyMet do not include the right to open pit mine the National Forest System land. PolyMet disagrees with the U.S. Forest (USFS) interpretation of the deed language and argues that the mineral rights it seeks to utilize provide for access to the minerals by any mining method including open pit or surface mining." Obviously, this issue has not been settled and for this reason, I would assume that it would be prudent to hold all actions until this issue has been settled. I further noted that the USFS will be preparing their own EIS and action should be tabled until the Forest Service has their environmental impact statement prepared. I realize that there is the possibility of a land exchange but at present the land is still held by the Superior Forest Service. I find it strange that the USFS was not asked to join the preparation of this DEIS.	PRO1,PRO4
92	In the Mine Site portion of the document it is unclear who will oversee the reclamation of the grounds for this project. The second bullet point speaks of a wetlands creation. I cannot imagine a wetlands that is able to handle the amount of sulfuric acid that would have to be filtered. If this has been done previously it would be nice to see the research cited. Also the idea of sending the pit outflows to the Partridge River is not a good idea considering the watershed that could be contaminated. I understand from my investigation that despite monitoring by state entities, many of these mines have created so much contamination that they have ended up a superfund clean up sites.	WE3,WE6,PD3,PD4
93	In III.B.2 Impacts of the Proposed Action Water Resources In the first bullet point, there is talk of the year 65. This is very long term and will commit either the State or Federal Government to very long term monitoring for this site. If it has to be overseen for 65 years, it is a good probability that all of us will be long gone and we are obligating the Federal or State Government to a very long term proposition. All the variables talk mostly about the rate of flow of water. The Partridge River could be more heavily impacted by lower rainfall totals as the whole of the Northeast Minnesota has been in a long term drought. The Whitewater Reservoir is mentioned and it is unknown if any towns use this for water in their community water supply. If the reservoir is used by towns, will the water be tested for contaminants on a regular basis and who would stand the cost of this monitoring?	WR1A,WR3C

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94	The Groundwater Levels Downgradient of the Tailings Basin sounds as if it will contaminate an aquifer. If so where does this aquifer flow and what water does it supply? In the 10th bullet point there are high levels of aluminum expected to be found. At one time, aluminum was implicated as a cause of brain damage. On the 14th bullet point, it is unclear who would perform the water tests. If it was the mining company, that would be like the fox guarding the henhouse. In the wetlands section they speak of the transportation corridors as passing through coniferous and open bogs.	RFI,WR1B
95	All the Alternatives have greater or lesser degrees of change to the surface and ground waters. Some have high mercury, aluminum or antimony levels. We all ready have many waters that have high levels of lead or other heavy metals that have limited the numbers and size of fish that can be eaten. Acid rain all ready comes from the states to our west. We have Asbestosis that was part of iron mining. It was not recognized until recently so why are the Minnesota EPA and Public Health findings not in the summary?	EOO
95	Again with all the dust generated, will the dust mix with the water and form sulfuric acid. On page S-14 in the Air Quality Section acid rain may be carried over the lakes and rivers to the east including Lake Superior. On the same page in socioeconomics the positive effects are listed; however, does the short term good they provide justify the leaving behind of rock wastes that will continue to pollute the area for many thousands of years? Under the Cumulative Effects what does the increase in "sulfates loading" mean? Does this refer to sulfuric acid? The only River that had been mentioned previously was the Partridge River. I take this to mean that one whole branch of the St. Louis River would suffer contamination and potentially Lake Superior as well. The water waste situation from Duluth has recently been remedied and the Lake is enjoying better water quality than it has in a number of years.	RFI
96	Northern Minnesota only has a couple of things going for it. One is the wilderness or near wilderness that generates a large number of tourists from many states. Tourism is all that the majority of businesses live off of in the Arrowhead of Minnesota. Second, we have our water and have tried to keep them as pure as possible because tourists do not want to come to where there are polluted waters and lands. The last thing that we have is our people. If the land is made unfit for habitation, then there are no people who can live on the land. The Range has had the benefit of the mining jobs through the years but they have paid heavily with their health as we are now finding out. The jobs last for 10-20 years and then disappear. They become highly automated so that in the last years of the mining, there are very few jobs providing salaries and the towns dry up once again. The waste from this type of mining uses a lot of water, leaves a lot of waste and is not easily cleaned up. We can see from looking at mining in the Western States that the land is permanently scarred and the waters will never be clean again. The mining companies take the metals from the land and then go out of business. They tell us that it is now clean and safe. They are drilling in the middle of Birch Lake. How will they keep from polluting the lake? What about the people that live on Birch Lake? What if their sources of water are polluted?	WR2E,WR3B
97	With the Iron Ore, the companies were longer term and they contributed to the fund to help the local communities continue after the mines were closed. I see nothing in the summary that indicates that the mining interests are taking a stake in the future of the people of the Range area. I see nothing indicating what they will spend or do with the inevitable pollution that will linger beyond year 65.	G1



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98	I know that the Mining Companies are buying up leases for other exploratory drilling sites and that those sites have a good potential for polluting aquifers, leaving mineral wastes on the ground, and being unsightly for tourists and locals to look and live with. This would have the potential to damage the land so that it is not fit for anything beyond mining. What we have to balance is the short term interest's of the mining companies to take the minerals from the land and then run or declare bankruptcy to get out of the cleanup. The cleanup will never be truly done and which will probably be handled as a Super Fund site. What we have is one of the least disturbed areas in the lower 48 states. I suppose it was inevitable that the mining companies would once again raise their heads but this time the waste is more dangerous than the waste from the Iron Ore. The mines in the West that harvest this type of resource have done heavy damage to the environment. They assure us that they will keep the pollution from happening. Wisconsin has declared a moratorium on mining permits until they can be better studied. I see no reason to rush to put in this mine. The copper will still be in the rock in a few years and if the rush passes us by, we will still have the environment that draws others to see the Boundary Waters. People have needs other than material. They need to be able to get away and have their mental batteries recharged. It will not happen if the land is destroyed.	G9,G12
99	Please accept these comments on the PolyMet Mining Corp. NorthMet mining project Draft Environmental Impact Statement. I have serious concerns about the safety of this project and its potential impacts on Minnesota's natural resources. With the poor economy, more people are exploring close to home and discovering northern Minnesota for vacations. If mining were to take place, the long term economic impact on Northeast MN. tourism would be devastating. Minnesota values are embedded in its natural resources. We can't afford to loose what we stand for. I lived in MN for 20 years and our family values were rooted in the BWCA. I now live in Montana and am constantly drawn back to Minnesota because of its natural resources and the peoples values toward life. Many Montanans are intrigued with the BWCA and plan to visit Mn due to its pristine waters. The proposed mine would destroy not only the natural resources, but MN values, family values and tourism.	G11
100	The erosion of peat into the mine, and slumping will increase the sediment in the mine which will require another reactive soil pile not planned for and will increase sulfide run off.	PD2
100	The PolyMet mine site is located on an inside bend of the Partridge River. It is common for rivulets to form on the inside bends in rivers generally as the river seeks a shorter and more direct route. Inadequate testing has been done to evaluate for this contingency and a inflow to the mine that greatly surpasses the estimates made in the EIS. The EIS also vastly underestimate swamp inflow.	WR3J
101	With this inundation of water into the PolyMet mine pit will come a corresponding drawdown in the area water level. The drying out of the area swamp will result in the death of stands of forest in the 100 mile swamp by sulfide pollution and lack of a water rich environment that these trees depend on. Along with the death of large stands of trees will come a strain on wildlife that depends on them. The EIS inadequately has surveyed for the loss of wildlife.	WR1E,WI2
101	Furthermore, the peat soil base will not support the ditch and dike system planned to keep water out of the mine from the Partridge River. Estimates for the mine filling after closure are exaggerated and will overflow and result in pollution to the environment in a far shorter period of time. These will greatly add to and overwhelm the mining operation and/or the treatment system. Spring flooding along the St. Louis will be exacerbated.	WR3K
102	Furthermore, the weakening of the rock wall from water saturation will be unstable and catastrophically collapse. The berm to keep out water from the Partridge River and the weight of the water in the river and ditch will contribute to this collapse. Wet rock shears more easily as indicated by a mining engineer reporting on the eagle mine in Michigan. I agree with the comments made by the Tribes in the EIS with the exception of the shaft mine alternative. The rock in the area is to unstable because of water saturation to support a shaft mine and its crown pillar(s). Any diagonally shafted mine in this area would be unstable.	EOO

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103	Finally, it was related to me by an employee of the MPCA who was in one of the test shaft mines in the area that the test shaft mine was being pumped continuously, was filled with hip boot level water, and the walls glittered from iron pyrite. Iron pyrite contains large amounts of sulfides, mercury and fragile. The fragility encourages the spreading and lack of control of these substances. The condition of this mine shaft belies the EIS prediction on the water likely to inundate the PolyMet Mine.	WR2C
104	The announcement made by the News Release violates my and the public's civil constitutional due process rights in many respects. The authors of the News Release under color of law have created an atmosphere of fear to discourage attendance and the exercise of the civil rights of the public to be heard. The hearings were held despite advised travel restrictions affecting many interested persons. The management of the hearing is an indication of the administering agencies lack of concern for public safety and constitutional rights generally.	PRO6
105	The revelation to me by the forgoing PCA employee that the walls of the test shaft glittered from iron pyrite is an indication of high levels of sulfates and mercury. Iron pyrite is known to be composed of high levels of mercury and iron pyrite and is an indication of the release of illegal and unacceptable levels of pollution. These will be added to already high levels in the Rivers in the upper St. Louis and will increase over time. As taconite ore is depleted the amount of sulfides released from mining will only increase. It was related to our class at the College of St. Scholastica in the early '80's by adjunct professor Jack McGrath, Senior-Vice President at Minnesota Power, that the only taconite mine with an enduring supply of taconite reserves was Minntac. However, he indicated that at some point in the early 21st century this would encounter an overlay of sulfide bearing rock in the formation and that this would present pollution that would be intolerable to the public.	WR3E
106	As a resident of Duluth Minnesota for most of the 50 years of my life I have had opportunity to swim, fish, boat, and sail on the St. Louis River. I haven't engaged in recreation on the St. Louis River on more occasions because of my perception that it is a dirty river. I discourage out of town friends from doing the same. Even the threat of pollution from PolyMet will diminish recreation on the river. Less boating, canoeing, kayaking, fishing, hunting, swimming, sailing, bird watching, and other recreational activity will take place on this large river with fewer tourist tax dollars coming into the communities along its length.	EOO
107	Fish will not only be weakened and poisoned by pollution from sulfites, sulfates, sulfides, the process which turns these into sulfuric acid, sulfuric acid, arsenic, methyl mercury, lead, other heavy metals, and other toxic substances, the weakening of the fish when combined with water born viruses such as Viral Hemorrhagic Septicemia will result in large fish die-offs in the St. Louis River and Lake Superior.	FM1
108	Asbestiform particulates are worst in the east range and these will create a risk of a health hazard to the surrounding area as indicated by the litigation with Reserve Mining in the 1970's. The taconite mines through their stack emissions and dust from the exposed soil were rated 4 of the top 7 polluters in 2000. It is unlikely that PolyMet will be any better. This will create more of a health hazard and further diminish the air quality and the incidents of toxic regional hazing in the Superior National Forest and Voyageurs National Park.	AQ4C
109	Monarchs have a migration that takes them 900 miles into Mexico. The indigenous population of Mexico celebrate this migration as the Day of the Dead and regard the butterflies as manifestations of their ancestors. Northern Minnesota, Wisconsin, and Michigan where mining projects are predominant compose the majority of the northern habitat. Little study has been done on the northern habitat. In Mexico, forests where the butterflies congregate are protected by law. Their migration provide for a modest income for an indigenous population through tourism. Further study needs to be done in consultation with the U.S. Secretary of State to avoid a violation of treaty, international law, and a failure of diplomacy.	WI2
109	The hazing of the Superior National and surrounding forest is treated as simply a matter of aesthetics, but this form of air pollution caused by mining and power production in support of mining has been inadequately studied. As a child I observed large clusters of Monarch Butterflies during summer months. These numbers have diminished to the extent that I have observed a dramatic decline in their numbers. More study needs to be done on the effect of air pollution on these and other primary pollinators, including honey bees.	WI2,AQ4A

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
110	PolyMet does not currently have a right to open pit mine at the deSignated location. It is attempting to make an exception under the Weeks Act through the action of its political allies in carving out an exception through special legislation or a land exchange. The Weeks Act in protecting watersheds and forest land for various purposes, has been public policy since its passage nearly one hundred years ago. Carving out exceptions to the Weeks Act without an outright repeal is illegal. Law is not law if it is not enforced equally. The environmental laws are failing when it comes to protecting local communities from the effects of sulfide mining as in dictated by the EPA.	PRO7
111	Time after time local officials turn their back on the community interest. We should have disclosed the real interest of these officials made available including their stock holdings in mining companies and campaign contributions. The corruption of neglect of community interest is itself a reason for not allowing this type of mining. Sulfide mining attracts public officials of weak character and weakens the community through a concentration and centralization of the wealth in one industry that is then allowed to control public policy, including pollution. Mining not only pollutes physically, it pollutes socially. 14	G1
111	The PolyMet project is a violation of water law, common law property rights, the Clean Water Act, the National Environmental Policy Act, the Migratory Bird Act, the Clean Air Act, the Great Lakes Compact and other laws. The PolyMet project will hurt the area and state economy for centuries to come. The MDNR must pick the "No Action Alternative" and deny a permit to PolyMet Mining Company. It is clear that this project was conceived of, promoted, and designed by politicians and not mining engineers, hydrologists, biologists, economists, or experts of any kind. If the MDNR is concerned about public opinion it will follow the lead of the State of Wisconsin where citizens successfully pressured their legislature into enacting a moratorium on any sulfide mining and Aitkin County which refused to consent to allow even any exploration in the county. PolyMet is not a garden variety sulfide mine, it is the worst of possible sulfide mines along with a processing center which invites more ill conceived mines.' The main reason proposed by advocates in favor of the proposed PolyMet project is jobs. The loss of jobs was the main reason used to oppose the abolition of the production of DDT. The claimed need for jobs is not of sufficient importance to disregard environmental harm.	G5A,G12
112	The process aside from the unnecessary risk of public harm presented is unfair in many respects. The open house planned is ill timed and should have been conducted outside of the present time that is the public comment and not the agency comment period. The open house will cast a shadow of intimidation over the process by the authors of the EIS heavy handed participation in the comment process, is unfair, and cast a chilling effect on the public oral comment process and the exercise of mine and the public's civil rights under color of law. Furthermore, any information given out ancillary to and outside of the EIS is a violation of principles of constitutional due process and illegal in that public notice is not provided and subject to comment.	PRO6
112	The failure of the agencies to schedule hearings in Duluth in a location central to the harm that is reasonably foreseeable to occur from the PolyMet project is unfair to the people likely to be effect, the public, and myself and is a violation of our civil rights under color of law. The harm likely to occur being the contamination of the drinking water for a community in excess of 150,000 people in further disregard for the public safety. Furthermore, Duluth is the place best suited to provide facilities in North East Minnesota to accommodate the large number of people interested in attending a hearing.	PRO6
113	Furthermore, expediency is not a legal basis for not conducting a public hearing and instead diverting speakers to private rooms where their testimony cannot be objectively witnessed and documented by the public. Everyone has a constitutional due process right to equal time in being heard. Again, expediency should not shortcut the public's constitutional rights. The hearing should take as long as necessary to provide a fair process. Contrary to the claim that the agencies are going to allow more people to speak as opposed to "selecting a small number of people to speak", they have in effect chosen one voice to speak.	PRO6

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
114	By allowing PolyMet participation in the agency sponsored open house, under color of law, they are given an unfair voice in the hearing at the expense of other interested party resulting in a fundamentally unfair process and a violation of the public's and my right to constitutional due process. Furthermore, providing a seat at the open house for PolyMet clearly indicates a bias in the decision making process in conflict with the principle that the public is constitutional entitled to agency action that indicates a fair and impartial decision maker and that by a show of bias to this extent has tainted the process and should recuse themselves from and the process should be started de novo with decision makers capable of showing impartiality in the process as is guaranteed by the constitution in the 4th and 14th amendments.	PRO6
115	I am writing to you as a citizen of Minnesota concerned about the PolyMet sulfide mining project proposed on 6,700 acres of public land in the Supelior National Forest. Sulfide mining would be new to Minnesota. In other locations, sulfide mining has resulted in acid mine drainage causing extensive and expensive damage to water quality and the environment. Often, taxpayers have been stuck with the costs. The PolyMet project in Minnesota could degrade water quality, increase mercury in fish, destroy wetlands and peat bogs, fragment the habitat of endangered species, interfere with tlibal lights guaranteed by Treaty and with tribal resources, like wild rice, increase air pollution that results in regional haze, and create a lisk of perpetual pollution without adequate financial assurance that the public won't end up paying the costs. The Indian tribes working on the EIS and the United States Environmental Protection Agency have provided helpful information on the inadequacy of the PolyMet draft EIS. Before this sulfide mining project is even considered for permits, please fill these gaps:	G2A,G2C,G3,G7C
115	1) Analyze the land that is going to be exchanged for Superior National Forest land to make this project possible. Make sure that the land swap would protect wetlands, endangered species, hydrology, tlibal rights and taxpayers' interests.	PD1
115	The agencies surprise at the interest in the hearing is simply an issue of there lack of competence in dealing with the process and their disregard for the political process that took place in Wisconsin leading to a mining moratorium. Poor planning and judgment cannot release the agencies from their constitutional obligation to provide constitutionally fair due process. The forgoing along with the denial of more than a 90 day comment period on a lengthy and complex document, the denial of fair hearing in Duluth, the relegation of the tribal partners comments to an appendix, and other irregularities indicate a violation of due process, are unfair, biased, and arbitrary and capricious.	PRO6
116	2) As the U.S. EPA suggested, make sure that financial assurances for the public are included in the EIS long before any permitting process gets underway.	PD4
117	3) Analyze all of the impacts (air and water) of increased mercury in fish from the PolyMet project and other nearby pollution sources. Mercury in fish causes brain damage to children and to the fetus.	WR4B,FM1,AQ6A
118	4) Get better information on existing pollution, the nature of wetlands, endangered species, wild lice stands and other resources that would be affected by the project.	WR1E,WI5,WE2
118	5) Require the PolyMet Company to show that their waste rock and tailings piles won't collapse and dump uncontrolled pollution into nearby waters and that they will not create water pollution that lasts for hundreds or thousands of years.	GT2
118	I am writing to you as a citizen of Minnesota concerned about the PolyMet sulfide mining project proposed on 6,700 acres of public land in the Superior National Forest. . . , Sulfide mining would be new to Minnesota. In other locations, sulfide mining has resulted in acid mine drainage causing extensive and expensive damage to water quality and the environment. Often, taxpayers have been stuck with the costs. The PolyMet project in Minnesota could degrade water quality, increase mercury in fish, destroy wetlands and peat bogs, fragment the habitat of endangered species, interfere with tribal rights guaranteed by Treaty and with tribal resources, like wild rice, increase air pollution that results in regional haze, and create a risk of perpetual pollution without adequate financial assurance that the public won't end up paying the costs. The Indian tribes working on the EIS and the United States Environmental Protection Agency have provided helpful information on the inadequacy of the PolyMet draft EIS. Before this sulfide mining project is even considered for permits, please fill these gaps:	G2A,G2C,G3,G7C

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
121	2) As the U.S. EPA suggested, make sure that financial assurances for the public are included in the EIS long before any permitting process gets underway.	PD4
122	3) Analyze all of the impacts (air and water) of increased mercury in fish from the PolyMet project and other nearby pollution sources. Mercury in fish causes brain damage to children and to the fetus.	WR4B,FM1,AQ6A
<b>Sender Last Name:</b> Champlin		<b>Submission ID:</b> 1172
1287	I am voicing my opposition to any kind of mining especially Polymet on public land! I am literally horrified at the track record of Polymet from this type of mining in other states. I don't believe there can be any guarantee of \$ monies to clean up the side effects of this mining. Why take this risk at any cost of destroying our natural resources and profitable ecotourism dollars. As a taxpayer and steward of the Earth I implore you to stop this mining with Polymet Franconia & Duluth Metals. No!	EOO,G4A
<b>Sender Last Name:</b> Chandler		<b>Submission ID:</b> 1641
2067	We own property near Ely with the intention of moving there, starting a business, and contributing to the tax base. Short-sighted and damaging mining operations will result in terrible and irreversible water contamination. You know that already the fish are too contaminated to eat every day. Additional contamination from mining operations will result in a significant reduction in tourists, long term jobs, and ultimately a severe reduction in population. No one, including me, wants to live where the water is too contaminated to swim, fish, or ingest. Please choose a healthy future, not a polluted one.	EOO,G2B,G7B,G11
<b>Sender Last Name:</b> Charwood		<b>Submission ID:</b> 3376
3666	Sulfide mining is not the answer to economic growth. The land of 10,000 lakes is a very precious environment that is necessary for freshwater invertebrates as well as domestic use in which we all depend on.	G2C,G7
<b>Sender Last Name:</b> Chezik		<b>Submission ID:</b> 1372
6	No Action Alternative – The DEIS states that no social or economic benefits would result from the no action alternative and that local employment and economic revenue would not increase. No data or background information is provided to make this conclusion. The USFS is required to manage its lands, which does provide social and economic benefits to the local community. Timber production, hunting, fishing, camping, and other activities are all income producing benefits resulting from a healthy, undisturbed ecosystem. The proposed mine site is owned by the USFS and lies within 21 miles of the Boundary Waters Canoe Area Wilderness. Therefore, there are social and economic benefits from the no action alternative.	ALT1
7	Mine Site Alternative – Only minor alternatives were presented in the alternatives provided in this section related to the surface and ground water. No alternatives were presented in the DEIS that looked outside the proposed Mine Site. Additionally, the DEIS states that underground mining would not be economically viable. No economic analysis is provided to support this statement. We disagree that the DEIS explains why the use of underground mining would not meet the project's purpose and need.	ALT2,ALT3

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
16	No Action Alternative – The DEIS states that no social or economic benefits would result from the no action alternative and that local employment and economic revenue would not increase. No data or background information is provided to make this conclusion. The USFS is required to manage its lands, which does provide social and economic benefits to the local community. Timber production, hunting, fishing, camping, and other activities are all income producing benefits resulting from a healthy, undisturbed ecosystem. The proposed mine site is owned by the USFS and lies within 21 miles of the Boundary Waters Canoe Area Wilderness. Therefore, there are social and economic benefits from the no action alternative.	SE1
240	Wetland Delineation – The wetlands of the proposed Mine Site were delineated for PolyMet by Barr Engineering using the Corps’ 1987 Wetland Delineation Manual. However, we found wetland delineation errors in Figure 4.2-1. For example, Wetland #20, which was delineated as a sedge meadow, can clearly be identified, using 2008 color infrared FSA photography, as an impounded marsh surrounded by forested wetland. Another unfortunate delineation error is the upland forest between Wetland #103 and Wetland #18 that omitted a long, linear hardwood swamp. The Corps should re-check and verify the wetland delineation mapping for the entire proposed Mine Site.	WE1
241	Wetland Mitigation, Off-Site Mitigation – The DEIS states that total direct and indirect wetland impacts from the proposed project total 1,522 acres. PolyMet has proposed wetland mitigation among three sites – on-site mitigation, the Aitkin site mitigation, and the Hinckley site mitigation. The total for these mitigation sites only add up to 1,287, mostly at a 1:1 wetland mitigation ratio. Using the Corps’ usual requirement of a 1.5:1 ratio, a total of 2,283 wetlands would need to be restored or created to meet the Corps mitigation rule. A significant amount of wetland mitigation is not specified in the DEIS, which states that compensatory mitigation for any remaining acres would need to be addressed through permit conditions following the Record of Decision in this EIS. We maintain that all wetland mitigation requirements should be completely identified in the DEIS.	WE3
246	The Corps of Engineers, as the lead federal action agency, needs to prepare a Biological Assessment to assess impacts to the Canada lynx and the gray wolf, both of which are federally listed under the Endangered Species Act (ESA) in Minnesota. Critical habitat has been designated under the ESA for both the Canada lynx and the gray wolf. The federally-threatened Canada lynx ( <i>Lynx canadensis</i> ) and federally-threatened gray wolf ( <i>Canis lupus</i> ) are found within the proposed project area. In accordance with Section 7(c) of the Endangered Species Act of 1973, as amended, it is the responsibility of the Corps to determine if its actions "may affect" listed species or critical habitat. The Corps is required to prepare a Biological Assessment (BA) for Federal actions that are "major construction activities" [50CFR 402.12 (b)]. The BA should evaluate the potential effects of the proposed action on the Canada lynx and gray wolf and designated critical habitat and determine whether any such species or critical habitat is likely to be adversely affected by the action [50CFR 402.12 (a)]. If the proposed action is likely to adversely affect Canada lynx or gray wolves, or adversely modify their critical habitat, the FWS will prepare a Biological Opinion, which will use the Corps’ BA and other scientific data to determine if the proposed project jeopardizes lynx or wolves or adversely modifies lynx critical habitat or jeopardizes gray wolf. Additionally, the BO will determine the amount of any incidental take for the proposed action and will then develop measures to reduce incidental take of Canada lynx and gray wolf.	WI1
247	Applicable Regulations – Under Table 1.1-1, the DEIS states that only an ESA consultation is needed from the FWS. On September 11, 2009, the FWS issued its Final Rule regarding permits for taking bald eagles. ( <a href="http://www.fws.gov/migratorybirds/CurrentBirdIssues/BaldEagle/Final%20Disturbance%20Rule%209%20Sept%202009.pdf">http://www.fws.gov/migratorybirds/CurrentBirdIssues/BaldEagle/Final%20Disturbance%20Rule%209%20Sept%202009.pdf</a> ) Before any bald eagles or nests may be disturbed, project proponents must acquire a permit from the FWS. A permit may be needed if there are bald eagles nesting or using areas close to or within the project site. The last eagle nest survey within the project area was completed in 2005. The Partridge River, which flows around the east edge of the proposed Mine Site does provide nesting habitat for bald eagles based on the availability of nest trees and nearby water features including stream and lake habitats. Therefore, we recommend that an updated bald eagle survey be completed in advance of construction activities during the estimated 9 to 12 months of pre-production mine development. Results from this survey should be provided to the Minnesota Department of Natural Resources and to the Twin Cities Field Office of the FWS.	WI1

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
248	Endangered, Threatened, and Special Concern Wildlife Species - The following sentence needs to be corrected, “Since 2000, the USFWS and USFS documented five road-killed lynx in Minnesota.” There have been six lynx mortalities due to road kills since 2000, and an additional two lynx have been hit and killed by trains (USFWS, Twin Cities Field Office data).	WI1
666	The DEIS states that it was the position of the United States that the mineral rights leased by PolyMet do not include the right to open pit mine the National Forest System land. PolyMet disagrees with this interpretation. However, the DEIS also states that the U.S. Forest Service (USFS) and PolyMet are exploring the feasibility of a land exchange, which would consolidate surface ownership and mineral rights and that the USFS will be initiating its own environmental impact statement to evaluate this land exchange. The DEIS states unequivocally throughout the document that it assumes a land exchange would occur. A land exchange is a connected action under the National Environmental Policy Act (see CEQ’s regulations for implementing NEPA, Section 1508.25) and, therefore, should be discussed in the same impact statement. Other than continuing to assume a land exchange, the DEIS offers no analysis of a land exchange between the USFS and PolyMet of a proposed 6,700 acres in the DEIS. Because of the interconnectedness, it appears that the scope of the DEIS should be expanded to include a discussion of the anticipated environmental impacts resulting from the land exchange.	PD1
667	Project Closure – The DEIS states that a closure plan would be finalized to provide details for the final closure of the actual as-built facilities during project operations. No additional details are provided about how to ensure that continuing runoff from the mine spoil is mitigated. The DEIS does not state who would be the responsible party should there be significant acid mine runoff event into surrounding wetlands and uplands, which drain into the Partridge River.	PD2
668	Reclamation of Plant Site – Closure Cost Estimate - The DEIS estimates that it would cost \$44.6 million (in 2007 dollars) to complete a variety of closure tasks including reclamation, revegetation, remediation, removal of structures, monitoring and maintenance. It was stated these are very rough estimates. These figures need to be updated and refined based on actual surface mining reclamation data prior to the Final EIS in order for agencies to better understand the cost of reclaiming such a large area to a mix of forest land and wetland habitat.	PD3
669	Mine Site Alternative – Only minor alternatives were presented in the alternatives provided in this section related to the surface and ground water. No alternatives were presented in the DEIS that looked outside the proposed Mine Site. Additionally, the DEIS states that underground mining would not be economically viable. No economic analysis is provided to support this statement. We disagree that the DEIS explains why the use of underground mining would not meet the project’s purpose and need.	ALT8
1604	The anticipated environmental impacts of the proposed action are not fully and fairly addressed in the DEIS. In particular, the DEIS does not fully address anticipated project effects from or to: an interconnected action, federally listed species, the bald eagle, wetlands and mine run-off. In addition, the DEIS does not appear to fully satisfy U.S. Fish and Wildlife Service (FWS) or Corps wetland mitigation requirements, leaving part of necessary compensation to be determined subsequent to the NEPA analysis. Since each issue falls with the Department’s jurisdiction or special expertise, we urge the Corps to adequately describe anticipated environmental impacts, as further identified below, in the final environmental statement.	G8

**Sender Last Name:** Chilcote

**Submission ID:** 1077

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
1181	This letter is to note that all of us at Northern Mining Services Inc. support Polymet's mining project. The impact that Molymet will have on our local and state economy will be tremendous, in a time of economic down turn we need this jobs more than ever. This will turn the economy of Northern MN from one that is reliant on the ferrous mines to a much more diversified one, making our area a much more stable one to live in. On the environmental impact on our area, we are confident that the job Polymet has done is over and beyond what they had to do to protect the environment. If we didn't believe this we would not be for the project, this is our back yard and we are very protective of it. The best way I can describe the lengths that Polymet has gone to is to quote some of our friends from non-ferrous mines in Canada, who also go to great lengths to protect their back yard. They all ask us why Polymet has gone to such great lengths over and above what the have done to protect the environment, when what they have done is more than would ever have to be done to make sure that no ground and water is polluted. When we asked the gentlemen at Polymet this question their reply is that we want to make sure we're right and nothing is polluted. Our area is more important than the money we spend to protect it. And I'm sure we all know how important it is to have a domestic supplier of these metals. Some are not currently produced in the USA. Any time we don't have to rely on foreign suppliers helps out everyone.	EOO
<b>Sender Last Name:</b>	Chopp	<b>Submission ID:</b> 3227
3591	Isn't Minnesota Cold Enough . ? There was little information on the oxygen plant within the DEIS , as far as I could gather the chore was to be outsourced to another company. If a private company can raise funds to initiate such a project , why is it that the community leaders such as the DNR do not run a similar project to keep the precious metals here, rather than trade away our natural resources elsewhere for money ?	G1
<b>Sender Last Name:</b>	Church	<b>Submission ID:</b> 1754
2292	I live in a county whose most valuable resource is its lakes, including our greatest lake, Lake Superior. As a Cook County citizen and as a steward of resources we need to preserve for future generations, I have serious concerns about the safety of this project and its potential impacts on Minnesota's natural resources.	G2
3447	I am deeply concerned about the longterm environmental impact of the PolyMet Mining Corp. NorthMet mining project It is unreasonable to expect that mining companies will be able to maintain water treatment facilities for 2,000 years and it is an unfair burden to pass on to future generations of Minnesotans who will inevitably be left to pay for these operations. I grew up in northern Minnesota, and continue to return in order to enjoy the wilderness lakes, clean air, and undisturbed environment. I can't begin to express how upsetting it is to contemplate the loss of that pristine place.	G2,G4A
<b>Sender Last Name:</b>	Clark	<b>Submission ID:</b> 2218



*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
2625	Well, my comment would be in association with the socio-economic benefits of the project. We've indicated that there's going to be 400 jobs directly at the plant, another 500 jobs. We're going to need support industries that are around the project that support the project, service industries. But what we're not saying is how much of the value of the metals that we're extracting churns within the economy within the region, and an economist will tell you that that's about four to five times the value of the metals that are taken from the ground. So to sell a dollar's worth of copper to the end user, you get about \$4 or \$5 worth of the capital circulating: Employee gets paid a salary, goes to a restaurant; the restaurant employs a wash -- somebody in the kitchen and somebody to cook; they, in turn, have incremental employment, and they go out and get somebody to do their washing. So it really does cycle in the economy. I'm not sure if anybody's done that exercise for this project as part of the valuation of the socio-economic benefits to the region. Just declaring the number of jobs doesn't really tell the story. That's what I'd like to see. I'd like to see some comment or some evaluation of what the true socio-economic value of this project is in the region. Another interesting comparison would be in terms of job creation, in terms of the job stimulus that we're spending money on right now, how much does it cost with the stimulus money to create a single job? Multiply that by 1,000 directly for 20 years, and you've got a measure of what we're saving in the economy of this country. So I'd like to see something like that coming out of the evaluation of the project and we haven't seen it. That's my comment.	EOO,G14
<b>Sender Last Name:</b> Clegg		<b>Submission ID:</b> 2776
3188	The risks to our state, its citizens, its wildlife and its waters in this proposal are enormous. Any benefit to be derived from the jobs it might create are transitory at best and vastly outweighed by the catastrophic possibilities inherent in the project.	G1,G2C,G7
<b>Sender Last Name:</b> Clements		<b>Submission ID:</b> 326
2	Speaking of expensive, how can we possibly get a detailed financial assurance bond up front large enough to really lock in decades of future water treatment as these pits begin to overflow and seep and leak? And the water treatment may not even be the only cleanup task. I'm not sure I could find statements that talk about other pollution abatement possibilities in the EIS, if something goes terribly wrong.	EOO,WE3
27	Specifically, it makes me very nervous to read in the EIS that there are concerns about the potential for structural failure in the existing Northmet tailings basin, which I understand is one area where residue from this mining is planned to be deposited. Until there is a complete and thorough understanding of how this basin could be used without any possible failure, I don't see how we could just go on hope.	GT2
33	Speaking of expensive, how can we possibly get a detailed financial assurance bond up front large enough to really lock in decades of future water treatment as these pits begin to overflow and seep and leak? And the water treatment may not even be the only cleanup task. I'm not sure I could find statements that talk about other pollution abatement possibilities in the EIS, if something goes terribly wrong.	PD4
38	I'm also troubled with what I can discern about the proposed technology to deal with overflow water from the pit in which the tailing will be deposited. I take that to be a different pit, to be filled after the ore is removed. But that pit will be mined for 20 years, according to what I read, and where will the sulfide residue be stored until then, that it won't be open to air and water? I talked with representatives of the MPCA at the public hearing in Blaine, and I was told that the technology being looked at for treating water that escapes the pit is quite new, and very expensive, and that there aren't examples of it elsewhere in a large multi-acre mining application that we can look at. This seems very weak to me, and I'm wondering how we can ever gamble on unproven technology used by an unproven company. Are we the guinea pigs here? If something goes awry, the consequences would be enormous.	WR3C
345	I am writing in regard to the NorthMet Draft Environmental Impact Statement, which speaks to the permit application by Polymet to mine sulfide ores near Aurora, Minnesota. I have been reading the Draft EIS, and I have several deep concerns about the scope of this project, both in physical size and in length of time, in regards to the protection of clean, life sustaining water, from near the mine site all the way to Lake Superior.	G7A

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
1812	My comment refers to Chapter 4.6.5.5 I think; it's the monitoring part of the report, and in that brief statement, it gives no -- it tells nothing about how this project will be monitored. It talks about some mitigation, but there is nothing laid out about monitoring the project, and I'm very concerned about the monitoring of the project. How will we know if there is any polluting things happening? That's my question, so please address that	WR1A
2614	I am concerned about how the process will be monitored of the mining. I believe in the purposes of the Army Corp of Engineers and the Department of Natural Resources, but I have seen budget cuts happen, so that things that have been promised to be overseen have not. So from that point of view and from my understanding that the Partridge River flowage has really not been monitored for a lot of years because there isn't money. The budget cuts have been such that there hasn't been money. I am really concerned about how they will keep on top of the pollution issues and that is not addressed to my satisfaction in the report.	G2
3177	Please stop this mining project or at least proceed very cautiously and slowly. We can't afford to make a mistake.	EOO
<b>Sender Last Name:</b> Clock <b>Submission ID:</b> 359		
397	I am in support of the PolyMet project. PolyMet can produce these metals in an environmentally sound manner and create hundreds of stable jobs that can support families. Based on the documentation outlined in the DEIS, I am confident that impacts to the air and water will be minimal. As a person who lives, works and plays in Northern Minnesota, I understand the need to ensure a safe environment project. Let's get on with a project that will do nothing but enhance the Iron Range.	EOO
441	I would like to add my voice to those who have raised concern over the draft of the Polymet EIS. I encourage further study into the impact on air quality, the long-term potential for mine drainage leaching through bedrock, and the potential impact on wildlife habitat and movement. No doubt there will be other requests for mining in or near the BWCA. Therefore, it is critical that this first process be conducted carefully, with long-term impacts considered.	WR2A,WI2,AQ4A
<b>Sender Last Name:</b> Clothier <b>Submission ID:</b> 1489		
1778	This important issue will define how Minnesota views the future of the earth we all share. It will also determine how history views Minnesota and its decision makers. Are we for money and destruction, or are we for preservation? As a Minnesota native who has experienced the beauty of this land, I must raise my voice with others in grave concern about the PolyMet mining project.	G10
1779	These pollutants will not only affect fish and wildlife, but humans as well. Is Minnesota willing to say that it finds this risk to today's and future generations acceptable? An entire ecosystem is threatened when one part of it is threatened. This proposed project promises to have devastating long-term impact Minnesota's water quality, affecting ecosystems in irrevocable ways. Let Minnesota stand up and say that it will not accept the devastation.	EOO,G2A,G7B
<b>Sender Last Name:</b> Clower <b>Submission ID:</b> 3481		
47	and gray wolf -- I do not support this. Furthermore, I am concerned about long-term impacts to the Superior National Forest and the Boundary Waters Canoe Area Wilderness. These places are precious to me, both because they represent wilderness in our state and because they are an incredible cultural resource. In addition to environmental effects, I am concerned about impacts to tourism and	SE4
1116	habitat for native species. I understand that the mining project will cause the loss of over 1000 acres of critical habitat for Canada lynx	WI1

*Alphabetical by sender's first name*

<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
3235	strong concerns about the project's potential impacts on the environment and human health. My main concern is with water quality - particularly the increase in sulfates and methylmercury. This is an unacceptable environmental risk. I believe that Minnesota should follow Wisconsin's lead in banning sulfide mining because of its threat to wildlife and human health. I am also concerned about protecting	WR4B,FM1
3755	recreation in these areas. Finally, I disapprove of the fact that the project will reduce native people's access to public land in the area. Overall, I do not support a project that risks long-term negative impacts to the environment and human health for short-term profits to one company. While I understand the need to weigh the economic importance of mining in our state, I feel that the protection of health and natural resources is even more important. These issues need to be satisfactorily addressed before a permit is issued for mining. Thank you for your consideration, - Katie Clower	EOO,G3A,G3B
<b>Sender Last Name:</b> Cochrane		<b>Submission ID:</b> 3024
3444	Along with all the vary serious environmental impacts, the fact that tribal governments are opposed to the mining is something that dominant culture needs to hear and adhere to. It's not just environmentalists, recreationalists but the people who have belonged to this land long before mining was a viable economic option for people that stand opposed to sulfide mining. While in the short term hard rock mining might provide some jobs for a few people, although how many of those jobs will actually go to local people is questionable, the destruction it will cause in the long term doesn't make it a sustainable or desirable option for the people living in the Iron Range as well as throughout the midwest.	EOO,G1,G2,G3
<b>Sender Last Name:</b> Coffman		<b>Submission ID:</b> 2672
3160	Please accept these comments on the PolyMet Mining Corp. NorthMet mining project Draft Environmental Impact Statement. I have grave concerns about this project's potential impacts on Minnesota's natural resources and public health. We should not even think of allowing any industry to conduct business that risks doing harm to the environment. The PolyMet DEIS describes serious environmental issues associated with this proposed mine. These issues should be addressed and resolved before this mine is approved by the U.S. Army Corps of Engineers and the Minnesota Department of Natural Resources	G2
<b>Sender Last Name:</b> Colarich		<b>Submission ID:</b> 3221
3551	There must be a balance between the economy and the ecology. The work that Poly Met has done strives to and has achieved the balance. This project will be operating under strict environmental standards. It must be viewed on a world wide environmental carbon footprint basis. If the minerals are mined somewhere else in the world the world environment will be damaged because of the lack of environmental standards and accountability. Common sense needs to prevail when the Mn. DNR makes a final decision on the EIS. I wholly support the project and I congratulate Poly Met on the work they've done to insure that the environment is protected. Thank you	EOO,G10
<b>Sender Last Name:</b> Cole		<b>Submission ID:</b> 1966

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
2475	Please accept these comments on the PolyMet Mining Corp. NorthMet mining project Draft Environmental Impact Statement. I have grave concerns about this project's potential impacts on Minnesota's natural resources and public health. Absolutely not! Not in my beautiful state - keep this filthy mining away from the Land of 10,000 Lakes. Our modern society has no need for this devastating activity. It's a no-brainer. just follow Wisconsin's lead. I don't need to highlight the problems with this abusive mining - the official agencies involved already know what horrible impact this would have. Every summer I go up to Sha Sha Resort on Rainy Lake and don't want to hear how the nearby land has been defiled by yet another greedy, self-centered industry. The PolyMet DEIS describes serious environmental issues associated with this proposed mine. These issues should be addressed and resolved before this mine is approved by the U.S. Army Corps of Engineers and the Minnesota Department of Natural Resources.	EOO,G6
<b>Sender Last Name:</b> Collins		<b>Submission ID:</b> 275
289	As President of the Northeast Higher Education District, I highly value sustainability, sustainability of higher education design and delivery, of our regional economy and of employment opportunities that drive that economy. I work with five college Provosts in the District to ensure sustainability of educational services we provide to thousands of students. I also work with businesses in the region to ensure that we offer educational programs and customized training that help keep their employees on the cutting edge of technology and service, ensuring their long-term sustainability. And, I contribute countless hours to initiatives designed to ensure our region is sustainable - that our region will be able to provide jobs for the families that want to live in Northeastern Minnesota today and generations into the future. My commitment to sustainability is the foundation of my support for PolyMet Mining's NorthMet project, and I urge you to conclude that the draft Environmental Impact Statement for the project adequately identified and addressed potential environmental issues associated with the project and move forward with issuing permits for the project as soon as possible. PolyMet has invested more than four years and more than \$20 million in the technical information and research that are represented in the draft; the draft clearly demonstrates the value of that research. PolyMet will be an environmental model for mining and processing copper, nickel, gold, cobalt, palladium and platinum. The designs for the mine and the plant maximize the use of existing infrastructure and minimize the disruption of wetlands. By using sulfur in the ore to help fuel the process, PolyMet maximizes the use of the material it mines and minimizes the use of fossil fuels that generate greenhouse gases. Despite mining tens of thousands of ore per day, PolyMet Mining will be a minor source of air emissions and also will not discharge any process water. Waste rock stockpiles will be managed by first laying down engineered liners with drains and collection systems to collect water for treatment and finally through special covers that will minimize any water seepage into the piles. The jobs PolyMet will create - both in direct employment and in spin-off jobs - will help provide viable, high-tech careers for graduates from the five colleges of the Northeast Higher Education District, and the resulting economic benefit will help ensure the sustainability of the entire region. Like you, I use these metals every day. As an educated consumer, I believe it's better that the metals are mined and produced under the strict laws that exist in Minnesota - laws that protect our environment and that I know PolyMet Mining will follow. Minerals produced in foreign countries that lack environmental controls and protections for workers are not an acceptable substitute; they are not produced in a sustainable fashion. PolyMet Mining will help our region, state and country become more sustainable on many fronts. Please move quickly to find that the EIS is adequate and begin developing permits so PolyMet Mining can fulfill its promise of sustainability as quickly as possible.	EOO
1111	Further, the PolyMet NorthMet project will result in total loss of 1,454 acres of federally designated critical habitat for two endangered species known to be in the vicinity of the mine site – the Canada lynx and the gray wolf.	WI1
1318	Understanding that PolyMet proposes to use an existing mine tailings basin for the disposal of its tailings and toxic materials – but that the basin already has stability issues making it unsafe. Any failure of this basin to hold its contents would result in long-lasting and serious contamination. PolyMet should complete a stability analysis of the basin and devise an acceptable design before being able to	GT2

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
3230	up after PolyMet has gone. In addition, the DEIS predicts contaminated waters to be discharged from the mine site into the Partridge River after the mine's closure, as well as tailing's basin discharges high in sulfate concentrations. High sulfates can turn mercury into forms that make fish dangerous to consume. It is unacceptable to proceed with a mine that already predicts these kinds of pollution outcomes. Wisconsin has already banned sulfide mining due to the unacceptable environmental risk it presents. It is also my	EOO,FM1
3677	Minnesota's natural resources and public health. Water quality impacts remains a top concern. How is it acceptable to allow for up to 2,000 years of environmental impact for the short term gain of one company? Who will pay for the long term treatment required? PolyMet has few assets and little financial history. The DEIS fails to address where the funding will come from to pay for post-closure treatment, monitoring and maintenance. As a result, it seems likely that Minnesota taxpayers may have to pay millions of dollars to clean	PD2,PD4
3748	cumulative impacts must address the loss of revenue to the Boundary Waters Canoe Area Wilderness and Superior National Forest tourist industry as part of a sulfide mining district. While I fully understand the economic necessity of mining, and need for natural resources in our society, we need to be responsible in our decisions. Certain types of mines should simply not be permitted in certain places where the risk to the environment is too great. This appears to be the case for sulfide mining in northern Minnesota. The PolyMet DEIS describes significant environmental issues associated with this proposed mine.	EOO,G8C,G11
<b>Sender Last Name:</b> Condit <b>Submission ID:</b> 3727		
1	The DEIS needs to spell out a more comprehensive monitoring program to evaluate the effects of sulfate discharge from the NorthMet project. The program should include sampling of food-web organisms as well as surface waters and should be spatially and temporally intensive. High risk areas, as outlined in this review (and especially the Embarrass River wetlands), should be a priority for sampling. The program should be designed by mercury scientists with the MPCA and DNR and peer-reviewed by independent mercury experts to insure that results are meaningful.	WR4C,FM1,FM2
<b>Sender Last Name:</b> Conklin <b>Submission ID:</b> 2874		
2749	The DEIS does not address adequately the danger of acid mine drainage leaching into the water and wetlands. Nor does it address adequately the impact upon Class 1 air quality of the BWCAW and Voyageurs National Park due to proximity. PolyMet would have an impact on increased mercury contamination of our lakes and wetlands. So many of our lakes are already at high levels of mercury contamination. Also, the DEIS does not adequately address the impact upon fish, wildlife, or humans. The risk of permitting PolyMet mining is too great.	EOO,WR1E,WR5A,WE2,W
<b>Sender Last Name:</b> Connor <b>Submission ID:</b> 139		
130	Hello, my name is Gordon Connor, I'm from Chicago, Illinois, and I'd like to go on public record in support of this development in northern Minnesota. That's it.	EOO
<b>Sender Last Name:</b> Conrad <b>Submission ID:</b> 2300		
24	Currently most of the economy of the Ely MN area is driven by outdoor recreation and tourism surrounding the BWCAW. The proposed mine has the potential to drastically alter the health and purity of the kawishiwi river watershed which flows directly into a significant portion of the BWCAW including Basswood lake which is the premier sport fishing location in Northeast Minnesota. The potential to damage water quality in a wilderness area that is the source of livelihood for most of the area residents is irresponsible. The gain of a few for a relatively short time (20 years) is not worth ruining an economy that has and will sustain many generations in Northeast MN.	SE4

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
480	We value and respect our National Forests, especially Superior National, as our land borders it. We also appreciate the overall preservation efforts of our Federal Government for this valuable treasure we all get to enjoy. We strongly believe the U.S. Forest Service should not sell or trade public lands to any private company who will mine for a profit and not preserve all of its natural surroundings as it currently exists.	PD1
501	We have been property owners in Lake County on North McDougal Lake near Isabella since 1999. We plan to retire and live in this pristine wilderness area in the future. We are very concerned about the environmental effects of an open pit copper mine in this northern MN region with our valuable water resources from Rainy Lake and River, to the Mississippi River and Lake Superior. Our concerns are based on what has happened to other copper mine sites in SO and Sudbury, Canada, where land has been totally transformed from its natural state.	WR3B,WR3D
1137	We are wondering why the DNR would ever risk its valuable natural resources that have been utilized by people all over the country. Will you be notifying all users of the BWCA to get their input on this project?	RFI
1138	We appreciate the fact that our neighboring state of WI has been a leader by passing legislation asking mining companies to show real proof over time how the environment would be impacted by copper/nickel/platinum mining. We would hope that the same principals are applied when reviewing this project.	G14
1457	I am totally frustrated and confused by our legislators, and those in control, willing to allow any public lands to be sold for an environmentally damaging long term outcome. In particular the sale of land for certain forms of mining that have proven to be detrimental in the past. In one breath we have the Government wanting us to pay attention to global warming and the impact of negative emission into the atmosphere. Because of this concern massive public funding subsidies have been provided to change how we produce electricity. Currently we have legislation in place to help reduce our carbon footprint, so we can protect this land from further destruction for future generations to come. Much effort and public money has been provided for seeking alternative electrical generation sources, such as wind and solar. Congratulations to our efforts, and good luck in our ability to actually succeed. Now the confusion I have is how are WE STILL willing to endorse certain mining efforts, which over time have proven to be detrimental to all users of this environment. Why are we so naïve to think we can control the outcome because we have laws and regulations in place. So we don't want to damage the atmosphere and the air we breathe, but we are ok with damaging our lakes, and rivers, and surrounding habitat, for which we also need to live on. Where is the consistency in our leadership and decision making? Do we really have so called ambassadors who are genuinely interested in protecting our land for future generations to come? Should we really believe that our controlling environmental agencies, through their enforcement actions, are sufficient in protecting our environment? Do we really believe those in control of the mine can control the negative side effects of mining, even though they have not been successful in the past? Look around, visit those places that have been mined or visit with those who remain to tell their stories and observations,. You will find a significantly different story. ASK yourself, if this mining could be done close to your home, would you allow this type of mining in your neighborhoods, near your schools, near your fresh water resources, near where your family and future generations intend to live? If you SAY NO, than it's not good in our forest, or rural areas either! PLEASE PLEASE, BE RESPONSIBLE and be good stewards of this land for all of us now and hereafter, and don't allow a short term economic decision for the benefit of a few take precedence over the benefit of mankind.	EOO,G2B,G2C,G7B,G10

**Sender Last Name:** Conwell

**Submission ID:** 3193

3587 I understand the economic need for metals and mining, but also see the many needs that are met by protecting the Boundary Waters in their current state. Natural areas, like farms, may not bring in large short term profits, but can provide long term economic returns far exceeding mining. I ask that the period for public comment and study be extended, and that the DNR please consider all views on this important matter.

ALT8,PRO6

**Sender Last Name:** Corbett

**Submission ID:** 2229

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
2637	I support PolyMet's instinction on this joint -- or mining venture. I've been a ranger all my life. I breathe the air; I drink the water, and I use the lands up there for basic entertainment, hunting, fishing, everything. I'm a miner currently and have been for 10 years, and the development they're doing in this and the time and effort they've put in this along with the money, it way, by far, outdoes any other place that's -- any of these other mining ventures right now, so -- the way they're categorizing the waste rock and everything like that and the mining process and, you know, try to eliminate as much of the flow-off into the rivers or anything like that as possible, and the manufacturing process too with the autoclave and everything like that, it's very minimal pollution, so I am in 100 percent support of this.	EOO,G6,G7
<b>Sender Last Name:</b>	Corliss	<b>Submission ID:</b> 3273
3581	This land is too beautiful to ruin. It is one of Minnesota's natural treasures and I do not believe the long term picture will be good if mining of this kind is allowed. I for one will stay clear of the natural beauty if this is allowed. How many places have been polluted and destroyed by this kind of activity? Below lists the reasons for concern.	G11
<b>Sender Last Name:</b>	Corradi	<b>Submission ID:</b> 2173
2579	This letter is in support of the PolyMet Draft EIS. I had an oppportunity to hear from a representative from PolyMet speak at our Range Bar Meeting. I was not aware of the difficulties this mining project was facing in getting permitted. As being a native Iron Ranger, I fully support the PolyMet Mining project. PolyMet and its vendors will provide the Iron Range with multiple opportunities for challenging and exciting careers providing critical metals needed in medical applications, electric cars, catalytic converters, cell phones, computers and other essential products. PloyMet can produce these metals in an environmentally sound manner and create hundreds of stable jobs that can support families. The Iron Range relies on itsmining industries to generate economic activity and provide job security. The future of the Iron Range depends on companies like PloyMet to find new and innovative means of mining the resources in northern Minnesota.	EOO
<b>Sender Last Name:</b>	Cosgrove	<b>Submission ID:</b> 3156
35	Do we want the Boundary Waters, an international treasure, to be the guinea pig for attempting to demonstrate safe sulfide mining? I don't think so. Has anyone done a study quantifying the importance of the tourist trade in the area versus the importance of mining? Mining is a short term proposition, perhaps twenty years of recoverable ore. Tourism is a perpetual benefit to the economy of the area. To jeopardize this pristine area with sulfide mining runoff for short term gain and ruin the annuity of tourism is absurd. I am against sulfide mining until it can be proven somewhere else that current mining technology is safe for the environment.	SE4
<b>Sender Last Name:</b>	Coudron	<b>Submission ID:</b> 1319
1539	I would like to speak out in support of Polymet Mining's NorthMet project. Kraus-Anderson Construction Company has been based in Minnesota for 113 years and our continued success is dependent on the State continuing to expand and change. I believe it is far better to mine and process these minerals right here in Minnesota with sound environmental practices than rely on often-unregulated foreign sources. Minnesota can strike a balance of extracting these valuable resources while protecting the Northern Minnesota environment. This project will foster other economic development activity in the region and help strengthen Minnesota's long-term economy. The project will create good paying jobs and generate significant tax revenue to the state and local governments. I support moving forward with the permitting process for the NorthMet project.	EOO,G2B
<b>Sender Last Name:</b>	Coughlin	<b>Submission ID:</b> 1092

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
1196	I strongly support the PolyMet Mining North Met Project	EOO
<b>Sender Last Name:</b>	Cox	<b>Submission ID:</b> 3455
3221	Due to where Heikkala Lake is situated, it could potentially be directly affected along with neighboring waterways. We would like assurances that there will be proper equipment and safeguards in place to prevent any such pollution from occurring and if this does occur that the response will be immediate to take care of the problem. We thank you for the opportunity to comment on this project.	WR1A
<b>Sender Last Name:</b>	Coyne	<b>Submission ID:</b> 3240
3564	Thank you for pulling together this complex document.	EOO
<b>Sender Last Name:</b>	Cram	<b>Submission ID:</b> 3113
708	Based on my experience I find the Polymet EIS seriously lacking in several critical areas, to name just a couple; sulfates and reclamation. The problems with sulfates is well known based on experience all across our Nation. The problem will be seriously exacerbated because of the terrain and climate in Minnesota. Satisfactory reclamation of the proposed site will be very difficult to achieve if not impossible. Both of these issues are well known and need not be fully developed here, but they can be if the public is given adequate time to respond.	EOO,WR1E,PRO3,PD3
<b>Sender Last Name:</b>	Crimmins	<b>Submission ID:</b> 286
300	The state of Minnesota has the finest environmental regulations in the country in regards to the mining industry. There are over forty pages of Minnesota Rules on record that were formulated with input from Environmentalists, Area Citizens, Mine Owners, Labor and the Department of Natural Resources( DNR ) in the 90's. These Rules are enforced today and with the cooperation of all parties the mines have operated while the environment has been protected. I was very pleased to see the amount of detail in the DEIS and that the Army Corp of Engineers, the Department of Natural Resources as well as the American Indian Tribes had input in the study. The Minnesota Pipe Trades believes that the Polymet Project will be operated in a professional manner in accordance with Minnesota's existing stringent environmental requirements and because of the following statements; The Minnesota Pipe Trades Association supports the Polymet Project.	EOO
<b>Sender Last Name:</b>	Crocker	<b>Submission ID:</b> 3090
3473	OMG! How broke must our state be to even consider this? Do you want to totally destroy the environment, the health of the people who live there, all tourism & the smell of northern Minn. Just to mention a few!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!?	G2,G11
<b>Sender Last Name:</b>	Crump	<b>Submission ID:</b> 1814



*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
2404	I am extremely invested in the preservation of the BWCAW. Since I was 13, the Boundary Waters has provided the experiences that have been most formative in my life. I am now a camp counselor up north, and each summer I see the BWCA continue to provide those experiences for hundreds of kids. The changes made in all of us by this unique wilderness area are truly invaluable. In a world that is increasingly in need of environmental awareness for the mere continuation of our species, I cannot stress enough how important wilderness experience is for young people. Please, please do not compromise this ethic for short-term, unsustainable economic gain. Furthermore, please accept these comments on potential environmental impacts of the PolyMet Mining Corp. NorthMet mining project. I have serious concerns about the safety of this project and its potential impacts on Minnesota's natural resources.	EOO,G2,G3
<b>Sender Last Name:</b> Cummins		<b>Submission ID:</b> 11
10	Douglas Cummins from Hill City, Minnesota. I just -- I'm in favor of seeing this all going for the simple fact that I'm a boilermaker by trade. I'd like to see the new ones coming up in our trade as having a place to work for the future. We do a lot of repair work in the mine industry and stuff, a lot of local contractors in this area. I would like to see everything carry on and get a lot of people back to work in this area. I'm getting ready to retire. Being affiliated with a union, you think about your health and welfare and your retirement fund and everything and that keeps it going. It's a good plan to have in the making right now I think. I've been around these mines and I don't object to too much as long as it's kept up and they go along with the EPA rules and regulations. That's about all I've got to say.	EOO
<b>Sender Last Name:</b> Curphy		<b>Submission ID:</b> 1338
6	From my understanding of the EIS statement I find gaps on key issues: Loss of the Cultural Resources in the Ceded Territory Act of 1854	G3,CR1,CR4
230	I'm concerned that the Polymet Corp. has not sufficiently explained how they will safely mine with no damage to our ground, water and air system. Thus, damaging our land to an un-repairable state. Contaminating our water so the fish will not survive and polluting our air making it difficult for us to breathe, trees to grow and animals to flourish.	AQ5
231	From my understanding of the EIS statement I find gaps on key issues: The following of the laws of Clean Air and Water as State and Federally regulated.	AQ6
232	My son has chronic asthma that is very sensitive to the quality of air he breathes. I am concerned that Polymet has not sufficiently explained how they will control the increase in air emissions of mercury and particulate dust in the surrounding area. I understand that 807 tons of particulate air borne pollutants will be admitted into the air. How and who will be monitoring the surrounding area for these problems that will occur?	AQ6,AQ6A
233	How far will the air admissions travel?	RFI
234	What is the distance that will be monitored from the site?	RFI
235	Who will be responsible for monitoring the area?	RFI
236	How often will the monitoring be done?	RFI
393	I'm concerned that the Polymet Corp. has not sufficiently explained how they will safely mine with no damage to our ground, water and air system. Thus, damaging our land to an un-repairable state. Contaminating our water so the fish will not survive and polluting our air making it difficult for us to breathe, trees to grow and animals to flourish.	FM1,FM4
646	From my understanding of the EIS statement I find gaps on key issues: Loss of the Cultural Resources in the Ceded Territory Act of 1854	CR1

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
647	From my understanding of the EIS statement I find gaps on key issues: Understandable details of the Financial Assurance of the project as a whole.	PD4
648	From my understanding of the EIS statement I find gaps on key issues: Lack of land-exchange impacts in the DEIS.	PD1
690	I'm concerned that the Polymet Corp. has not sufficiently explained how they will safely mine with no damage to our ground, water and air system. Thus, damaging our land to an un-repairable state. Contaminating our water so the fish will not survive and polluting our air making it difficult for us to breathe, trees to grow and animals to flourish.	WR1E
691	From my understanding of the EIS statement I find gaps on key issues: The specific impacts of our native Wild Rice.	WR1E
1560	I am writing to you as a concerned property owner from Brimson, MN. My husband and I own a cabin in close proximity to the PolyMet sulfide mining site and we are opposed to the project as it is currently being proposed. I am a proud member of the Fond du Lac band of Lake Superior Chippewa. I am an active user of the Ceded territory land for Hunting, Fishing and Gathering. My concerns for the project are as follows:	EOO
1561	Our family has resided in the area of the proposed contamination for more then 40 years. We have a son who we have hoped to pass on the beauty and fulfillment of our Native Land. A place where our grandchildren will love as we do.	G11
1562	In closing, I am NOT in support of the Polymet Mining project and will not be until studies show a clean, safe, reliable mining process can be obtained.	EOO
1585	There has been no proven evidence that the containment of sulfuric acid runoff can be accomplished. Why gamble in an environmentally sensitive area such as northern Minnesota. THE beginning as orgin of several watersheds like the Lake Superior-Mississippi [illegible]	EOO,G7A
1587	We can not believe that this pending damage will be done to any beautiful land- sulphuric mining is not safe. What does a [illegible] counting have to lose? mine, do damage, file bankruptcy and pull out and leave the taxpayers to "clean up"	EOO,G4A
<b>Sender Last Name:</b> Curran		<b>Submission ID:</b> 3460
3739	Fellow Citizens, While I fully understand the economic necessity of mining, and need for natural resources in our society, we need to be responsible in our decisions. Certain types of mines should simply not be permitted in certain places where the risk to the environment is too great. This appears to be the case for sulfide mining in northern Minnesota. The PolyMet DEIS describes significant environmental issues associated with this proposed mine. These issues should be resolved before this mine is approved by the Minnesota Department of Natural Resources and the U.S. Army Corps of Engineers. The bottom line is that this mining project cannot be approved. Sincerely, Merv Curran	EOO,G2
<b>Sender Last Name:</b> Cyrus		<b>Submission ID:</b> 2358
2843	I have concerns about the PolyMet Mining Corp. NorthMet mining project, primarily in relation to tourism in the surrounding regions. I am not a native of Minnesota, however, I have considerable family in the area and was planning to take a camping/canoe trip this coming summer to the boundary waters. The impact of this mining operation draws into my head serious doubts on if I want to travel to northeastern Minnesota to hear and see the sounds of drilling or mining activities, when I go now or the in future. I feel that it is in the best interests of the peoples of the United States to not conduct this mining in this area. Considering it is planned to occur in superior national forest, I feel I have the right and the duty to let these concerns be know. I have a special place for Minnesota in my heart and have heard such outcry from my family that I feel moved to protest. Thank you for your time, I hope that further review will be given to the EIS on the project and that the watersheds affected remain healthy and clean.	G2A,G7

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
3253	As a tourist to MN and a natural resource professional I am unsure that the provisions to protect watersheds impacted by the proposed sulfate mining will be as affective as is promised. I believe that the clean and wild characteristics that define this valuable resource are what people pursue when they visit northern MN as it is what I look for. Though I understand that there is already impact as there is in most places, the publicity received by these mining operations degrades the perceived wildness and cleanness just as much as if there was serious impacts. I urge more consideration to be placed on these plans before a weighty decision like this is made. Thank you for your time.	EOO
<b>Sender Last Name:</b> Dahlberg		<b>Submission ID:</b> 325
21	I want to add one final comment which I aplogize if I end on somewhat negative note. I find myself feeling somewhat uneasy with the fact that an additional hearing outside the project area was set in the Metro. I am unfamiliar with the precedence here and whether similar projects situated in the Metro require a second Out-State hearing.	PRO6
344	Thank you for the opportunity to comment on the draft Environmental Impact Statement (DEIS) for the PolyMet Mining project. As a St. Louis County Commissioner, an individual with deep family roots in the region affected, and perhaps most importantly the father of a 5-year old, I have the foremost oblicagation to assure that a sound, objective, technically-based analysis process of the project is followed to guard against degradation of the environment and health injury to the surrounding population. Once this first obligation is met, I then turn my efforts to aggressively work for projects that promote long-term economic viability to our region. After spending considerable time educating myself on this project, I am convinced that the PolyMet project has met the requirements to assess its potential impacts and has offered significant evidence that is will meet or exceed Minnesota's strict environmental regulations. I have had meetings with PolyMet officials to discuss the mining and processing operation as well as toured the actual site. I am impressed with the multiple safeguards the company has developed to protect the environment now and ewll into the future. This has been an over 5-year process to date. The company will manage waste rock from the beginning, separating it based on its acid generating (reactive rock) potential and storing it on engineered foundations with drains that will be able to collect any water that flows through the stockpiles and treat it at a wastewater treatment plant. Once operations are complete, stockpiles will be covered and vegetated to minimize the amount of water that can come into contact with the rock. Seepage will continue to be collected and treated. A financial assurance mechanism will be set up that is bankruptcy and judgement proof to assure funds are reserved to continue with treatment remediation well after the project production ceases. Further, I have looked to the objective, technically-based analysis of the lead agencies: Minnesota Department of Natural Resources and U.S. Army Corps of Engineer (ACE). I have the fullest confidence inyour jointly prepared DEIS findings. This confidence comes from my past dealings with these agencies both in my role now as a county commissioner and formerly as a Duluth City Councilor. On a more personal note, my confidence may be also attributed to the fact that as an Army Engineer I am deeply aware of the importance ACE places on jealously guarding its reputation to assure all such studies are meticulously conducted and scrutinized internally. I urge that regulatory agencies may soon begin using the data in the EIS to develop operating permits for PolyMet.	G1,G4
<b>Sender Last Name:</b> Dahlquist		<b>Submission ID:</b> 3097
28	-There is no thought as to the damage to the area for recreational purposes and it's impact on tourist economies. These may be the only viable economic solution in the future.	SE4
721	For all concerned please allow more time for examination and discussion of this issue. I would rather move away from someplace because I could not make a living there than to move away because it was destroyed by trying to make one.	PRO6
1056	-No discussion of loss of wildlife habitat of both threatened and non-threatened species.	WI2
3038	-No clearly effective plan for containment of polluted water.	WR3A

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
3039	-No discussion of pollution hazards due to sulfates and methyl mercury of fish and the humans and animals that ingest them.	WR4B,FM1
3481	-No one is demanding proof that this type of mining has been done safely before. Because there is no example to be given.	EOO
3493	-There is no plan for governmental oversight to monitor the operations conducted by Polymet. No monitoring of environmental haze, No consideration as to water movement and the chance for contamination of wide spread and unintended areas.	PD8
3494	-No plan to escrow money for possible toxic cleanup by the mining company. Who will be left holding the bag should the company fail and there is failure to follow stringent protocols. The damage is done and the company can not be held up for assets they do not have.	PD4
<b>Sender Last Name:</b> Daly		<b>Submission ID:</b> 2298
424	Also, it is crucial that the time frame be extended for public commentary on this issue of grave importance. Please accept these comments on the PolyMet Mining Corp. NorthMet mining project Draft Environmental Impact Statement. I have serious concerns about the safety of this project and its potential impacts on Minnesota's natural resources.	PRO6
2736	There is no amount of economic gain, private, or public, that could possibly be more important than preserving a natural eco-santuary such as the MN Boundry Waters and surrounding waterways. The probable "runoff" caused by hardrock/sulfite mining is too heavy a price to pay for monetary gain, in any form!	EOO,G7A
<b>Sender Last Name:</b> Damon		<b>Submission ID:</b> 2823
1639	The mine's tailings basin will also produce discharges high in sulfate concentrations, which will turn mercury into methlmercury, making fish dangerous to consume.	WR4B,FM1
2636	I'm Michelle Damon. Wondering what the revenue from the mine itself will be for the State.	G1
2670	Water Quality At Risk - Water quality concerns have not been adequately addressed in the PolyMet project's DEIS. Water leaching from waste rock piles at the site is expected to exceed water quality standards for up to 2,000 years.	WR1A,WR1E
<b>Sender Last Name:</b> Dana		<b>Submission ID:</b> 2532

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
3101	I am anxious to submit a comment regarding the PolyMet Corp. NorthMet mining project Draft Environmental Impact Statement. I am concerned about the consequences this project will have on Minnesota's economy and precious natural resources. I am certain you have received a number of responses outlining concerns about 1) safety, 2) impacts on water quality, including water leaching from waste rock piles, 3) long-term responsibility for clean-up, 4) subsequent tax burdens, 5) high sulfate (and therefore mercury) levels, 6) stability of tailings basins, 7) long-lasting contamination. I share these concerns, and I urge the DNR and the U.S. Army Corps of Engineers to more carefully examine the DEIS, working with PolyMet to complete stability analyses and create a realistic long-term plan for containing pollutants and striving for minimal impact. I am encouraged by the relationships which have been set up between the Wisconsin DNR and potential mining companies, because I value the care and thought put into permit grants. I would appreciate a similar prudence and critical eye from the Minnesota DNR. I understand the value of increased economic opportunity in northern Minnesota. I live in Wyoming now, and work for a science and conservation organization, but I am a Minnesota resident and have spent significant time in the ecosystems under consideration for these PolyMet mines. I know the economy could use a boost. However, I know that the pristine nature of these ecosystems is a huge part of their appeal, both for tourism and for agriculture and for industry. For these reason, I strongly urge the DNR to not only reconsider the PolyMet proposal but to implement a creative problem solving team to move towards innovation in northern Minnesota. The solution is not simply to abandon all mining prospects. I see the solution laying somewhere within a compromise, one that protects Minnesota's natural resources so they can continue to build an economy with vibrant tourism, fish and wildlife opportunities, and safe communities. I have grave concerns about the PolyMet proposal as it stands, and I fervently hope the DNR will reconsider before approval.	G4,G6,G7A,G11,G14
<b>Sender Last Name:</b> DAngel		<b>Submission ID:</b> 2215
2622	Hi. I'm Dianne D'Angel from Hibbing, and I'm just very excited about the possibility of these jobs coming to the Iron Range. We really need them up there. And as far as the environmental impact, I believe that PolyMet has been meeting all their criteria that is required of them, and I believe that they're doing it in a responsible way, much more responsible than the rest of the world, as far as mining is concerned, and I have faith in the DNR and the Environmental Protection Agency to keep them on their toes as they need to, but I believe that this is a very positive impact for Minnesota, not only the Iron Range, but for Minnesota as a whole. That's pretty much all I have to say.	EOO,G5
<b>Sender Last Name:</b> Danicic		<b>Submission ID:</b> 3494
48	our state's best interest - not the corporation's. Economic and Social Impact As the DEIS considered this, I must point out that the effects to other industries in the area were not adequately studied. There are serious outdoor tourism and lodging and recreation businesses that will likely see negative impact. These are environmentally sustainable. The effects an extractive industry truly has on an area have not been given due thought and Resource Curse theories not taken in. Mining has become so automated that few real sustainable jobs will be created and the real earnings will go to a very few. A cursory glance at Northeastern Minnesota's three big counties	SE4

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
3241	Waters Wilderness, of which I am a member, has submitted. Here are my concerns. Water Pollution It seems to me the best case scenarios have been studied in this draft EIS and few of the highly likely problems have been sufficiently analyzed. I have no faith that the tailings basin liners will last the amount of time it takes for the waste rock to become inert. This design will not work without expensive maintenance and no maintenance is described in the DEIS. Who will pay to get those fixed properly? And how long will the pollution from this likely scenario go on while Minnesota figures it out? High sulfate concentrations in the Tailings Basin will be released, resulting in high-risk situations for mercury methylation. Lakes and rivers in the area are already under mercury advisories, including the waters of the watershed into which the PolyMet mine would discharge. The ground water issues are not adequately studied or modeled. The analysis overlooks the fact that most fens in the area are porous and basically, the engineers do not know how waste water will move through it. I cannot support the risk to this area's wetlands when they are such a large part of our state's carbon sequestration, which will become increasingly important. Northeastern Minnesota has some interesting value beyond the minerals beneath its surface. The area has headwaters of three of the four major watersheds of North America, the Arctic, the Atlantic and the Mississippi. Surely, if this and other mines are permitted, and pollution begins trickling out of them, many of our neighboring states and Canada will be lining up for legal action. The BWCAW and neighboring public lands in Canada are also the world's first transboundary protection area. I believe the permitting of this and other mines like it at this time threaten that protection and our valuable position at the top of the water flow food chain. Precedent This is the first non-ferrous mine proposal here in Minnesota. Duluth Metals and Franconia stand right behind PolyMet and are watching this process intently. Their mines would operate well within the Boundary Waters watershed and thousands of feet deep. It will be highly unlikely their engineers will be able to predict the environmental damage to the groundwater and surface water. And again, the DNR would place itself squarely into controversy around conservation of the nation's most visited wilderness area vs the number one toxic polluting industry in the US today. If you are to permit any operation in this area, it had best be PROVEN not to create	WR1E,WE2,GT1
3691	water pollution, not depend upon unproven technology. Financial Assurance The EPA has recommended financial assurance be taken into consideration in any EIS for non-ferrous mine operations. It is not considered in this draft EIS. In this day an age, when surely, we have learned from many corporations who have used bankruptcy as a business model, we cannot take a chance that will cost Minnesota's children millions of dollars. Any financial assurance regulations need to involve the Pollution Control Agency and MN Office of Management and Budget who have people who understand the latest financial products and securities and who will work for the people of	PD3,PD4
<b>Sender Last Name:</b> Daniels <b>Submission ID:</b> 2054		
2490	Mining has a history of leaving behind environmental disasters. If the PolyMet Mining Corp is allowed to mine in Minnesota, It must leave the area as pristine as they found it.	G14
<b>Sender Last Name:</b> Danz <b>Submission ID:</b> 2892		
3231	I am concerned about mercury pollution from the PolyMet sulfide mine proposal on public land in the Superior National Forest. I oppose any further mercury pollution. I believe allowing the PolyMet mine to open is both dangerous and illegal, damaging as it will the environment, human and animal lives, and tribal sovereignty. The project must not proceed.	G2
<b>Sender Last Name:</b> Danzl <b>Submission ID:</b> 1719		
2226	The PolyMet DEIS describes significant environmental issues associated with this proposed mine. These issues should be resolved before this mine is approved by the Minnesota Department of Natural Resources and the U.S. Army Corps of Engineers. The statistics show that even if PolyMet says they will not pollute the water or cause damage to the environment, it will happen (as it did in most other cases). I do not believe that this project is worth the damage that it is going to cause.	G10

*Alphabetical by sender's first name*

**Comment ID    Comment Text** **Theme Codes**

**Sender Last Name:**    Daub

**Submission ID:** 327

- 22 What I would like to share with you is my concern about the decision to allow policy-makers to speak and provide their endorsement of the project. The event was turned from a public informational meeting into a political rally. This was highly disturbing to see. Rather than an even-handed, unbiased and accurate portrayal of the project, members of the public were provided, from the politicians, with personal endorsements and at times inaccurate representations of the project. There was no equal time provided to speakers who might have expressed different points of view about the project. Conducting the event in such a fashion risks losing the public's trust in the state and federal agencies overseeing this project. Minnesotans need to know that decisions affecting this proposed mine will be made solely based on applicable laws, regulations and technical information. When the agencies hold a public meeting that instead becomes a rally for only one point of view, it shakes that confidence. PRO1,PRO6
- 346 I wanted to give you some feedback about last night's public meeting on the PolyMet DEIS in Blaine. I was impressed with how well it was organized. It appeared that the lines to provide verbal or written comments flowed well. And I thought it was a good idea to have the tables with DNR staff to answer questions. I'm sure it was a large task to organize the event - and all seemed to go well. Some have provided their objections to a format that did not include a more public sharing of audience questions and comments. I will not add to that debate here. EOO
- 347 I will add, I thought the presentations by Steven Colvin of the DNR and Al Trippel of ERM were well done and without any indication of bias. Had the agenda been limited to their presentations, it would have been a more fair and unbiased presentation of information. Please share these reflections with those appropriate individuals within your agencies. EOO

**Sender Last Name:**    Dauphin

**Submission ID:** 3234

- 3560 Have you been to Sudbury, Ontario? I went through in the late 50's. From driving through thick forests, suddenly there was only deadness. No trees, no shrubbery. This continued on through town and beyond, describing perhaps a 10-15 mile circle. I drove through again in 2003. Now, there are a few tiny, sickly trees. Conditions have been "improved". This is the effect of copper/nickle mining and processing. I have a cabin and 94 acres of land about 20 miles of Hoyt Lakes. My heart aches for the destruction projected in this territory. You can always make things sound good on paper. But copper/nickle mining and processing is toxic. Maybe fancy "environmental devices" can slow down the rate of destruction, like the barrels of nuclear waste that were to last 10,000 years, but what Polymet is projecting is going to destroy the nature, your habitat and mine. G2

**Sender Last Name:**    Daveau

**Submission ID:** 242

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
254	To Whom it may concern. I feel that the PolyMet Project is a very important project for the Northern part of Minnesota as it will employ a number of people with good earnings that will allow there employees to prosper, currently the work situation is dismal on the Range and this would be a great boost for the area. I have personally sat with some of the researchers from UMD that have looked into some of the concerns that have been risen, they assured me that the plant can be built and ran so that it would not be detrimental for the ecology of the area. The processes that would be used are not the evasive and contaminating processes that are of concern. I also would like to point out that the minerals that they would be mining are very important to our society, if we are to ever become self sufficient and free of having to depend on other countries for our resources this is a huge step in the right direction. The time to build is now when the economy is slow, the owner will reap the rewards of very competitive bidding and materials are at a low due to the slow economy, the contractors that are hungry for work will reap the rewards of procuring work when there is little else to bid on, the people that would get employed would reap the rewards of a pay check and in turn spend money in the area and thus the area itself would reap the benefits of financial boost from the plant being built in their area. I ask that we stop trying to cease construction in Northern Minnesota as many people who do not live in the area, look at it as their play ground and vacation areas, we that live here and try to survive need real jobs that pays decent wages and will give us a secure future. I ask that you please push this project forward and stop stalemating industry growing in Minnesota.	EOO
<b>Sender Last Name:</b> Dzenski		<b>Submission ID:</b> 2487
3014	In addition to the comments below, I would add that businesses often fail to honor the agreements they make with communities. Please accept these comments on the PolyMet Mining Corp. NorthMet mining project Draft Environmental Impact Statement. I have serious concerns about the safety of this project and its potential impacts on Minnesota's natural resources.	G4A
<b>Sender Last Name:</b> De Vries		<b>Submission ID:</b> 1120
1228	I have lived in the Great Lakes area for nearly all of my 71 years! It seems that greed continues no matter what we do. There is not, as far as I know, any urgent need for the mine mentioned below. The earth is the ONLY place we have to live and it behooves us to take care of it, not only for ourselves but our children and grandchildren as well. As much as I regret to say, it seems to me that the Corps of Engineers has become heavily infested with politics. The Corps MUST look out for ALL citizens and NOT just business.	EOO
<b>Sender Last Name:</b> Dean		<b>Submission ID:</b> 2108
1706	I do not think the DEIS adequately addresses the impacts of the proposed mining on wild rice production in the state. The mine would release sulfate at a level that is unacceptable for wild rice growth. Again this would have a negative environmental and economic impact on the area. Please insist that the impact of the mine on wild rice quality be studied further.	WR1E
2497	This iemail s a comment on the proposal by PolyMet to do sulfide mining in northern Minnesota. I am concerned about using this method of mining that has unknown impacts and is therefore not allowed in other states. The potential for sulfuric acid in our state waters is high – and this is an unacceptable risk. This could have a negative environmental and economic impact on the area of the state.	G7
<b>Sender Last Name:</b> Debevec		<b>Submission ID:</b> 370



*Alphabetical by sender's first name*

<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
411	Destruction of the St. Louis River Watershed by Acid Mine Drainage would have a significant negative economic impact on the area and the State of Minnesota. A U.S. Fish and Wildlife Service survey found that in 2006 nearly half (48 percent) of Minnesotans said they were wildlife watchers while 13 percent said they were hunters. Wildlife watchers spent \$654.5 million pursuing their sport last year, while hunters spent \$475.8 million. While fishing is enjoyed by 28 percent of Minnesotans (tying Alaska as the highest participation rate in the nation), the 1.4 million anglers spend an amazing \$2.5 billion on their sport. Minnesotans are more active in outdoor wildlife activities than residents in any other state in the nation. By estimating that the loss from destruction of the St. Louis River watershed is 1/100th of this spending means a loss of approximately \$36,000,000/year to the area economy. 400 mining jobs at a \$75,000 per year would represent only \$30,000,000.	SE4
<b>Sender Last Name:</b> Deblack		<b>Submission ID:</b> 1714
2216	Seriously, how can anyone possibly think that this is O.K? One day we will all be held accountable for ALL of our actions. Are you really O.K. with this?????	EOO
2448	The PolyMet DEIS describes significant environmental issues associated with this proposed mine. These issues should be resolved before this mine is approved by the Minnesota Department of Natural Resources and the U.S. Army Corps of Engineers. I am a biologist and we all are stewards of Mother Earth. WE will forever be judged by the tracks we leave. We desperately need jobs here, but not at the expense of our environment and ecology. Mining can be done in a fashion that will leave no tracks or harmful legacy behind. We are all for that. Who would think it is acceptable to ruin or compromise any of nature for a short term gain. Not I, it can be done right and we should accept no less.	EOO,G2
<b>Sender Last Name:</b> DeBreto		<b>Submission ID:</b> 3441
3663	What I want to know is who is going to hold PolyMet accountable to their promises and for their actions?	RFI
<b>Sender Last Name:</b> DeLuca		<b>Submission ID:</b> 248

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
261	I support the PolyMet NothMet Project. Enough is enough; let's get on with permitting this mine. I will not go into the discussion as to the impact on the local economy because of mining, or the number of jobs that are dependent on such. Or the effect on the local tax base and how those taxes "give back" to the area and those perhaps less fortunate. And the services that have flourished due to the mine's jobs and benefits. Those jobs that assure other essential services like hospitals and schools that have a base from which to operate. Or the fact that Minnesota has lost a great number of jobs due to its excessive tax structure and state policies as they pertain to business. But I will caution our legislature to view this issue in a world context rather than looking at it from a micro perspective. As economies flourish in developing nations it puts a burden on the entire world metals sector. We, as consumers pay more for those imports, and are held hostage, much like the OPEC Cartel has us held hostage today. This country does not even have a nickel, cobalt, or platinum mine producing today. This is a sad commentary for the most powerful nation in the world. PolyMet will mine and produce several metals not currently mined anywhere in the United States. And mining these metals in a foreign country will more then likely create a greater global environmental impact as they have no safe guards in place. One has only to review Mesabi Range Mining and its contribution to the industrialization of America, or the world for that matter. And let's not forget the role Iron Range mining played in the production of goods during our World War I and World War II effort. Mining is important to our county and its industrial base, as well as our national security. While no one wants to talk of war, our lack of self sustaining minerals will put our country in a precarious position. These "strategic" minerals are of paramount importance should a conflict erupt today. And PolyMet will also be a domestic supply of critical metals needed in medical applications, catalytic converters (necessary for pollution prevention), cell phones, computers and other essential products. These metals that will be mined are also important in our move to green technology such as wind turbines and hybrid cars. We have this "window of opportunity" that needs to be addressed. I firmly believe that our country will experience less "ups and downs" in the future should we become more self sufficient. Self sufficiency is the measure of a strong country and a healthy society. Special interest groups must not stop this project. And make no mistake they want to delay it as well. That is there intent. To analyze this project "to death" and hope it goes away. What is our county to become, one Giant Park or playground? That is not the measure of a great people or society. PolyMet's NorthMet Project has been designed to minimize environmental impacts using the best technology available. The DEIS has laid the groundwork for developing an environmentally and economically sustainable project and I support it. As for protecting our environment there are no better "watch dogs" then the employees of our mining companies. Unsound environmental policies put our employees in harms way. Its employees and our residents recognize this. Much of labors laws that have developed since the turn of the century are due to its own employees, as have the environmental safeguards. We live here 24/7 and no one wants to protect our resources more that those of us who make our living here. We do so now- within the existing laws. And what better place to develop a new mine then at an old one. I urge you to support this initiative in our region for the good of our residents, our state, and our country.	EOO
<b>Sender Last Name:</b> DeMarcken		<b>Submission ID:</b> 1190
510	A different design is needed to prevent contaminated overflow into our local water bodies.	PD2
1305	Minnesota waters are an invaluable resource, they should not be polluted with heavy metals and sulfates. High sulfate discharges should not be permitted Minnesota should not permit the reduction of habitats for endangered species, including lynx and wolves. Give the value of peatlands in the context of carbon sequestration, they should be protected.	G2C,G7A
<b>Sender Last Name:</b> Dembiczak		<b>Submission ID:</b> 3231
3558	We are in support of the Polymet Mining's NorthMet Project. This Reagen and the state cannot afford to let this project "slip through the cracks" do to a political agenda. The state needs these high paying jobs that this will create. In this time of government "over spending at every level," we need all the tax revenue that can be generated. That means letting business prosper as it should.	EOO,G10

*Alphabetical by sender's first name*

**Comment ID    Comment Text**

**Theme Codes**

**Sender Last Name:**    Dennie

**Submission ID:** 233

241 Gentlemen: Having had the opportunity to listening to a presentation by Mr. Joseph Scipioni, President of Polymet Mining, I feel comfortable in addressing the question of whether Polymet ought to receive permitting for their proposed mining facility. Mr. Scipioni presented out our Quad Cities Rotary\* meeting the spring of 2009. His presentation covered the proposed mining of precious metals and then focused on the process involved in bringing the metal to final form. He was asked several in-depth questions regarding the potential of water contamination etc. When everything was said and done, the membership was support of continuing the permitting process by Polymet. It appears to me (and others) that Polymet has DONE their due diligence in meeting current and even future rules/regulations in place by Minnesota PCA, etc., etc. Government agencies have also done "their" job in scrutinizing Polymets' proposed mining process to make certain that pollution of water/land etc. is not in the offering. Further, is appears that governmental agencies know more about potential pollution issues than the general public and that ought to weight more in granting of the final permits necessary to begin mining. IN ADDITION, polymet has followed the processes necessary to secure permitting and should be granted the permits. The old adage "we can go on and on letting people make rules on the fly" only further delays and creates unforeseen expenses. One can surely say that there may be pollution from this project, BUT that can also be said about every business adventure in Minnesota today. We don't know what types of pollutes maybe out there and if we want to keep Minnesota TOTALLY green forever, we will have to shut down all types of businesses..which will cause total unemployment and no one will be living in the state in 20 years.even those who want the state green. I urge you to grant Polymet the permits necessary to move ahead with their project.

EOO,G6

**Sender Last Name:**    Dennison

**Submission ID:** 3310

3603 It is our turn to fight to preserve the BWCA as others have before us. As a college student at Bemidji State University and member of students for the Environment on our Campus, I believe that it is quite clearly not in the best interest of Minnesota to allow these mines to be dug. I am not a native Minnesotan. I grew up in Colorado, and was directly effected by sulfide mining. Many times I went fishing with my father and uncle an caught nothing because the lakes were dead from the acidic run-off form old gold mining operations in the 1900's (Central City/Black Hawk). I do not want to see the yellow piles of waste rock, and dirty streams without fish in Minnesota. Enough is enough. We have already tainted the Rockies, let us stop there and keep our Boundary Waters precious, and our North woods free of this proposed monstrosity.

EOO,G2

**Sender Last Name:**    Dent

**Submission ID:** 3534

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
3796	Dear Mr. Arkley, I appreciate the opportunity to provide my personal perspective on the proposed NorthMet Project as described in the Draft Environmental Impact Statement (EIS) dated October 2009. I believe that the DEIS is a comprehensive document that adequately addresses State and Federal requirements and I fully support this project. Protection of the environment is a high priority for me. I live in Northeastern Minnesota, am an outdoor enthusiast and have spent a significant portion of my life enjoying fishing, hiking, skiing, snowshoeing, swimming and canoeing in northern Minnesota, on the Iron Range and in the Boundary Water Canoe Area Wilderness (BWCAW). As an environmental professional, I have seen that risk assessment and risk management are required as development occurs in order to protect human health and the environment. I have had the opportunity to observe my colleagues as the NorthMet Project has proceeded through the joint State/Federal environmental review process. The environmental assessments for this project have been conducted by professionals with high moral standards and respect for the environment. In addition, independent technical reviews have occurred by a team of environmental professionals that included State and Federal agencies. This lengthy and thorough process has identified effective solutions that will protect human health and the environment, as described in the Draft EIS. I am confident that the project design will continue to be optimized during the Final EIS and permitting process. The NorthMet Project will allow people in this State and Nation to produce more of the metals that we utilize and will limit our dependence on other countries for these metals. I also feel that we as consumers must share the responsibility for the environmental impacts that are associated with the goods that we purchase. The NorthMet Project meets rigorous environmental regulations. Lastly, I support the NorthMet Project because of the direct and indirect long-term jobs that it will bring to the region and the State. In summary, I recommend proceeding with the Final EIS and I support a declaration of adequacy for the NorthMet Project.	EOO,G10
<b>Sender Last Name:</b> Deusen		<b>Submission ID:</b> 1158
1273	We have concerns over use of existing tailings basin for mining waste disposal. All evaluations show evidence of current leaking and Embarrass water contamination. What will our children see here? 20 years of minerals vs forever wild forest & waters? Force Polymet to perform appropriate studies and use proven methods, not best guess.	G7A,G8B
<b>Sender Last Name:</b> Diamond		<b>Submission ID:</b> 3192
733	To allow this mining to occur would be a violation of the public's trust and basic health. With this context I urge you to: 1. Extend the time by 45 days to review the EIS for copper nickel mining in Ely. 2. Schedule more public meetings -- both in person and also virtually online (publicizing online meetings widely so that many people like myself who treasure the BWCA yet live far away) -- so that meaningful community input is obtained. 3. Make sure that public meetings are structured to allow citizens to make statements and to participate in discussion.	PRO6
2591	MARK DIAMOND: My name is Mark Diamond. I'm from Hibbing, Minnesota, and I think this is a real good thing because we need jobs up north. I'm a welder myself. I've been looking for work and it's real tough. I'm hoping this will open up some avenues of employment for myself and others. Other than that, I think I'll just hang tight and see what goes on here. I'm real happy with the situation with getting more work up north. With that, I'll close. Thank you.	EOO
3129	It is completely unacceptable to allow mining companies to leach sulfuric acids and heavy metals into the watershed upon which so many people -- wilderness enthusiasts, homeowners and cities -- rely.	EOO
<b>Sender Last Name:</b> Dick		<b>Submission ID:</b> 2198
2606	MR. DICK: My name is Marc Dick, and I am for the PolyMet project for jobs. That is it.	EOO

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
<b>Sender Last Name:</b> Dietel <span style="float: right;"><b>Submission ID:</b> 3272</span>		
1922	The mine's tailings basin will also produce discharges high in sulfate concentrations, which will turn mercury into methylmercury, making fish dangerous to consume.	WR4B,FM1
3174	Water Quality At Risk - Water quality concerns have not been adequately addressed in the PolyMet project's DEIS. Water leaching from waste rock piles at the site is expected to exceed water quality standards for up to 2,000 years.	EOO
3580	So, I guess it just seems unbelievable that this is even an issue. I could scream, cry, and yell at those who want to harm our environment. But that has never proved to have a positive effect. So I am asking everyone involved in this decision to act on what YOU KNOW is the right thing to do. What price can we put on losing our fresh water? Please consider what this means for the future of our state and country. You can be a voice that will be respected and admired throughout not only our state, but also the country. Thank you for voting AGAINST the mining project. Put the value again on what is truly important for our children and country.	EOO,G2
<b>Sender Last Name:</b> Dirks <span style="float: right;"><b>Submission ID:</b> 1828</span>		
2432	We don't need the proposed mining on the BWCA border badly enough to risk the environmental damage.	EOO
<b>Sender Last Name:</b> Doane <span style="float: right;"><b>Submission ID:</b> 3124</span>		
3496	Please add me to list of people opposed to this proposal. I'm already disgusted enough with my government and this is another insane idea. Sulfide Mining has left a disaster everywhere it has been tried. Why would you ever consider doing it?	EOO
<b>Sender Last Name:</b> Dodson <span style="float: right;"><b>Submission ID:</b> 3562</span>		
1067	Effectiveness of constructed wetland treatment systems has not been proven. The suggested method should not be relied upon as a water treatment method. Reliance on this method will likely result in pollution in rivers and lakes downstream. A complete stability analysis and acceptable basin design should be a part of the DEIS. Before any of PolyMet's tailings are deposited on top of existing tailings, existing structural deficiencies must be addressed. The tailings basin will contain extremely hazardous waste materials. An appropriate design is critical, and should be identified in the DEIS. The company should design another method for cleaning cleaning polluted waters.	WE6
1068	The PolyMet proposal's impact on wetlands and global warming is unacceptable: A major problem: Significant Loss of Wetlands – Increasing CO2 Emissions. Peatlands at mine sites have been identified as high quality wetlands in federal and state inventories. The peatlands represent habitats that are increasingly rare on the landscape, and should be protected from destruction. Reports commissioned by the MN State Legislature and by Governor Pawlenty call for the protection of peatlands for their ability to capture and secure carbon. Minnesota needs to heed these recommendations and halt any further destruction of these valuable habitats.	WE2,AQ3
1137	The PolyMet proposal's impact on wildlife is unacceptable: A major problem: Loss of Critical Habitat for Wolves and Lynx Critical habitat identifies geographic areas that contain features essential for the conservation of a threatened or endangered species. Habitat was designated for the lynx and wolf to prevent further population declines. Minnesota should not permit the diminishment of habitats for these species.	WI1
3275	The PolyMet proposal's risks to water quality are unacceptable: Major Problems: Contaminated Discharge from Waste Rock Pile; Contaminated Overflow from the West Pit; Tailing's Basin Water Discharges Will Be High in Sulfate; Unreliable Wetland Water-Treatment Plan; Unstable Tailings Basin Could Discharge Toxic Materials	EOO

*Alphabetical by sender's first name*

**Comment ID    Comment Text**

**Theme Codes**

**Sender Last Name:**    Doerr

**Submission ID:** 2686

3167 Please accept these comments on the PolyMet Mining Corp. NorthMet mining project Draft Environmental Impact Statement. I have grave concerns about this project's potential impacts on Minnesota's natural resources and public health. Water Quality At Risk - Loss Of Wetlands - Harmful To Wildlife - Cumulative Impacts Not Analyzed Financial Assurance Information Missing Land Exchange Analysis Missing

G2,G4A,G7,G8C

**Sender Last Name:**    Doerrie

**Submission ID:** 3050

26 Please just evaluate the health costs of people affected by toxins or add up the loss of income and taxes to resorts closing due to problems (plus dead fish clean up) and it will for certain add up to what it would cost the company in terms of implementing proper environmental safety controls. Even if you only took a small number of people getting sick or just a few resorts closing it would still add up to a huge expense, then compound that by it becoming an extensive problem, wow! Cost figures speak loudly when evaluating business decisions.

SE5

3466 I am writing my own personal comments, but I concur with the statements below that outline the incredible damage related to the PolyMet Mining Corp. NorthMet mining project. The Boundary Waters Canoe Area (BWCA) as well as the adjacent joining Canadian Quetico Provincial Park are treasures in terms of wilderness areas. People from all over the world come to experience the beauty and clean environmental state of these protected parks. Water contamination run off problems could have monumental, irreversible long term impact. In my youth I spent my summers in the BWCA and Quetico and as a camp counselor for many years I led youth into those wilderness areas. Plus I have traveled there as an adult many times. My two nephews now take yearly canoe trips in the BWCA. Since PolyMet Mining Corp. is a Canadian company I believe the Canadian government should also be concerned it terms of how it would impact the Quetico Provincial Park as well since the waters are interconnected. Canoeists pull drinking water directly from the lakes only using a water purifier for removing bacteria. To have to carry water in on trips in the future would be very difficult for canoe travel and portaging purposes and would likely limit use of the parks. Also the resort industry in northern Minnesota is vital to our economy and toxins/poisons in Minnesota waters would diminish that industry greatly, damaging fish and recreation potential. Also, we have a large native American population that relies on clean waters both for lifestyle and income. Health problems and related costs could be astronomical if pollutants go unchecked. Once it is in our waterways it cannot be contained. As a concerned long term Minnesotan I truly believe that companies can indeed create and implement proper pollution control methods due to the incredible technology and research that is available today. It is primarily a matter of cost and enforcement. If a company want to do business in a state that values environmental safety for it's citizens then strict controls need to be part of the package and they bear that cost or else they cannot do business here.

G7A,G11

**Sender Last Name:**    Dolan

**Submission ID:** 1047

1150 I am really interest in the PolyMet Draft EIS process and was unable to attend either of the two information sessions. Is there a video/audio recording Or transcript available from the meetings?

RFI

2469 This mining SHOULD NEVER HAPPEN due to the deleterious effects it would have on life, human and other species. If this mining is allowed to take place, I imagine suing the company as well as both the United States and Canadian governments for lack of forethought and bad policy would be an easy thing to do. It could be a veritable field day for unemployed lawyers.

EOO,G2,G3

**Sender Last Name:**    Dolphin

**Submission ID:** 1155

506 20 years of jobs for 2,000 years of clean up. How can you even begin to determine the cost of clean up?? It is not possible!! There is no proven way to clean up this type of mining, until it can absolutely be proven a permit to do so should never be given.

PD3,PD4

*Alphabetical by sender's first name*

<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
1271	It is our obligation and your responsibility to do the right thing. I do not want the land torn up and the waters polluted only for monetary gain. Can you put a price on clean water and a healthy landscape???	EOO
3063	To date there has been no proven adequate solution to prevent acid mine drainage from waste rock piles. This drainage has the potential to pollute and kill aquatic life in rivers, lakes, and wetlands for up to 2,000 years. This includes the unproven wetland water-treatment plan in the Polymet EIS. For the Polymet project this includes the loss of over 1,500 acres of wetlands/peat lands to do this type of treatment. Mines that require treatment of waters for thousands of years is not sustainable.	WR1A,WR1E,WE6
3064	It would also be difficult to quantify the cost of water treatment for that length of time. High sulfate concentrations in the Tailings Basin would be released, resulting in high-risk situations for mercury methylation. When mercury is methylated it can bioaccumulate in fish, making them unsafe to eat. Many of our lakes and rivers are already under mercury advisories, including the waters of the watershed into which the Polymet mine would discharge. Consuming these fish would be an even greater hazard to those catching and eating fish.	WR4B,PD3,PD4,FM1
3065	There are other sulfide ore mining companies presently exploring in Minnesota. The precedent that would be set by permitting Polymet would potentially be devastating to the water resources in Northern Minnesota including the Boundary Water Canoe Wilderness Area and Voyageurs National Park. It may encourage mining by other companies who are no more prepared to protect affected water resources than Polymet. With the uncertainty of adequate proven water treatment, the Austin Chapter 10 recommends a moratorium on all proposed sulfide mining requests. Austin Chapter 10 would recommend that the moratorium would be similar to or replicate the Wisconsin Act 171 on sulfide mining.	EOO,PD4
3526	Upon review of the Environmental Impact Statement for the Polymet proposal, Austin Chapter 10 is very concerned with the potential environmental damage that would occur with this project and other projects like it if they would be allowed to proceed. This type of mining has not previously been done in Minnesota. Where it has been done in other states, the sulfide mining industry has a poor track record in environmental clean up. The taxpayer in numerous instances has picked up the bill for clean up.	PD4,G9
<b>Sender Last Name:</b> Dornfeld		<b>Submission ID:</b> 2513
3066	I would like to comment on the PolyMet Mining Corp. NorthMet mining project Draft Environmental Impact Statement. The watershed contamination, damage to the area's wilderness aesthetic and image, and the precedent which will be established by the approval of this project are untenable. Water leaching from waste rock piles at the site is expected to exceed water quality standards for up to 2,000 years. Mining operations such as these have an accurate notoriety for disappearing as soon as they have exhausted the resources they are after. It is not to be expected that PolyMet will take responsibility for mitigating even the short-term after-effects of this operation, much less such long lasting impacts. As concerning as is this project in itself, the precedent it will set for the approval of similar future ventures with even greater negative consequences is even more worrisome to me. Last year, applications were submitted for 32 permits for mineral exploration on the doorstep of the Boundary Waters Canoe Area Wilderness. The exploration by Franconia Minerals on Birch Lake is already disrupting recreation activities in the area and impacting the wilderness experience of BWCA users. As a longtime user of the BWCA and a seasonal employee in the tourist industry there myself, I am deeply apprehensive about the damage on many levels which will result from mining in the Arrowhead. These activities are fundamentally at odds with the wilderness ethic and philosophy of the Boundary Waters. They also present very practical concerns for local businesses who depend on the image of the wilderness. The Boundary Waters is one of the most unique and best known wilderness areas in the entire nation; it would be a great detriment to the state's reputation to allow anything to infringe the integrity of this unparalleled resource.	G2,G7A,G8C,G9,G11
<b>Sender Last Name:</b> Dosch		<b>Submission ID:</b> 367
39	4.1-85—Humidity cell testing is not complete and not totally accurate. Explain to what extent humidity cell testing has been used in the DEIS.	WR2E

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
39	4.1-68—“...monitoring of the WWTF effluent is recommended as a leading indicator of potential groundwater issues at the Tailings Basins.” The EIS process needs to explain the value of monitoring if there is no mitigation plan in place.	WR4C
39	4.1-69—“The analyses identified the following 16 constituents as being present in the NorthMet waste rock/ore and leaching in sufficient quantities to warrant additional analysis: aluminum, antimony, arsenic, beryllium, cadmium, cobalt, copper, fluoride, iron, lead, manganese, nickel, sulfate, thallium, vanadium, and zinc.” Some of these metals, such as arsenic and nickel, are considered carcinogenic. Nickel and cobalt together have a synergistic carcinogenic effect. Nickel and arsenic are known to leach out in greater amounts in the neutral range, so if limestone is being added to water treatment to neutralize acid mine drainage, the result is an increased leaching of contaminants such as nickel and arsenic. According to “Toxic Water,” MPR Midmorning January 27, 2010, all chemicals are lethal—we are simply giving them allowable levels. Arsenic is one of the top contaminants of concern nationally. Our drinking water standards have not been updated in the last ten years, and the EPA is starting to take a closer look at some of these pollutants. According to Wikipedia, “The Precautionary Principle states that if an action or policy has suspected risk of causing harm to the public or to the environment, in the absence of a scientific consensus that harm would not ensue, the burden of proof would fall on those who would advocate taking the action.” The chemicals and metals listed above must be considered in the PolyMet EIS process as part of current contamination within the Embarrass River, the Partridge River, Colby Lake, and area wells, as part of cumulative contamination with Mesabi Nugget, and as part of a sulfide mining district. The burden of proof rests with the regulatory agencies.	WR1C
39	4.1-65—PolyMet proposes to construct five waste rock/lean ore stockpiles at the Mine Site segregated based on their potential to generate acid rock drainage and to leach metals.” This is the one and only time that acid rock drainage (aka acid mine drainage) is mentioned in the DEIS. The lack of transparency within the DEIS regarding acid mine drainage and long term treatment deems this DEIS inadequate. The fact that PolyMet is proposing lean ore stockpiles needs to be addressed in two regards. First, lean ore stockpiles obviously have the greatest potential for generating acid mine drainage and leaching heavy metals. This is not being adequately addressed. Second, lean ore stockpiling suggests that further mine processing could be done, generating more tailings. The DEIS does not adequately address the potential of extracting metals from these stockpiles.	WR1E,WR2C,WR2D
39	4.1-65—There is no conclusion as to how ground water seepage would be treated.	WR4C
39	4.1—59—“However the scant data that does exist characterizing mine site hydrology suggests that there may be substantial connection between the bedrock and surficial aquifers.” There is a disconnect between this statement and the data provided by Barr Engineering. It appears that modeling was done to fit pollutants into existing standards irrespective of the actual physical hydrology. Explain the software program that produced this modeling. Explain how the independent consulting firm put this together. Neither the DNR nor the hired consulting firm is doing an adequate job of independently checking out statistical information provided by Barr Engineering for PolyMet. Explain in the introduction what standards the agencies are using when they accept data provided by Barr Engineering when Barr has been hired by PolyMet. Explain in the introduction how the agencies chose Environmental Resources Management, a London based firm, as an independent agency to assist with the environmental review process. Al Trippel’s double dipping, being paid by ERM as well as being paid by Aquila, should be included under socioeconomic impacts, along with PolyMet officials who are retired from mining or other jobs but now receiving salaries from PolyMet. Explain how double dipping such as this contributes to the local economy.	WR1E



*Alphabetical by sender's first name*

<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
40	I am introducing my comments with the following remarks. The Minnesota Department of Natural Resources and the Army Corps of Engineers have twice denied Minnesota citizens free access to public comment and discourse. During both the PolyMet scoping hearing and the DEIS hearing process, citizens were denied the right to ask questions of the agencies in a public format. At the same time, the agencies allowed spokesmen to speak in favor of PolyMet. At the scoping hearing, PolyMet was allowed to present a power point introduction to its mine project with no mention of acid mine drainage. At the DEIS hearing, local politicians were allowed to speak in favor of the mining project, using verbatim quotes from company propaganda. Again, no mention was made of acid mine drainage and heavy metal leaching requiring long-term treatment. This process is further tarnished by the fact that PolyMet is considered in this DEIS as an isolated mine project, not as the lead mine within a metallic sulfide mining district. The sad fact is that agency heads are getting paid with public money to mislead and misinform the public. I don't understand how 5 years and \$20,000,000 could result in a document so poorly put together and based upon such poor science. That amount of money in itself could have been a start toward cleanup of the area and a new vision of how the future might look. Instead, we have \$20,000,000 of paperwork that tries to justify the mining of less than 1% ores. To top it all off, the public was given 90 days to make their way through 3 binders full of documents.	EOO,PRO6,RFI,WR3I
161	I respectfully urge you to extend the public comment period to May 3, 3010. This issue- the impacts if granted- will have major and lasting and irreversible consequences for our region. The official comment period fell during the major holidays and the worst weather. Please Extend!	PRO6
407	4.1-135—"PolyMet proposes to mitigate the increased solute load expected in the East Pit from the disposal of the higher sulfide waste rock by pumping East Pit water to the WWTF for additional treatment for approximately 30 years (years 21-50)." What happens after 30 years? Does the pollution disappear? What motivation is there for the company to spend money on treatment after the mine is closed and no longer making money? When Polymet gets bought out by another company, how will the transfer of this responsibility occur? What role does the DNR have in monitoring the pollution and the treatment? Does the DNR have enough of a budget to maintain this? How can we project such costs up to 50 years in the future? Please address the above within the EIS process. The Dunka mine site, at which LTV excavated sulfide ores in order to mine taconite underneath beginning in the 1960's and continuing through the 1980's, has been leaching toxic heavy metals into Birch Lake, and now into the Dunka River. This is concrete evidence that the sulfide ores will leach out toxic metals and that the agencies and the mining companies have not been able to control this leaching. The Dunka mine site continues to receive a variance. Information on the leaching of these heavy toxic metals has been known since the 1980's. The Dunka pit legacy shows several things. First, it may take a period of 20 years or more for acid mine drainage and/or heavy metal leaching to appear after ore and rock has been stockpiled. Second, there is no known way to control the leaching, at least no way that is financially acceptable. The Dunka mine site records must be made part of the EIS process. All records from the MPCA regarding this matter must be brought forward, as the MPCA is the agency that has been granting variances in regard to the leaching of metals into Minnesota waters.	RFI,WR3I
<b>Sender Last Name:</b> Dostal		<b>Submission ID:</b> 3387
3677	The mining should not take place simply to keep the area pure as it has been for so many years.	EOO
<b>Sender Last Name:</b> Dow		<b>Submission ID:</b> 2963
3327	Please accept these comments on the PolyMet Mining Corp. NorthMet mining project Draft Environmental Impact Statement. I have serious concerns about the safety of this project and its potential impacts on Minnesota's natural resources. My international and domestic guests value the time we have spent in the area the mine would affect and do not want to lose our natural treasure to a project that may bring money to the area for a few years, yet leave irreparable damage.	G2,G11

*Alphabetical by sender's first name*

**Comment ID**    **Comment Text**

**Theme Codes**

**Sender Last Name:**    Draves

**Submission ID:** 287

301 I am not an expert on environmental matters, nor am I an expert in the area of non-ferrous mining. However, I am an educated person who understands both sides of the issues that surround the Polymet Mining project in the Hoyt Lakes, Minnesota area. I would like to state my support for this much needed project. I grew up in Hibbing, Minnesota and currently live and work in the twin cities area. My grand-father, father, and uncle are all current/former employees of the mining industry. During college I was able to work two summers for National Steel Pellet Company in Keewatin as a truck driver in the iron ore pit and was able to see first-hand how much of the operation worked. Thanks to this opportunity, I was able to save enough money to pay for my entire college tuition and graduate debt-free. I have also experienced how much the state of Minnesota needs mining, especially in these grim economic times. Despite my family and geographic background, one would assume that my opinion is biased. However, I have spent my fair share of time hunting, fishing, canoeing in the BWCA, and I have even lived in Grand Marais for 4 years which is one of the most beautiful areas in Minnesota. I have also traveled to three other continents and have seen firsthand what real environmental devastation looks like in places that have no regulations. If there were any reasonable facts that one would lead a reasonable person to believe that irreparable harm would befall our state due to this mining process, I would be against it 100 percent because I love this state and enjoy its vast natural resources. No one wants an environmental disaster in their back yard. Many groups have voiced their opinions on the matter and despite Polymets and the State of Minnesota's best efforts, their response is blatantly predictable. Their idea of economic prosperity is to open another canoeing outfitter in Ely or another dog-sledding outfitter in Grand Marais. Their idea of good paying jobs is to have a bread-winner of a family working as a waiter/waitress in a restaurant or cleaning a hotel room for visitors from the twin cities area. They simply cannot come to terms with the fact that northern Minnesota's economy is sustained by the mining industry and not the tourism industry. If the state of Minnesota were to have these special interest groups impose their will upon it, we would soon be in a state of complete economic collapse. Growing up on the range, I saw piles of red rocks my entire life. Growing up on the range, I saw huge pits of water surrounded by red rocks. Now when I return, I see Birch trees reclaiming these red mountains and trout now swim in the pits of water. Thanks to the DNR and Mother Nature, these large man-made scars on the landscape are returning to their original state. However, the smoke stacks and conveyor belts stand idle and workers are waiting for a real opportunity to provide into the local and state economy. This project needs to be approved.

EOO

**Sender Last Name:**    Dubiak

**Submission ID:** 328

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
348	I am writing in support of the EIS for the proposed Polymet project. It seems to me that after over 4 years, \$20 million dollars, and countless hours on everyone's part that the company's compliance with some of the most stringent environmental laws in the world can be assured. I believe the effort on the part of all interest involved in the process assures a win-win situation for all interested parties. In projects of this magnitude, someone can always fault something but the focus on the main issue of whether the requirements need to be of primary importance. With today's technological capabilities, monitoring of compliance should be readily available. I also believe approval will send a very positive message to the investment markets that while the state laws are very stringent, projects can get done in an environmentally friendly and economic manner. I believe Polymet has been very fortunate to have patient investors who have contributed over \$60 million to the Company. If the markets perceive that the state is a roadblock going forward, investment capital for Polymet and other like companies on the Range will not be available from capital markets for developmental monies and the potential for economic redevelopment will be lost. I spent my career in the investment business and I urge you to not lose sight of how important this factor is. If Glencore, which is providing Polymet over \$50 million were not in the picture, the project would not be moving forward due to lack of funds. This project in my opinion will prove to be a catalyst for the rebirth of the mining industry on the Range in a number of different ways. First, it will create over 400 permanent jobs, numerous related jobs for other services, increase state and local taxes, and reinvigorate several communities. Secondly, it will help preserve the cultural aspects of the Range which is important to many people and to the diversity of the state. I grew up in a steel mill town (East Chicago, Indiana) which once was thriving but now when I return it is boarded up with no tax base and declining population due to lack of jobs. I believe this project will contribute to a reversal of the trend on the Range so what happened to my home town will not happen there. Lastly, I really believe this project will prove to be a catalyst for further growth of metals mining throughout the entire area, bringing with it job growth, more tax dollars, reinvigoration of communities, as well as increased domestic security from foreign-sourced metals risk. Economic growth when balanced with environmental compliance is a real positive for everyone involved.	EOO
<b>Sender Last Name:</b> Dunn		<b>Submission ID:</b> 1222
1352	I have serious concerns about the safety of this project and its potential impacts on Minnesota's natural resources. I have researched the environmental effects on mining in this area and am convinced that it would be detrimental to this nature conservatory. Please do not allow mining to occur near the MN Boundary waters. Let's protect this land that has already been set aside for conservation amidst growing habitat loss.	G2A
<b>Sender Last Name:</b> Dunnington		<b>Submission ID:</b> 2545
701	The mine site disrupts natural corridors for the movement of wildlife. Specifically the Canada lynx, which is a federally-listed threatened species that requires large territories and benefits from undisturbed forest corridors. No provision is made for mitigating this loss of habitat in the DEIS.	WI5
1402	Sulfates are a problem that are not dealt with rigorously in the DEIS. Sulfates in surface water demonstrably impact aquatic vegetation, specifically wild rice. In addition, sulfates react with elemental mercury in a process known as mercury methylation. Methylmercury is the form that bio-accumulates in fish and animals that eat fish, including humans. What process has been identified to detect and mitigate methyl mercury in the environment and how will community health be dealt with and paid for?	WR4B,WR4C,WR4F,FM1,F
2182	There was little or no field sampling done on the movement of ground water through the bedrock. Since the mine and its waste storage site sits nearly on the continental divide, it should have been determined if there is any chance that polluted mine drainage (including acids, metals, or sulfates) could move in the rock over time to the north and into the Boundary Waters watershed. This was not done and should be before permitting.	WR2A

*Alphabetical by sender's first name*

<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
2373	The DEIS does not outline any specific plan for reclamation after the mine site is closed. In the same vein there is no specific mention of the method or amount of financial assurance that the mining company will need to set aside for the potential disasters after closing. Because acid mitigation is difficult to predict and long term treatment after closing is necessary, there needs to be a large sum of cash held in escrow as a damage deposit and that amount should be specific and included in the final EIS.	PD3,PD4
2374	The DEIS does not approach the most important question of cumulative impacts of this mine and the others that are proposed in the district. Polymet can not be looked at as a single, one-time event in N.E. Minnesota. With permitting of Polymet will come at least 2, perhaps 4 or more new applications for permitting from other mining companies. What will be the total impact on the environment by all these potential mines and how will the EIS deal with mitigation of all these in concert? Specifically the Boundary Waters, which is down wind of all these projects, will be negatively impacted in terms of atmospheric haze from dust particles and other emissions blown into the air. According to the U.S. Forest Service, the Polymet project alone will cause significant haze impairments in the Boundary Waters 36 days each year! Tell us how this cumulative effect on air quality must be dealt with for Polymet and all future applications. In addition how is global warming affected by this mining operation and the combinations of all potential mines in the future?	G9
2375	Where is the plan for constant monitoring of the mining operation by the DNR? Waste rock needs to be sorted by sulfide content, tailings basins need to be inspected for leaks, and waste piles need to be sampled for pH in runoff water regularly. Do we just depend on the mining company to do its own monitoring? There should be a program set up in the EIS for constant monitoring of operations by an independent environmental concern or the DNR.	PD8
<b>Sender Last Name:</b> Durbin		<b>Submission ID:</b> 2573
3131	I would like to urge you to recommend and immediate halt of the Polymet sulfide mine project. The possibility of mercury and acid contamination of the rivers and ground water is too great. The EIS was totally inadequate. As a resident of Lake Vermilion, I believe our watershed is too important a resource to risk possible, short-term economic gain. Every sulfide mine in the history of North America has had major contamination problems. Let's join our neighbors in Wisconsin and place a moratorium on nonferrous mining.	EOO,G7,G8,G12
<b>Sender Last Name:</b> Durtsche		<b>Submission ID:</b> 2320
2773	The PolyMet DEIS describes significant environmental issues associated with this proposed mine. These issues should be resolved before this mine is approved by the Minnesota Department of Natural Resources and the U.S. Army Corps of Engineers. Finally, as a long-time user of the Boundary Water Canoe Area Wilderness, I have major concerns over mining operations encroaching on this treasured and pristine "island" of wildlife, nature, and beauty. The BWCAW is a significant recreation and tourism resource for MN today and will only increase in value as more and more of our earth is destroyed from industries such as mining. It would be foolish to use short-term, non-generational thinking when deciding on whether to allow this mining operation to move forward.	EOO
<b>Sender Last Name:</b> Dustin		<b>Submission ID:</b> 1208
159	The draft environmental impact statement for this project is a massive document that cannot be adequately reviewed in the time period allocated for public comment. In addition, this project impacts	PRO6
160	the Superior National Forest, Lake Superior, an international body of water, and the atmosphere which is obviously international. Therefore public comment should at least receive national attention.	PRO6

*Alphabetical by sender's first name*

<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
216	The wetland mitigation proposals make absolutely no sense. The wetlands impacted are in a sensitive watershed that depends on them to store, release, and filter water into the watershed. Why create wetlands in a different watershed to mitigate this destruction? That will not solve the problem of damage to the impacted watershed. Perhaps the saddest part of the DEIS is its coversheet.	WE3
771	The draft environmental impact statement for this project is a massive document that cannot be adequately reviewed in the time period allocated for public comment. In addition, this project impacts the Superior National Forest, Lake Superior, an international body of water, and the atmosphere which is obviously international. Therefore public comment should at least receive national attention. The document is based on many assumptions,	PRO6
1069	which it admits, are uncertain. Many of these are based on the experience of iron mining which is wholly illegitimate. The type of mining proposed here, because of its highly acidic production process, will produce toxic runoff that will continuously seep into the watershed. The pursuit of this project based on such uncertain and erroneous assumptions is nothing but an act of technological hubris. A fancy statistical technique—uncertainty analysis—was employed to get around uncertain assumptions. But how free is this method of bias since it was based on “data, professional judgment, and literature values that were approved by the resource agencies”? The wetland mitigation proposals make absolutely no sense. The wetlands impacted are in a sensitive watershed that depends on them to store, release, and filter water into the watershed. Why create wetlands in a different watershed to mitigate this destruction? That will not solve the problem of damage to the impacted watershed. Perhaps the saddest part of the DEIS is its coversheet. Three of its pictures depict the area that this massive blueprint for a toxic waste dump seeks to bequeath to posterity as a monument of our ignorance. The only responsible and reasonable alternative is the no action alternative. It is sad that the citizens of Minnesota did not have the wisdom and foresight to enact an Environmental Protection Amendment to the state constitution that could have prevented folly such as this. But, a political culture that is accelerating into degeneration cannot be expected to produce wisdom and foresight.	EOO,WE2,WE3,G7A,G7C

*Alphabetical by sender's first name*

<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
1323	<p>Bad public policy initiatives have a nasty habit of gaining traction and becoming impossible to stop. The proposed Polymet Mine at the edge of the Boundary Waters is an obvious example. The process through which this idea is being implemented is an ideal representation of internal parasitism—the corruption of the political process by narrows economic interests. ( Mancur Olson called these distributional associations—highly organized, well financed, and relatively small associations that are able to drive public policy toward their own economic interest against the public interest—Mancur Olson, <i>The Rise and Fall of Nations</i>, Yale University, 1982) Polymet and its lobbying arm, Mining Minnesota, have successfully co-opted the local politicians in Northeastern Minnesota with their mantra of “jobs, jobs, jobs” to bring this destructive project to fruition. It is worth pointing out that the jobs mantra is often used to justify special interest rent seeking at the state and local level. At the federal level national defense is an additional excuse for special interest corruption. The environmental arguments against this project are so overwhelming that its rejection ought to be a no brainer. Since these arguments have been presented elsewhere (e.g. <a href="http://nmw.org/issues/sulfide%20index%20page.htm">http://nmw.org/issues/sulfide%20index%20page.htm</a> and <a href="http://www.preciouswaters.org/#&lt;http://www.preciouswaters.org/&gt;">http://www.preciouswaters.org/# &lt;http://www.preciouswaters.org/&gt;</a> ), I will not other to repeat them here. Rather I shall focus on some issues that may have received less attention. This whole problem began with the ill-advised leasing of state lands in Minnesota for mining exploration. This raises the question about the property rights attached to these lands. Supposedly these lands are held in the interest of all the citizens of Minnesota, and their acquisition and maintenance are supported by the tax payments of those citizens. The state justifies mineral exploration on the grounds that it will create jobs and drive economic growth. (It ought to be obvious that unlimited economic growth, by treating the earth as both a source and a sink, will consume and pollute the biosphere to our own detriment. The fact that this is not obvious is too complex to address here.) This possibility captures the interest of the people living near the areas where minerals are found. But living in the local area does not confer a property right to the resources in the area that are on public lands. Leasing these lands, however, initiates an illegitimate transfer of property. (Legality is not the issue here. Unfortunately much corruption is legal which has resulted in a general complacency regarding it.) The end result is that the local residents behave as if they have some sort of use right to the property to the detriment of the more diffuse interests of the rest of the citizens of the state. When all the negative externalities are added in, the issue of property rights becomes far more complex. What about the pollution of the Boundary Waters, a resource that belongs to all citizens of the United States, and is used by national and international visitors? What about the pollution of adjacent private lands? What about pollution of waterways that may affect Canada and air pollution that has worldwide effects? The fact that the approval of this proposal will inevitably lead to the approval of several more such “projects” magnifies the complexity and cumulative impact of these issues. This cumulative impact only received passing mention in the DEIS. In addition to negative externalities, there are transcendental values that are ignored by the economic calculations. These include natural beauty, the experience of being in the relatively unspoiled natural world, outdoor recreation, and the satisfaction of knowing that our natural heritage is preserved even though we may never visit it. Evidence is now beginning to accumulate that modern man is starting to suffer from a natural deficit disorder. The fact that we are becoming so divorced from the natural world may</p>	G1,G2,G4,G13
1324	<p>The document is based on many assumptions, which it admits, are uncertain. Many of these are based on the experience of iron mining which is wholly illegitimate. The type of mining proposed here, because of its highly acidic production process, will produce toxic runoff that will continuously seep into the watershed. The pursuit of this project based on such uncertain and erroneous assumptions is nothing but an act of technological hubris. A fancy statistical technique—uncertainty analysis—was employed to get around uncertain assumptions. But how free is this method of bias since it was based on “data, professional judgment, and literature values that were approved by the resource agencies”?</p>	G7A,G8B
1325	<p>Three of its pictures depict the area that this massive blueprint for a toxic waste dump seeks to bequeath to posterity as a monument of our ignorance. The only responsible and reasonable alternative is the no action alternative. It is sad that the citizens of Minnesota did not have the wisdom and foresight to enact an Environmental Protection Amendment to the state constitution that could have prevented folly such as this. But, a political culture that is accelerating into degeneration cannot be expected to produce wisdom and foresight.</p>	EOO

*Alphabetical by sender's first name*

<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
3714	repeat them here. Rather I shall focus on some issues that may have received less attention. This whole problem began with the ill-advised leasing of state lands in Minnesota for mining exploration. This raises the question about the property rights attached to these lands. Supposedly these lands are held in the interest of all the citizens of Minnesota, and their acquisition and maintenance are supported by the tax payments of those citizens. The state justifies mineral exploration on the grounds that it will create jobs and drive economic growth. (It ought to be obvious that unlimited economic growth, by treating the earth as both a source and a sink, will consume and pollute the biosphere to our own detriment. The fact that this is not obvious is too complex to address here.) This possibility captures the interest of the people living near the areas where minerals are found. But living in the local area does not confer a property right to the resources in the area that are on public lands. Leasing these lands, however, initiates an illegitimate transfer of property. (Legality is not the issue here. Unfortunately much corruption is legal which has resulted in a general complacency regarding it.) The end result is that the local residents behave as if they have some sort of use right to the property to the detriment of the more diffuse interests of the rest of the citizens of the state. When all the negative externalities are added in, the issue of property rights becomes far more complex. What about the pollution of the Boundary Waters, a resource that belongs to all citizens of the United States, and is used by national and international visitors? What about the pollution of adjacent private lands? What about pollution of waterways that may affect Canada and air pollution that has worldwide effects? The fact that the approval of this proposal will inevitably lead to the approval of several more such “projects” magnifies the complexity and cumulative impact of these issues. This cumulative impact only received passing mention in the DEIS.	PD1,PD2,CR1
3825	Bad public policy initiatives have a nasty habit of gaining traction and becoming impossible to stop. The proposed Polymet Mine at the edge of the Boundary Waters is an obvious example. The process through which this idea is being implemented is an ideal representation of internal parasitism—the corruption of the political process by narrows economic interests. ( Mancur Olson called these distributional associations—highly organized, well financed, and relatively small associations that are able to drive public policy toward their own economic interest against the public interest—Mancur Olson, <i>The Rise and Fall of Nations</i> , Yale University, 1982) Polymet and its lobbying arm, Mining Minnesota, have successfully co-opted the local politicians in Northeastern Minnesota with their mantra of “jobs, jobs, jobs” to bring this destructive project to fruition. It is worth pointing out that the jobs mantra is often used to justify special interest rent seeking at the state and local level. At the federal level national defense is an additional excuse for special interest corruption. The environmental arguments against this project are so overwhelming that its rejection ought to be a no brainer. Since these arguments have been presented elsewhere (e.g. <a href="http://nmw.org/issues/sulfide%20index%20page.htm">http://nmw.org/issues/sulfide%20index%20page.htm</a> and <a href="http://www.preciouswaters.org/#">http://www.preciouswaters.org/#</a> ), I will not bother to	EOO
3826	In addition to negative externalities, there are transcendental values that are ignored by the economic calculations. These include natural beauty, the experience of being in the relatively unspoiled natural world, outdoor recreation, and the satisfaction of knowing that our natural heritage is preserved even though we may never visit it. Evidence is now beginning to accumulate that modern man is starting to suffer from a natural deficit disorder. The fact that we are becoming so divorced from the natural world may have deleterious consequences for human evolution. The wanton destruction of our natural areas will only hasten the development of this condition. Since transcendental values are not amenable to valuation by the price mechanism, they are not adequately accounted for in the economic calculations used to justify this ill-advised project. In addition, the failure to account for these values violates inter-generational equity since we will be leaving a despoiled environment to our descendents. The alleged benefits upon which this project is justified are local, short term and short sighted. The non-local benefits will accrue to an alien corporation. Once the resource is depleted (and sold to China which raises othe issues); a massive pile of waste will remain. History is very clear when it comes to clean-up after projects like this are completed—it does not get done. The corporate organization of the mining industry is designed to avoid these costs. Polymet is a subsidiary of a parent organization conveniently located in Canada. Once the resource is depleted, the	EOO

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<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
3827	subsidiary will declare bankruptcy after transferring its assets to its parent. The taxpayers of Minnesota will be left with the mess to clean up. In addition, unfortunately, those who are responsible for this bad decision will not be in place to be held accountable once the environmental consequences become evident. The all purpose justifier of this project is that it will create jobs. But some jobs simply should not be done. A prime example is the creation and marketing of tobacco products. This creates jobs and provides wealth to the corporations in the business, and tax revenues to government. But it has no other purpose than to cause addiction, illness, and death, which, unfortunately, creates other jobs in the health care and funeral industries, all of which increases that sacrosanct indicator of economic growth--GDP. It has now become evident that some high paying, "good jobs" in the finance industry should not be done. The fact that this project will defoliate, consume, and pollute a resource that would generate far more lasting value if left alone puts it in the same category.	G1,G2,G4A
<b>Sender Last Name:</b> Dziuk		<b>Submission ID:</b> 2777
3189	Please accept these comments on the PolyMet Mining Corp. NorthMet mining project Draft Environmental Impact Statement. I have grave concerns about this project's potential impacts on Minnesota's natural resources and public health. I am vastly opposed to this LARGE open pit sulfide mine next to the Boundary Waters Canoe Area Wilderness. The mine proposal is in an area that drains into the St. Louis River watershed. These mines are never clean during operation or after they supposedly close (Minnesotans are going to get stuck with the long term cleanup for many, many years.) Just visit the gigantic open pit copper mine in Bisbee Arizona - these are NOT clean or environmentally friendly operations! PolyMet is not even a United States Company, it is a Canadian firm based out of Vancouver, British Columbia so why would we have them rob us?	EOO,G2,G7A
3756	How can you justify mining near the BWCA. Not only will it have long term effects on our health, environment, and public safety; it will be endangering wildlife, fish, and people. Doesn't concern over the long-term effects outweigh the short term profits. I guess money talks! Think about it.	G2C,G3B
<b>Sender Last Name:</b> Earth Protector, Inc		<b>Submission ID:</b> 3438
3210	Earth Protector is certain that it is not news to the Minnesota Department of Natural Resources (DNR)and the Pollution Control Agency (PCA) that when PolyMet mines and processes the sulfide containing rock, the wastewater from the process will be exposed to air and water and produce sulfuric acid, which will drain into the Partridge River. This discharge will affect the quality of the water and the wild rice contained therein that is an integral part of Minnesota's heritage and people's livelihood. While the rules for sulfide discharge to surface water are questionable, the rules protecting the wild rice are not. Please advise how PolyMet, DNR and PCA, will prevent damage to our valuable water and wild rice resources from the discharge of sulfide laden wastewater by the PolyMet company.	WR4F
<b>Sender Last Name:</b> Eaton		<b>Submission ID:</b> 3708



*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
1	<p>Moreover, the Draft EIS fails to demonstrate compliance of the proposed mining project with Minnesota’s antidegradation policy and requirements. In fact, the Draft EIS discloses “uncertainty” as to whether the proposal would or would not comply with the antidegradation requirements. DEIS, 4.1-128 (stating that “there is some uncertainty whether mercury concentrations in the West Pit, or the ultimate discharge to the Partridge River when the West Pit begins to overflow around Year 65, would meet Great Lakes Initiative water quality standards”). Instead of stating that the project cannot go forward until compliance with water quality standards and the antidegradation policy are demonstrated, however, the agencies simply state in the Draft EIS that mercury monitoring is recommended to determine if there are elevated mercury concentrations. Id. There is no support within the CWA or Minnesota’s regulations for the approval of a project that may in fact violate water quality standards and the antidegradation policy by simply recommending monitoring by the project applicant. To the contrary, the proposed project cannot be approved until full compliance with water quality standards, including the antidegradation policy - is demonstrated through a detailed and objective environmental analysis.</p>	WR3I
2	<p>Moreover, the Draft EIS admits that the proposed project “would degrade surface water quality by raising ambient concentrations of several parameters, primarily metals (e.g., antimony, arsenic, copper, nickel, and zinc).” DEIS, 4.1-191. The Draft EIS, fails to explain how this admitted degradation will somehow not violate the state’s antidegradation policy.</p>	WR3I
2	<p>I. The Agencies Have Improperly Limited the Scope of the Environmental Analysis within the Draft EIS The Council on Environmental Quality (“CEQ”) has promulgated regulations to implement the National Environmental Policy Act (“NEPA”), found at 40 C.F.R. Part 1500. The CEQ NEPA regulations are binding on all federal agencies. 40 C.F.R. § 1507.1. NEPA requires agencies to use the criteria for “scope” that is set forth in the CEQ regulations in order to determine “which proposal(s) shall be the subject of a particular statement.” 40 C.F.R. § 1502.4(a). Proposals which are related to each other closely enough to be, in effect, a single course of action, must be evaluated together in a single EIS. Id. The CEQ NEPA regulations further define the proper scope of EISs, and mandate that connected, cumulative, and similar actions be assessed together in a single EIS. 40 C.F.R. § 1508.25. Actions are connected if they automatically trigger other actions which may require EISs, they cannot or will not proceed unless other actions are taken previously or simultaneously, or they are interdependent parts of a larger action and depend on the larger action for their justification. 40 C.F.R. § 1508.25(a)(1). Actions are cumulative if they will have cumulatively significant impacts. 40 C.F.R. § 1508.25(a)(2). And actions are similar if they have similarities that provide a basis for evaluating their environmental consequences together, such as common timing or geography. 40 C.F.R. § 1508.25(a)(3). According to the Draft EIS: The Mine Site would be located at a previously unmined area in the Superior National Forest . . . The Mine Site is located on National Forest System lands; however, the mineral rights are privately held and under lease to PolyMet. It is the position of the United States that the mineral rights leased by PolyMet do not include the right to open pit mine the National Forest System land. . . The USFS and PolyMet are exploring the feasibility of a land exchange to consolidate the surface ownership and mineral rights to PolyMet and thereby remove all National Forest System lands from the proposed Project. The USFS will be initiating its own EIS to evaluate the proposed land exchange, while this NorthMet Project DEIS assumes the successful completion of a land exchange. Draft EIS at S-1; see also id. at 1-3. From this description, there is no question that the proposed NorthMet mining project and the proposed land exchange are connected, cumulative, and similar actions that must be assessed together in a single EIS. 40 C.F.R. § 1508.25(a). Because the mineral rights leased by PolyMet do not include the right to open pit mine the Superior National Forest lands, the proposed mine cannot proceed unless the</p>	PRO1
3	<p>Last, the Draft EIS is wholly deficient in its failure to analyze and predict impacts to Lake Superior. The simple statement that little information is available on the extent of methylmercury formation in the Lake Superior estuary is no substitute for the required environmental analysis, especially where it is acknowledged both that the project area waterbodies and the St. Louis River are already impaired for mercury, and that the NorthMet and other proposed projects would increase sulfate levels which would likely increase methylmercury. A comprehensive, cumulative effects assessment on the potential impacts to Lake Superior is required.</p>	WR5A

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**Theme Codes**

3 Applicants for federal licenses and permits must obtain Section 401 Certification from the state “before a federal license or permit can be issued for activities that may result in any discharge into intrastate navigable waters.” PUD No. 1 of Jefferson County v. Wash. Dep’t of Ecology, 511 U.S. 700, 707 (1994). The triggers for the Section 401 certification requirement are 1) a request for a federal license or permit authorizing 2) any activity that may result in the discharge of pollutants into navigable waters. No federal licenses or permits, including a Section 404 permit, can be issued for the proposed NorthMet mine without the proper Section 401 Certification. And the required 401 Certification must demonstrate that the proposed project will comply with all water quality standards at all times. See Hells Canyon Preservation Council v. Haines, 2006 WL 2252554 (D. Or. 2006). In another mining case, the State of Washington Pollution Control Hearings Board (PCHB) vacated a previously-issued 401 certification largely because the water in the mine pit is predicted to violate water quality standards. See Okanogan Highlands Alliance v. State of Washington, Case No. 97-146, Final Findings of Fact, Conclusions of Law and Order of the Washington Pollution Control Hearings Board (1/19/2000), <http://www.eho.wa.gov/searchdocuments/2000%20Archive/pchb%2097-146%20final.htm>, on reconsideration: <http://www.eho.wa.gov/searchdocuments/2000%20Archive/pchb%2097-146%20reconsideration.htm>. (final agency action denying Mine’s water rights and finding that there is no reasonable assurance that the Mine will comply with state water quality standards). Here, because the Draft EIS acknowledges that numerous water quality standards will be violated at some point, the State cannot issue the 401 Certification and thus the Corps cannot issue the 404 permit.

WR3I

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**Theme Codes**

4 V. The Draft EIS Fails to Disclose and Discuss Past Failures of Similar Mines, in Violation of NEPA NEPA requires that environmental information of high quality be provided to public officials and citizens before decisions are made. 40 C.F.R. § 1500.1(b). The purpose of NEPA is to help public officials make decisions that are based on an understanding of the potential environmental consequences, and to take actions that protect, restore, and enhance the environment. Id. § 1500.1(c). Moreover, an EIS must disclose and respond to “any responsible opposing view.” Id. § 1502.9(b); see also *Seattle Audubon Society v. Moseley*, 798 F. Supp. 1473, 1479 (W.D. Wa. 1992), *aff’d* *Seattle Audubon Society v. Espy*, 998 F.2d 699 (9th Cir. 1993) (“[a]n EIS that fails to disclose and respond to ‘the opinions held by well respected scientists concerning the hazards of the proposed action ... is fatally deficient.’”); *Earth Island Institute v. U.S. Forest Service*, 442 F.3d 1147, 1172-73 (9th Cir. 2006) (FEIS failed to respond “explicitly and directly” to conflicting views, and agency violated NEPA requirement to take a hard look and provide a full and fair discussion allowing informed public participation and informed decision-making). The proposed NorthMet mine would be the first ever copper nickel mine in the state. To comply with NEPA’s disclosure requirements and the underlying purpose of NEPA, the agencies must fully disclose to the public the long-history of past failures and severe environmental harm caused by hard rock and copper mines across the country and world wide. Few if any activities have had more persistent, permanent and significant environmental impacts to water quality and other resources, and the Draft EIS violates NEPA by failing to objectively and openly disclose this legacy of environmental pollution from the hard rock mining industry. Before permitting this type of mining in the state, the agencies must plainly and openly disclose that, according to EPA, 40% of the headwaters of all western waterways have sections that are polluted by mining, and that EPA ranks the mining industry as the nation’s top toxic polluter, reporting more toxic releases annually than any other industry sector. Moreover, in the scientific reports “Comparison of Predicted and Actual Water Quality at Hardrock Mines,” and “Predicting Water Quality Problems at Hardrock Mines: Methods and Models, Uncertainties, and State-of-the-Art,” prepared by Jim Kuipers, P.E., and geochemist Ann Maest, Ph.D., the authors analyzed water quality predictions and outcomes at 25 representative metal mines permitted in the United States during the last 25 years. See Attachment 2. The reports found that faulty water quality predictions, mitigation measures and regulatory failures result in the approval of mines that create significant water pollution problems. Id. Despite assurances from government regulators and mine proponents that mines would not pollute clean water, the researchers found that 76 percent of studied mines exceeded water quality standards, polluting rivers, and groundwater with toxic contaminants, such as lead, mercury, arsenic and cyanide, and exposing taxpayers to huge cleanup liabilities. Among the researchers' findings for the 25 mines examined in depth: • 76 percent of mines exceed groundwater or surface water quality standards • 93 percent of mines that are near groundwater and have elevated potential for acid drainage or contaminant leaching exceeded water quality standards[1] • 85 percent of mines that are near surface water and have elevated potential for acid drainage or contaminant leaching exceeded water quality standards • Water quality standards for toxic heavy metals, such as lead, mercury, cadmium, copper, and zinc, were exceeded at 63 percent of mines. • Mitigation measures predicted to protect clean water failed at 64 percent of the mines. Id. The researchers also found that mines located near surface or groundwater that tapped ore bodie

PD8

4 VI. The Draft EIS Analysis of Impacts to Air Quality and Greenhouse Gas Emissions is Inadequate As indicated by EPA in its July 31, 2009, comments, the Draft EIS must accurately describe and plainly disclose the toxic and harmful air pollutants that would be emitted from the proposed mine. This analysis must include the predicted local deposition of pollutants and their impact on local waterbodies, including potential contributions to water quality standard violations. Any conclusions that no significant deposition of pollutants is likely to occur must be supported by actual, objective analysis, and must include comparisons to other similar mines and their impacts. See *Idaho Sporting Congress v. Thomas*, 137 F.3d 1146, 1150 (9th Cir. 1998) (holding that NEPA does not allow an agency to rely on expert opinion unsupported by hard data and objective analysis); 40 C.F.R. 1502.24.

AQ4

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<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
5	The Clean Air Act analysis, including the cumulative impacts analysis, must include PM2.5 emissions, which is recognized as a harmful Criteria Air Pollutant under the Clean Air Act. See EPA PM2.5 Rule, 72 Fed. Reg. 20586 (April 25, 2007). By failing to fully analyze PM2.5 baseline levels and emissions (including the emissions of other toxic or harmful air pollutants), any conclusion that the Project complies with air quality standards and requirements is contrary to NEPA and the Clean Air Act. PM2.5 emissions, also known as “fine particle” emissions, can cause serious health impacts. According to the U.S. EPA: Fine particles and precursor pollutants are emitted by ... burning or combustion-related activities. Health effects that have been associated with exposure to PM2.5 include premature death, aggravation of heart and lung disease, and asthma attacks. Those particularly sensitive to PM2.5 exposure include older adults, people with heart and lung disease, and children. 72 Fed. Reg. 20586 (April 25, 2007). See also EPA PM2.5 NAAQS Implementation Webpage, <a href="http://www.epa.gov/ttn/naaqs/pm/pm25_index.html">http://www.epa.gov/ttn/naaqs/pm/pm25_index.html</a> ; Attachment 8 (Vermont Dept. of Environmental Conservation, “Fine Particles, the Microscopic Menace”). Additionally, as stated by the Tribal cooperating agencies, the Draft EIS cumulative effects analysis is incomplete because the 24-hour PM2.5 modeling needs to account for emissions from the Keetac Expansion Project. DEIS, 4.6- 42, n. 9. “Furthermore the Tribal cooperating agencies feel that the full cumulative effects may lead to violations of the PM2.5 NAAQS standard. Id.	AQ4,AQ4B
5	Moreover, the agencies must prepare a comprehensive, cumulative impacts analysis concerning air pollution in the region. As explained by EPA: In order to accurately assess cumulative impacts of the proposed project, including those impacts to Class I and Class II areas, the DEIS air quality analyses (increment and visibility modeling) should consider all current and reasonably foreseeable projects occurring in the area. The air quality modeling analyses do not include a comprehensive inventory of existing and planned sources impacting regional air quality. In particular, the analysis does not appear to include the proposed Mesaba Energy power plant, the Mesabi Nugget Phase II projects, or the Keetac Expansion project. There may be additional projects that have emerged since the modeling was completed. We recommend revising the air quality analysis to include all reasonably foreseeable projects in the area. July 31, 2009, EPA Comments, p. 1; see also DEIS, 4.6-42, n. 8 & 9 (Tribal cooperating agencies commenting that Draft EIS analysis did not factor in any emissions from the Keetac Expansion Project or the Essar Steel Expansion project, and that “the full cumulative effects may lead to violations of the PM2.5 NAAQS standard”). This analysis must include a discussion of how this proposal and other reasonably foreseeable projects in the region would affect the ability to satisfy state, national, and international standards and goals regarding the reduction of mercury and other emissions.	AQ4B
6	The Draft EIS acknowledges that the emissions resulting from the proposed project would be approximately 776,650 metric tons per year of carbon dioxide. DEIS, 4.6-31. What is missing, however, is any meaningful discussion as to how this and other reasonably foreseeable projects under consideration in northeastern Minnesota will affect the state’s ability to meet its goals and obligations under the Midwestern Greenhouse Gas Reduction Accord and related legislation. See DEIS, 4.6-32, n. 4 (“The Tribal cooperating agencies’ position is that these emissions will have an effect on the Midwestern Greenhouse Gas Reduction Accord and their impact needs to be analyzed as to that effect”). Even the inadequate cumulative effects that was prepared and disclosed in the Draft EIS for air pollutants inexplicably neglects to include any assessment of the overall cumulative effects from greenhouse gas emissions. With such a high number of major proposals under evaluation in northeastern Minnesota (see e.g., Table 4.6-22; DEIS, 4.6-50,51; Table 4.6-24), this lack of a cumulative effects analysis for this critically important issue violates NEPA. See <i>Muckleshoot Indian Tribe v. U.S. Forest Service</i> , 177 F.3d 800, 809-10 (9th Cir. 1999) (NEPA requires EIS to consider cumulative impacts of a project, requiring detailed information “describing the cumulative effects of a proposed action with other proposed actions”); 40 C.F.R. §§ 1508.7, 1508.25(a)(2).	AQ3,AQ4B

*Alphabetical by sender's first name*

**Comment ID    Comment Text** **Theme Codes**

6 The Draft EIS is also deficient in its analysis of greenhouse gas emissions and climate change impacts, including a complete lack of a cumulative impacts analysis for greenhouse gas emissions. As stated in the Draft EIS, the state of Minnesota has committed to long-term greenhouse gas reduction targets of 60- 80% below 2005 emission levels as part of the Midwestern Greenhouse Gas Reduction Accord in 2007. DEIS, 4.6-30. Moreover, in May, 2008, the Governor signed legislation requiring the tracking of greenhouse gas emissions and directing that interim reduction recommendations be developing, including a 15% reduction target for 2015 and a 30% reduction target for 2025. Id. The interim goals are designed as milestones towards meeting the state’s goal of reducing greenhouse gas emissions to a level at least 80% below 2005 levels by 2050. Id.

**Sender Last Name:**    Edstrom **Submission ID:** 2737

2505 Water leaching from waste rock piles at the site is expected to exceed water quality standards for up to 2,000 years. Please do no harm to the water of Lake Superior or its watershed and to the lakes and rivers of the BWCA. WR1A,WR1E

2621 And basically I support any jobs. I support union wages and jobs, of course, according to Minnesota. And I could use the work, obviously, just as a, you know, in whole, as a whole. Alright. That's it. That's all I got. EOO

2829 As recommended by the EPA, the DEIS must include an evaluation of the financial assurance that would be provided to ensure postclosure reclamation of the PolyMet NorthMet mine and plant. Sulfide mining places huge burdens on taxpayers. These mines often require long-term or perpetual pollution and treatment. PolyMet has few assets or financial history. The question of where the funding will come from for post-closure treatment, monitoring and maintenance has not been adequately addressed, and Minnesota taxpayers may have to pay millions of dollars for clean up after PolyMet has gone. I don't want to pay to clean up this operation like I already have to pay to clean up many other former industrial operations on the shores of Lake Superior. PD4

**Sender Last Name:**    Effle **Submission ID:** 3209

3544 surrounding countryside. That was OLD technology and a cut and burn mentality! I have read large parts of the EIS for the Polymet mine. This mine will employ NEW, STATE OF THE ART processes for the recovery of these metals. What with recycling an existing brownfield site(the LTV plant), NO water that will be discharged off site plus extensive monitoring of the ground and surface water, the autoclave process for recovering the metals, etc. I feel that the State of Minnesota, their consultants, and Polymet have done a very through job of identifying the risks and trying to mitigate any possible problems with nonferrious mining on this site. It is high time that this country stops depending on the rest of the world for the base metals we need to operate our industries and produce these metals right here in the USA. I feel that the Range should be able to develop these minerals for the well being of the residents, communities, and also for the taxes for the state. Polymet will provide good paying, long term employment on the Range. The " best science " has been brought to bear and the Polymet project should be allowed to be permitted and move forward towards production!! EOO,G2

**Sender Last Name:**    Eichom **Submission ID:** 218

220 I wholeheartedly support the Polymet Northmet project. As an elected official in Itasca County (county board) I understand the overwhelming positive economic impact the project will have to the entire arrowhead region. I believe Polymets' environmental impacts will be minimal. Please move forward with the permitting process, and allow this project to become a reality. Thank you. Rusty Eichorn 31708 lalpant rd. grand rapids, mn 55744 218-244-1049 EOO

**Sender Last Name:**    Elhai **Submission ID:** 1809

*Alphabetical by sender's first name*

<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
2396	I cannot pretend to be an expert on the environmental impacts of sulfide mining or on the particular situation regarding the proposed PolyMet mine. I have only lived in the state of Minnesota for half a year, and became aware of the environmental threat posed by sulfide mining to the Boundary Waters less than an hour ago. But as a citizen who believes that the state government has a responsibility to protect our natural resources, I must speak up and urge the Department of Natural Resources and the US Army Corp of Engineers to more carefully consider the long-term effects of the proposed mine. Large-scale sulfide mining is not a zero-impact process, no matter what a mining company's intentions may be. It seems ludicrous to locate such a mine in the middle of a protected wilderness area, especially when the pollutants will make their way downstream to Lake Superior. If sulfide mining is unavoidable, it seems like it would make a lot of sense to find a less fragile location for it. Furthermore, if sulfide mining is pursued, I would urge the DNR to invest seriously in technology that could make the process less harmful. Please hold the mining companies accountable-- citizens like me who love clean water and the natural silence of wilderness will be depending on you.	G6,G7
<b>Sender Last Name:</b>	Elizabeth	<b>Submission ID:</b> 2913
3241	I strongly oppose the Iron Range PolyMet project, because of potential damage to our environment. The DEIS is inadequate and ignores loss of habitat, damage to wetlands, and the cumulative effects of sulfide mining. Please reject this project.	G2C,G7C,G9
<b>Sender Last Name:</b>	Ellies	<b>Submission ID:</b> 195
192	11-16-2009 I have reviewed the EIS and found the mining project to be acceptable, although I think the sulfur levels must be monitored. I support the project.	EOO
<b>Sender Last Name:</b>	Elliott	<b>Submission ID:</b> 1341
1566	Birch Lake and S. Kawishiwi River are much too large and beautiful to ruin! Their waters are especially soft and clean. I love to visit and swim there.	G7A,G11
<b>Sender Last Name:</b>	Emmons	<b>Submission ID:</b> 2179
19	The low grade character of this ore body is not adequately addressed under socioeconomic impacts. Because of the less than 1% metals in this ore body, mining will become progressively more expensive as gas, oil, and electricity prices rise. A rise in those prices will also increase the costs of limestone and chemicals needed in the process. Equipment replacement will become more costly. No one can accurately predict whether rises in the market prices of the metals will outpace rises in the cost of mining. These factors will determine output, shutdowns, and bankruptcy. The risk factor is downplayed, based upon biased economic analysis by the Labovitz School of Business. The DEIS is inadequate in not addressing this issue from varying perspectives.	EOO,SE6
337	PolyMet would have an impact upon Class I air quality of the BWCAW and Voyageurs' National Park, due to proximity. PolyMet would have a cumulative impact upon this air quality. This issue is not defined or addressed adequately within the DEIS. The impact of acid rain from the autoclave/hydromet needs to be studied for cumulative effects in combination with acid mine drainage leaching into the water. Asbestiform fibers are not addressed in any thorough way.	AQ9
582	The DEIS allows for loss of open and coniferous bogs. The DEIS does not adequately address wetlands, sequestration, and global warming. The wetlands (peatlands) at PolyMet's mine site have been identified as worthy of protection by the USFS and DNR.	WE3,WE5

*Alphabetical by sender's first name*

<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
595	The DEIS does not adequately address loss of habitat for species considered threatened or with diminishing populations. The DEIS does not adequately address cumulative effects of its proposed operations in context with other projects in the environmental process stages.	WI5
1803	Arsenic, cobalt, selenium, copper, nickel, aluminum, beryllium, iron, manganese, and thallium may exceed water quality standards. The DEIS does not address cumulative or synergistic impacts for these parameters and others upon fish, wildlife, or humans. Water would need to be treated for anywhere from 30 years after closure through indefinitely. No financial assurance is listed or calculated. The St. Louis River watershed is already contaminated for mercury and sulfates and the former LTV tailings basin already leaches into the Embarrass River.	WR1A,WR5A
1997	The greatest inaccuracy within the DEIS is the treatment of PolyMet as a single mining project, even though all evidence points to the opening of a sulfide mining district. Addressing this issue as a single project is misleading to the public. The agencies are following political rather than scientific or legal guidelines in setting forth this DEIS from such a narrow perspective. This DEIS is inadequate by disregarding the environmental ramifications of a sulfide mining district within the Arrowhead Region of the state, and the impact upon our waters, wetlands, wildlife, air, and human health. The DEIS is inadequate due to its bias that favors the exploitation of mineral resources as the sole use of resources within the Arrowhead region.	G9
<b>Sender Last Name:</b> Emrich		<b>Submission ID:</b> 3601
3872	I realize that the country needs copper, nickle etc. and Northern Minnesota wants and needs jobs. However, the open pit mining project proposal by PolyMet Mining will populate our precious water resources in the BWCA. How much is difficult to predict - but polute they will. We are not only talking about the beauty an serenity of the area. We are talking about the future of our children & grandchildren. Will they have clean water to drink?	EOO
<b>Sender Last Name:</b> Engel		<b>Submission ID:</b> 3205
3541	To Whom it may concern, I have personally been following Poly Met for a couple years. and find this to be a very favorable proposal for both the company and the citizens of Minnesota as well, I have read the EIS and found that the it is comprehensive and complete and should be accepted as proposed to complete the permitting process. This project is imperative to the survival of the Iron Range of Minnesota, especially so in these very difficult economic times. I encourage MN DNR to act now to grant the permit necessary for the Poly Met Hoyt Lakes project to begin. Thank you, Chris Engel	EOO
<b>Sender Last Name:</b> Engelsma		<b>Submission ID:</b> 353
391	I am writing today in support of Polymet Mining's NorthMet project. Our firm, Kraus-Anderson Construction Company, is over one hundred years old and is one of the most respected general contracting/construction management organizations in Minnesota. As a business person and someone who is concerned about the environment, I took a serious look at the draft EIS. My evaluation indicates that it is far better to mine and process these minerals, that are so strategically essential to the American economy, right here in Minnesota with sound environmental practices, than rely on foreign sources that often operate free of oversight and regulation. We at Kraus-Anderson are extremely proud of our safety record in an inherently dangerous industry. I feel that worker safety at the NorthMet project can also be assured operating in Minnesota, a state with strong worker safety regulations and an exemplary worker safety record. Finally, the NorthMet project is exactly the kind of natural resource based manufacturing that is the foundation for a host of other industries that utilize these etals in their own products. This is the kind of economic stimulus that Minnesota and the United States needs right now. This project will provide many good paying jobs, with benefits, and tax revenue that will keep our State and local governments providing the basic services and education for our children. I see no reason to further delay the permitting necessary to proceed with the NorthMet project.	EOO

*Alphabetical by sender's first name*

**Comment ID    Comment Text** **Theme Codes**

**Sender Last Name:**    Erickson **Submission ID:** 14

13 My name is Dale Erickson from Aurora, Minnesota. I'm in strong support of this PolyMet project. It's too bad it drug out for that many years, for seven years to get permits and everything. I am in strong support of it. EOO

19 My name is Debbie Erickson, from Aurora, Minnesota, and I support the PolyMet project. EOO

215 My name is Joel Erickson and I represent Cummins NPower, the exclusive Distributor for Cummins Engines & Power Systems in the upper midwest. I, along with my company, fully support the approval of Polymet to operate an open pit mine. During the course of their extensive EIS review we've had the opportunity to be involved in many aspects of their operational and mining plans. Polymet has completed a comprehensive review of all potential environmental risks and have illustrated to us a commitment, second to none, to operate this mine in an environmentally sensitive manner. I can attest directly to their environmental efforts on mobile and stationary mining equipment that would be used to power their production equipment. Cummins is a world leader in clean emission technology, and PolyMet has pursued information from us on utilization of our very best technology, in an effort reduce exhaust and carbon emissions - even at a significant cost premium. Examples of this are rail cars that will shut off engines when not needed, full Tier II emission reduction technology for their high horsepower power units, and best available emission reduction technology options. Once operational they will be become a positive environmental example for all mining operations world wide to emulate. At a time in which this country is facing 10% unemployment levels and huge deficit spending the Polymet NorthMet project is exactly what we should be encouraging: responsible development that has been extensively researched, providing well paying jobs for our residents, an increased tax base for our state, and providing our country the natural materials needed to remain competitive in a global economy. Materials such as copper are necessary for a number of environmental products, including our copper zeolite SCR catalyst that will be utilized in 2010 on highway diesel engines. Using this technology 2010 on highway engines will emit virtually zero emissions by using the copper in the catalyst to reduce NOx levels while, at the same time, improving fuel efficiency significantly. We need a viable copper supply for this technology and what better way to produce it than in a mine committed to responsible environmental compliance, employing Minnesota residents, and paying Minnesota and federal taxes? I applaud their efforts and strongly recommend their request be approved as soon as possible so that operations and new jobs may begin. EOO

2741 The PolyMet DEIS describes significant environmental issues associated with this proposed mine. These issues should be resolved before this mine is approved by the Minnesota Department of Natural Resources and the U.S. Army Corps of Engineers. Please consider impact to not only a pristine wilderness area, but to other economic engines that exist in northern Minnesota. Namely, tourism. Environmental destruction is a sure outcome of such a mining project. As persons in a position to make decisions that can have huge impacts to this precious land and water resource, PLEASE do not allow this type of mining here. Any environmental analysis must consider the possibility of a spill due to a natural disaster or failure of mechanical equipment. This is too serious to just consider some current economic gain. EOO,G2,G11

3829 PolyMet Mining Corp. wants to dig an open-pit mine in more than 6,700 acres of the Superior National Forest. This is a deep deep hole roughly 1 1/3 miles in size. A permanent hole in the SNF! An terrible ecological eyesore accumulating all sorts of chemical pollutants virtually forever. Because the ores are in sulfide-bearing rock, the result will be staggering amounts of permanent chemical pollution in the immediate location, throughout the region, and any waterways associated with and around the mine -- the BWCAW would be one areas. Remember mines are 'treasure chests' with long term negatives. All for a few years of mining jobs and increasing wealth of the owners. G2A

**Sender Last Name:**    Erie **Submission ID:** 2



*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
2	As a resident of Hoyt Lakes, Minnesota and the father of three children, I am very concerned about the environment that my children grow up in, and I believe that the PolyMet Mining Company has done their due diligence in seeing that our environment will be protected. So as a citizen, I fully support the PolyMet Mining project. I would like to see it move forward. That's it.	EOO
<b>Sender Last Name:</b>	Esau	<b>Submission ID:</b> 2310
426	I have only recently become aware of the proposals regarding sulfide mining in northern Minnesota. The public comment period on the DEIS comes to a close on February 3, 2010. This is far too soon for a proposal of this nature I respectfully request a sixty day extension for the public comment period to enable citizens such as myself to properly examine the DEIS and make appropriate comment. As you are aware, the document is some eighteen hundred pages and deserves careful and thoughtful consideration before we move forward on decisions that will have impacts far beyond our lifetimes. Please be sensitive to the needs of the public for better educating themselves before bringing comments forward that will impact the decisions being made.	PRO6
<b>Sender Last Name:</b>	Essian	<b>Submission ID:</b> 3215
3546	once again toil for the country's needs by providing essential metals, base metals, to transform this country once again. So I urgently recommend the permitting of this project, the Polymet Mining Company specifically, so that the urgent work can begin now, towards rebuilding what America will surely lose if this project doesn't move forward. Our collective lives, and standard of living is in balance, for the better off amongst us, as well as the not so well off.	EOO,G1
<b>Sender Last Name:</b>	Esslinger	<b>Submission ID:</b> 1547
1892	Read on...I think you will enjoy this request regarding the PolyMet Mining decision: Before you make a decision on the PolyMet Mining Corporation, I would like to make a request of all those making the decision. It is a simple request that you WILL MOST ENJOY, I promise. Purchase and read "The Big Burn" by Timothy Egan which is about one of the largest fires this country has ever experienced (1910). BUT MOST INTERESTING is the discussion about the abuse of the land due mostly to politics, persons and corporations with large amounts of money and the lack of those managing our forest lands to keep things under control, especially under political pressure. I have serious concerns and you have some serious decisions to make. Reading this book might help you with your decision. I give you this challenge: read the book first. My email is www.geeessjr@wi.rr.com . Let me know how you appreciated reading the book and if it help with your decision on this and perhaps future issues.	EOO,G14
<b>Sender Last Name:</b>	Ethan K.	<b>Submission ID:</b> 3370
3660	It looks as if the cost isn't worth the reward. The environmental damage that could take place isn't worth the economic gain. My father works at MinTac and I've heard both sides. I've also been to the BWCA numerous times and hope to go there my whole life without it being harmed.	EOO
<b>Sender Last Name:</b>	Evans	<b>Submission ID:</b> 3469
44	Listed in the DEIS is the number of jobs this will provide to the area. Who has taken a look at this number? Are we relying solely on the statements of Polymet? Are there similar operations the state and independent observers should look at to see if the risks with the project are balanced by the promise of jobs?	RFI

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
766	I am troubled by the short time period the public had to review and comment on the project and the fact that environmental groups had to hire experts to do what should've been done by the agencies involved. If the state of Minnesota were truly interested in making this a process to protect the public interest they would've hired independent experts to review the plan and made those comments available to the public in a timely fashion.	EOO,PRO6
1059	The project is planning to use a wetland to scrub the water of pollutants. Yet this has never been proven to be effective.	WE6
3229	Mercury contamination through leaching of metals, drying of wetlands and change in water flows promises to be a huge problem. Has the Polymet project done enough actual measuring of water flows or are they relying on unproven untested models?	WR1E
3672	Financial assurance laws provide little if any protection for the public. The DNR commissioner can grant variances for a variety of reasons. I find it troubling that there are no financial estimates of the costs involved in closing the mine and the treatments in perpetuity. Certainly if I were Polymet I would want to know those costs if I were serious about cleaning up the mess after mining is finished. This should not wait until the mine permitting process.	PD4
3673	I am troubled by the proposed land exchange. The proposed open pit mine is on a unique wetland ecosystem. How is the loss of this wetland to be mitigated?	PD1
3674	Nowhere in the DEIS is a list of the many assumptions involved with this project. For example: if the sulfur content is as predicted, and if the waste rock reacts as predicted in a lab study, and if the liners hold, and if the company doesn't walk away in twenty years by declaring bankruptcy, and if the ground water flows as modeled, and if the price of the metals justifies the high cost of extraction, then the question can be asked "Is it worth it?"	PD9
3712	jobs. PolyMet purchased the former LTV taconite crushing plant and tailings basin for its plant site, but the open pit strip mine would be located within 6,700 acres of public Superior National Forest land which is designated to be sold to PolyMet without environmental review.	PD1
3744	Polymet is a Junior Mine Development Company. The executives and officers have received millions of stock options which allows them to sell their stock at a certain price. They have never operated a copper nickel mine. Their intent is clearly to get the permit to mine and then sell to the highest bidder. Their intent is not necessarily to design a mine that will safely operate and upon closure have minimal costs and minimal environmental effects. Yet this fact is not acknowledged anywhere in the DEIS and yet should be taken into account as a huge risk factor.	EOO
3745	This project is a template for mines to follow. It is very important that the state get this right.	G10
3800	I am in support of the Polymet NorthMet Project. The Polymet mine will create many long term jobs and bring much needed economic activity locally and statewide. The metals mined and the byproducts created will provide for further career opportunities. It will lessen the global environmental impact because Polymet will ensure environmentally sound mining procedures that cannot/will not be the case of mining practices overseas. It will cut down on environmental gas emissions by eliminating the need for overseas transportation of the metals. It will reuse existing equipment and facilities saving on environmental impacts, minimizing the disturbance of wetlands. Do not delay project any further. Issue the permits so job creation and economic activity can begin now while it is so desperately needed. Improve the state of MN and the nation.	EOO
3803	I love Minnesota and at 62 am thinking of retiring there but want to be someplace that air, water, ground quality are protected as well as open spaces and other species. Polymet Northmet Draft Environmental Impact Statement Polymet is a Canadian company, so this mining project will not provide a domestic source of copper, nickel, cobalt, platinum, palladium, and gold. The metals will be further processed in Canada and sold on the global market. The mineralization of northeast Minnesota is very low grade, containing approximately 8 pounds of copper and .01 ounces of precious metals per ton of waste rock. This will require energy and electricity to create enormous amounts of waste, making this a marginal mining venture on the global market, rather than providing a steady supply of	G1

*Alphabetical by sender's first name*

<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
3804	470 acres of imperiled or rare/uncommon black spruce (bog) and jack pine forest would be impacted. Excess capacity at the PolyMet processing facility would open the door for a sulfide mining district between the PolyMet site and the Boundary Waters Canoe Area Wilderness (BWCAW). Acid mine drainage and toxic heavy metal leaching are byproducts of mining sulfide ores, requiring water treatment for centuries. PolyMet admits the mine would pollute ground water, but claims that any pollution would meet water quality drinking standards. Mining pollution also adds sulfates to watersheds, triggering the chemical reaction by which mercury becomes methylated, and bio-accumulates in fish tissues. Since PolyMet's open pit would be within 20 miles of the BWCAW, haze and noise pollution would impact the wilderness. Disruption of the landscape would impact wildlife, bird, and plant habitat, while vegetation used in reclamation would introduce non-native species. Polymet's project is within federally designated lynx critical habitat. In addition, Polymet's project will impact moose habitat. Moose are experiencing rapid populations declines in Minnesota. Global warming threatens many wildlife species. According to conservation biologists working in the field, some key steps to helping wildlife survive are: 1) Protecting wildlife corridors and buffer zones, and 2) Limiting climate stresses, including habitat fragmentation and pollution.	WI2,WI5,G2B,G2C,G7A,G7
<b>Sender Last Name:</b> Evenson		<b>Submission ID:</b> 1534
1868	Please accept these comments on the PolyMet Mining Corp. NorthMet mining project Draft Environmental Impact Statement. I have serious concerns about the safety of this project and its potential impacts on Minnesota's natural resources. It is objectively impossible to believe that PolyMet will keep it's promises and fulfill their environmental responsibilities into even the near-term future. The mining industries record in Minnesota and nationwide is simply dismal. Unless a new level of serious is established on their side, giving them access to our sensitive public lands and waterways is unacceptable.	EOO
<b>Sender Last Name:</b> Favet		<b>Submission ID:</b> 1370
665	Long-term financial guarantees - Mining projects of this type have left enormous economic burdens on the surrounding communities resulting from environmental degradation and social impacts, especially after closure of active mining. Polymet talks of long-term jobs lasting for 20-years. In the life of a community that is very short-term. Our communities are suffering enormous financial burdens that are peaking now due in part to the closing of iron mines over 20 years ago and the resulting loss of families raising children in our area. The mining companies involved must be required to put sufficient funds into escrow for both environmental and social impacts. These companies who have no local ties must be held accountable for their impact as they reap what must surely be enormous financial gains to warrant the level of investment shown in just the exploratory phase of the project.	SE3,PD4
707	Water and air quality monitoring - The MPCA and USEPA have been understaffed and underfunded in recent years. A project of this scope with untested and unproven processes would require substantial, consistent monitoring to ensure the watersheds are not being polluted. The DEIS enumerates several anticipated water quality concerns for surface water, groundwater, wetlands and the greater St. Louis River Watershed (which empties in to Lake Superior) both during the mine operation and after closure. In addition to substantial monitoring there must be public access to monitoring data.	WR1A,WE3,AQ5
1601	We would like to express our concern about the proposed Polymet mining project in northern Minnesota. There are many reasons we feel it would be beneficial to have the mine project in our backyard, but there are several critical concerns not addressed by the Draft Environmental Impact Statement. If this project is allowed to go forward, our primary concerns are as follows:	EOO

*Alphabetical by sender's first name*

<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
1602	History of environmental degradation resulting from similar mining - Several states have a moratorium in place on this type of mining because it has resulted in such horrendous environmental degradation everywhere it has been tried. Wet environments are even more susceptible to the exposure of sulfur than dry environments. Polymet claims they have a new procedure that will limit the environmental impact. Is a watershed that drains into the world's largest freshwater lake the best place to test this new science? We must ensure they do this right the first time, with no shortcuts and no variances. The stakes for our region's environment, human and financial health are too great. The reality is we use the products made from these ores and we should ensure that mining is done safely. The DEIS indicates more needs to be required of Polymet to ensure that the mining will be done safely. The DEIS indicates more needs to be required of Polymet to ensure that the mining will be done safely for the people, plants, animals and environment both during the active mining period and well in to the future.	G8A,G12
<b>Sender Last Name:</b> Fedo		<b>Submission ID:</b> 138
129	My name is Lory Fedo and I am the president of the Hibbing Area Chamber of Commerce and I actually live in Side Lake, Minnesota, which is 30 miles north of Hibbing. I'm supportive of the PolyMet project, it's an important project for the people of our region. We've had double-digit unemployment for the last few years in Hibbing and many of those people are people who work for mining vendor companies so when mining -- when iron mining has been down, our people have been out of work, so for us it's just so important to have this project go forward. Already we have people from Hibbing that are working at the PolyMet project who are working for vendors who are working with the PolyMet people and we're excited about the project. We've had many -- or witnessed many presentations on the environmental aspect of the project and what they've done to minimize the environmental impact and people in our community and in our businesses are very supportive of it and really happy to see what they've done to make this a safe project for our region. I grew up around mining, I lived in northern Michigan and I lived in northern Minnesota after that, so I've been in mining communities my entire life. We know in our region how to do mining and this project, as I've reviewed it, has been one of the best put-together projects I've ever seen and we're just so excited and thrilled, I am, to see it and to be a part of something new that's going to be happening on the Iron Range. So thank you for allowing me to comment and for allowing other people to come from the Iron Range to this area. Thanks.	EOO
2634	John A. Fedo, Side Lake, Minnesota. I'm here to support the process that PolyMet has been involved with and the issuance of permits for the extraction of minerals that they're seeking. I've lived in northeastern Minnesota all my life. The last 20 years, I've lived in Side Lake. I've drawn my water from a well; we live on a lake; we've raised eight children on that site, and I think I've paid very close attention to the environment that I'm living in as well as the economy, hopefully, that both I work in and my wife works in as the director of the Chamber of Commerce in Hibbing and, frankly, the hopefulness that my children have at some time to find jobs within the area that they grew up in. I'm very comfortable with the process that PolyMet has been involved with in seeking the permit to extract the minerals. I have attended public hearings; I have read extensively about the processes that they intend to use to dispose of various elements that will be needed to refine the minerals and am comfortable that they have a process in place that frankly will do both, employ people, extract the minerals in an environmentally-safe way and ensure that I can continue to draw water from my well, which, frankly, is in the same watershed that this mine is	EOO,G6,G7
<b>Sender Last Name:</b> Feldhamer		<b>Submission ID:</b> 1344
1570	We appreciate the importance of mining to the economy of Minnesota. However, sulfide mining has always, and will always, result in acid runoff- despite the claims of new technology by the mining industry. Pollution in the BWCA - and its adverse impact on the natural resources and tourism of the area- is clearly unacceptable. We own a home on White Iron Lake and strongly oppose any mining.	EOO,G7A,G11

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
18322	The Minnesota NPDES General Stormwater Permit for Industrial Activity requires permit coverage for all types of mining for metal and nonmetallic minerals. The DEIS does not address this fact. The DEIS should be revised to include permitting of the Project site under the Minnesota NPDES General Stormwater Permit for Industrial Activity. This permitting would extend beyond the period of mining operations and into the Post-Closure time period.	EOO
18323	COMMENT #2: NONDEGRADATION - APPLICATION OF MN RULE 7050. On page 4.1-33, the DEIS includes the following text: "Because the Project is in the Lake Superior Basin, the Great Lakes Initiative (Lake Superior) water quality standards also apply (Minnesota Rules, chapter 7052). These Lake Superior standards can differ from the water quality standards for the same parameters in the Minnesota Rules, chapter 7050. Where different, the 7052 standards supersede the 7050 standards, even if the 7052 rules are less stringent. For parameters not listed in Minnesota Rules, chapter 7052, the standards from Minnesota Rules, chapter 7050 apply." This is not accurate and should be corrected. All the elements of DEIS that are affected by this correction should be revised. MN Rule 7052.0300, subp. 1 includes the following language: "This part and parts 7050.0180 and 7050.0185 establish the nondegradation standards and implementation procedures for surface waters of the state in the Lake Superior Basin. For the purposes of this part and parts 7052.0310 to 7052.0330, lowering of water quality means a new or expanded point source discharge of a BSIC to an outstanding international resource water, or a new or expanded point or nonpoint source discharge, for which there is a control document, of a BCC to a high quality water. The nondegradation standards established in this part and parts 7050.0180 and 7050.0185 for surface waters of the state in the Lake Superior Basin apply as follows:" (bold and underline added) As indicated by this language and other text from MN Rule 7052, the relationship between Rules 7052 and 7050 and the applicability of both of these Rules to this Project are not nearly as simple as stated in the text from the DEIS.	WR3I
18324	There are minimum requirements and protocols included under MN Rule 7050.0185. These should be followed. The DEIS should provide the information needed to make the "Determination of Significance". In particular, the data and analysis should be included to see if the discharge qualifies as a "significant discharge" under MN Rule 7050.0185, subp.2.G.3, as per MN Rule 7050.0185, subp.5. This provision must be applied to both the process discharge water and the stormwater discharge from the site (construction and site). This will require establishing the "baseline quality" consistently attained in the waters by January 1, 1988.	WR3I
18325	Additionally, MN Rules 7050.0185, subp.0 and 7050.0186 should be applied to any and all wetland impacts from the Project/	WE2,WE4
18326	Rule 7050.0185 applies to all pollutants. At a minimum, the analytic work in the revised DEIS should address all the chemicals on the GLI list of chemicals.	WR3I
18327	There are numerous instances in the DEIS where PolyMet proposes that long-term measures be implemented to address a problem identified in the DEIS. For every one of these measures, there must be financial provisions proposed to assure that the measures will be funded for as long as they may be needed, even if PolyMet, or some other future owner of the Project, should go out of business. There are a variety of widely-accepted business methods to structure and implement such arrangements. The costs for such arrangements can be accurately determined in order to allow for almost every possible event or development over time. Such financial provision are the only method of assuring that there will be the monetary support to implement the necessary and appropriate measures. Wherever a long-term measure is proposed to address a problem identified in the EIS and requires review and approval by any regulatory body, that regulatory body should require a suitable financial arrangement to assure funding support for the measure for as long as may be necessary. If such an arrangement is not provided, the proposed measure should be ignored in the context of the regulatory review and approval.	PD3,PD4

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
18328	Many of the proposed mitigation measures included in the DEIS would require long-term funding to implement. For each of these measures, the DEIS should include proposals from PolyMet to provide funding mechanisms to support these mitigation measures. These funding mechanisms should be sufficiently robust and durable to assure long-term funding even in the event of PolyMet going out of business. Where monitoring is proposed as part of a mitigation strategy, there should be a discussion of the possible alternatives that may be required in response to the monitoring results. The estimated costs of these possible alternatives should be provided along with durable long-term funding mechanisms. Where funding mechanisms do not accompany mitigation measures, those mitigation measures should not be considered or accepted by the agencies reviewing and approving the DEIS.	PD3,PD4
18329	The DEIS states that discharge from the Project reaches all these water bodies. There have been multiple State and Federal court rulings regarding discharges to waters that have been listed as impaired and for which a TMDL is required, but not yet completed. See, e.g, Friends of Pinto Creek v. United States Env'tl Prot. Agc'y. 504 F.3d 1007 (9th Cir., 2007) cert. denied sub nom Carlotta Copper Company v. Friends of Pinto Creek, et al. 129 S. Ct. 896 (2009). During the period of time that a water body is in this status, "40 C.F.R. 122.4(i) provides that "[n]o permit may be issued" [t]o a new source or a new discharger, if the discharge from its construction or operation will cause or contribute to the violation of water quality standards. The owner or operator of a new source or new discharger proposing to discharge into a water segment which does not meet applicable water quality standards or is not expected to meet those standards even after the application of the effluent limitations required by sections 301(b)(1)(A) and 201(b)(1)(B) of CWA, and for which the State or interstate agency has performed a pollutants load allocation to be discharged, must demonstrate, before the close of the public comment period, that: (1) There are sufficient remaining pollutant load allocations to allow for the discharge; and (2) The existing dischargers into that segment are subject to compliance schedules designed to bring the segment into compliance with applicable water quality standards." (MN Supreme Court ruling A04-2003, Cities of Annadale and Maple Lake NPDES/SDS Permit Issuance	WR3I
18330	This principle applies to project discharges of mercury and sulfates that would contribute to mercury methylation. The impairments are for mercury and mercury in fish tissue. This principle also applies to permitting for the project process operations and the site stormwater discharges (construction and industrial site NPDES permits).	WR4B,FM1,FM5
18332	The discharge requirements (no contribution at all) for mercury and sulfates that would contribute to mercury methylation under this principle are significantly more stringent than the impact criteria used in the DEIS.	WR4D
18333	Many of the statements in these sections are irresponsibly inaccurate, incomplete, and/or misleading.	WR1E
18334	"The statewide nondegradation procedures are in place to protect all waters from significant degradation from point and nonpoint sources" This statement is accurate, but the DEIS section provides no information or provisions in response to its applicability to this project. At a minimum, the DEIS should provide enough information to determine whether the degradation caused by the new or expanded discharges from the project are "significant" under Minnesota Rule 7050.	WR1E
18335	"The Lake Superior Basin nondegradation procedures apply to new or expanded point source discharges of bioaccumulative substances of immediate concern (BSIC) (Minnesota Rules, part 7052.0350)." This statement in the DEIS is incorrect. In MN Rule 7050.0300, subp. 1, there is the following text (highlighting added): "For the purposes of this part and parts 7052.0310 to 7052.0330, lowering of water quality means a new or expanded point source discharge of a BSIC to an outstanding international resource water, or a new expanded point or nonpoint source discharge, for which there is a control document, of a BCC to a high quality water." Mercury is a BCC. All the receiving and downstream waters are not currently on the 303(d) Impaired Waters List are High Quality Waters. Thus, the Lake Superior nondegradation procedures apply to both point and nonpoint source discharges of BSICs and BCCs from this project..	WR1E

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<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
18336	"The NorthMet Project would be a new facility, but PolyMet has proposed a water balance that avoids the need for any point source discharges during mine operations." This project is required to have NPDES stormwater permits for Construction Activity and Industrial Activity. These permits will cover site discharges, above and beyond the process discharges covered by another NPDES permit. By definition, discharges covered by NPDES permits are point source discharges. Thus, the project will have point source discharges during mine operations. In this section and others, the DEIS states that there will be discharge from the West Pit during Post-Closure. The Lake Superior Basin Nondegradation Standards would apply to this discharge, but the DEIS provides no information or provisions in response to their applicability to this Project discharge. Finally, this statement leads the reader to believe, in broad terms, that there is no new or expanded discharge from the site that is governed by MN Rule 7052. In addition to the discharges listed above, there are other Proposed Actions that will contribute to increased mercury discharge and/or mercury methylation listed in other sections of the DEIS, such as wetland disruption, forest loss, or disruption of peat deposits. These Actions are covered by the provisions and procedures of the Lake Superior Basin Nondegradation Standards.	WR1E,WR3I
18337	Based on the provisions of MN Rule 7052.0310 and the items listed above and elsewhere in these comments, a Nondegradation Demonstration is required. The EIS is the appropriate document for this Demonstration. Based MN Rule 7052.0310, subp. 3, the Nondegradation Demonstration must meet the requirements of MN Rules 7052.0323, subp. 2 and 7050.0320. subp. 3. At a minimum, the Nondegradation Demonstration must address mercury. The MPCA should provide guidance about whether the Nondegradation Demonstration should address other chemicals to be discharged from the Project process and/or site.	WR3I
18338	This text lists multiple new or expanded sources of mercury to downstream waters. In all these cases, PolyMet is relying on mercury reductions due to sequestration in the Duluth complex mine waste rock or the LTVSMC taconite tailings to eliminate this new or expanded discharges. In the case of the Duluth Complex rock, this assertion is based on batch simulation tests conducted by PolyMet. In the case of the taconite tailings, this assertion is based on one MnDNR study at two tailings basins. In both cases, the support for these assertions is insufficient. The support is based on only one study in each case. A study conducted by PolyMet, a party with a very strong self-interest, could be many other possible significant differences between the characteristics and sequestration capacity of the tailings in these basins and the LTVSMC tailings. Furthermore, no quantitative information from the MnDNR study is provided. There is no reason to believe that the sequestration capacity of the LTVSMC tailings will be sufficient to remove the loading of mercury generated at this project. Sequestration of chemicals by soil and/or minerals typically varies over time. For example, the soil under stormwater infiltration trenches I known to sequester heavy metals as the water leaches through the soil. At some point, though, the adsorption capacity of this soil is exceeded. From that time forward, the soil ceases to remove the heavy metals. Additionally, the heavy metals previously adsorbed by the soil may become mobile and start moving again through the soil column. This aspect of sequestration is not discussed in the DEIS.	WR4E,AQ6A
18340	This section also refers to meeting the Great Lakes Initiative water quality standard as an appropriate Impact Criteria. This is incorrect. This section should be revised to meet the more rigorous Impact Criteria imposed by the downstream impaired waters and TMDL status and nondegradation under MN Rules 7050 and 7052.	WR4D
<b>Sender Last Name:</b> Fields		<b>Submission ID:</b> 1035
1135	I am writing to you in regard to Poly Met Mining, Inc. North Met Project. This will significantly contribute to the State and local economy at a time when we really need the jobs and economic benefits. Many of the young families have to leave the area and the state in many cases to find employment, Poly Met has demonstrated it can produce these critical metals while following strict environmental requirements. Poly Met will be a domestic supplier of critical metals needed in so many applications. We need to start supplying our own goods rather than foreign suppliers for so many things including steel. It is my opinion that their project should secure approval which will benefit us locally as well as our country.	EOO
<b>Sender Last Name:</b> Fineday		<b>Submission ID:</b> 2940

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
3290	When deciding whether to take action, consider the following alarming predictions about water pollution from the PolyMet mine, taken from the DEIS itself: • Water from waste rock piles will be polluted for up to 2,000 years. • About 40 years after mine closure, the West Pit will overflow and begin discharging polluted water into the adjacent Partridge River which flows into the St. Louis River and then to Lake Superior. • Groundwater at the mine site will be contaminated with heavy metals. • Enormous sulfate releases will exceed the state standard for wild rice and will likely eliminate wild rice in the Partridge and Embarrass Rivers and the St. Louis River estuary near Duluth. • The iron range community had mining as an economic industry in the past and it wasn't sustainable nor good for the environment. It's time to support clean green energy. Let's look elsewhere for economic gains.	G1,G7A,G7B
<b>Sender Last Name:</b> Fink		<b>Submission ID:</b> 3755
1	We are writing in support of the PolyMet Mining Inc./NorthMet Project. We are long-time residents of the Iron Range and we believe that environmental concerns will be carefully met and that the project will breathe much-needed life back into this wonderful area.	EOO
2	I support the draft PolyMet EIS for the NorthMet project. PolyMet has developed a thorough EIS. The State of Minnesota is capable of conducting the necessary analysis + public review. The State's stringent standards for environmental protection will ensure the EIS requirements are met in developing + operating this project. The PolyMet NorthMet project will be developed and operated with modern technology. It will be properly supervised by the State. It will bring much needed employment to our region in a balanced, responsible way. The NorthMet EIS should be approved + accepted.	EOO
3	I am in favor of the project if air and water quality will not be adversely affected.	EOO,G2
4	In my opinion, the proposed PolyMet North Met project would benefit not only the community, but the entire state of Minnesota greatly. Locally, it would provide great opportunities for a lot of hardworking people. I also believe that the economy of the area would be greatly benefitted. I am aware of the said environmental factors, and I strongly believe that PolyMet and people in the area could join together, and work around the "roadblocks". I am pleased to see the project is moving forward, in hope to get NorthMet off the ground. I am hoping to see many great things start up in this area.	EOO,G1
5	I hope this project is decided by scientific evidence. That being said, it is very difficult for the average person to interpret the data. I wish more of the data could be put in a form that would compare Polymet with LTV. My main environmental concern is whether this will affect the BWCA. Nobody in Ely ever noticed the affect LTV had on the BWCA nor did we notice a difference when LTV closed. If Polymet will be less damaging than LTV was, I don't believe it will affect the BWCA. If that's the case, proximity to the BWCA should not be a consideration.	EOO
5	I support the Poly-Met project. I believe they will be responsible in the operation of the facility. The jobs and economic benefit it will bring to northeastern MN is very much needed. I also believe the mining of the resources in this country is a matter of national security. Also if there materials were to be mined somewhere else in the world to meet demand it would not be done as safely as Poly-Met is proposing to do. Poly-Met has made a huge investment in this project to date, it is time to move forward.	EOO
6	The Iron ranges economy was founded on mining natural resources. I have a child a house payment and intend to stay here on the range. I really hope this project goes thru so I can stay here.	EOO,G1
6	Please, I understand what economic crisis means and wish to show my support for no action proposal. I do not wish to see the exploitation of the natural resources of my home for more filthy pieces of woven cotton with writing on it to enter the area (disputable). The precious natural resources beneath our feet are not by any means worth the destruction and loss of what we have as a people in exchange to the extortion driving society and the potentially corrupt government. It's greedy, foolish, and wasteful. Think about it!	EOO,G2
7	I am a cabin owner on Birch Lake. I am in favor of Polymet 7 Fraconia Minerals. I believe in the expertise of the MN DNR. Technology can overcome the problems Northern MN needs these jobs.	EOO



*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
8	Snapshot Comments: -Environmental arguments should be relevant. NOT WHAT WAS DONE YEARS AGO. Present rules & science should prevail. -There are no 100% guarantees on anything. Don't do that to mining any more than reasonable to anything else. -New technology requires a place to be showcased and monitored. The present Polymet site is not a virgin site. Areas and facilities are already in place. Therefore minimal impact. -Studies have been extensive, much longer and greater than typically required. What are the results? Good or bad. If OK, get on with it. -Resources, economies are at stake. Evaluate, be reasonable and decide!	EOO
9	Craig Olson, C-R-A-I-G, O-L-S-O-N, I'm president of the Duluth Building and Trades Council representing approximately 6,000 men and women in the construction trades and 15 construction trade unions. I've been very active in the PolyMet process to-date. I think it is a very safe way to extract the copper and nickel, etcetera. It -- we have high unemployment in the northeast region of the state right now, some trades nearing 50 percent. This will provide much needed jobs for our local workforce. We will be able to create a better tax base if our people are working. Yesterday St. Louis County had a bond referendum for the school districts, which is the rural St. Louis County schools, and it did pass by a slim margin. And this is very important because we need to keep our kids locally in the communities and keep our parents working. So I just want to again say that we're here to -- I'm here to support the PolyMet mine and that it will provide much needed jobs for our community and our members of our unions. Thank you.	EOO
9	Dear Sirs: I am writing in favor of the Polymet Project. I feel that they have exceeded my expectations for environmental concerns and feel that the benefit of the jobs, precious minerals and general overall economic benefit to our area is far greater than the potential for environmental concerns. No facility is faultless nor can every contingency be covered but as the mining is developed, further safeguards can be implemented. These are not the same mines from 50 years ago. Many more safeguards have been implemented. We need a national supply of precious minerals to further develop fuel cells and emission controlling devices. We must not be held hostage by foreign mineral imports if we can obtain them here. The Copenhagen gathering will force us into stricter control and we need our natural resources to help with this.	EOO
9	We need the jobs on the Iron Range with all the spin-off jobs it would help tremendously, we need to keep the younger generations here. If Polymet do it safe let them do it.	EOO
9	From the information I have seen & heard, I believe that Polymet has either met or exceeded the requirements necessary to operate in No MN. I have lived in this area my entire life & plan to stay here. I have witnessed boom times and recessions and much prefer the up side. I support Polymets plan to mine in my back yard.	EOO
9	The Polymet project is a strategic project for the state of Minnesota and for the USA. It has been comprehensively evaluated and carefully designed to have minimal environmental impact. and will provide a huge economic boost to the local, state and national economies. The project must be supported by any and all right-minded citizens.	EOO
10	Having a cabin on the Kawishimi, I am very concerned that air, water, and noise pollution be guaranteed. What worries me most is the future and the impact of this mining on the N.E. portion of Minnesota wilderness.	G2C
11	My name is Elanne Palcich. I am from Chisholm, Minnesota. I have been following the PolyMet project since the scoping, and that was in like June of 2005. And, first of all, that hearing was very similar to this hearing in which people were not allowed to give -- there was no public discourse. Everybody just gave their private comment, so nobody got to hear anybody else's concerns, nobody got to hear questions. Acid mine drainage was not even mentioned at the scoping hearing. Now, I am not prepared to make real substantive comments at this time. I have the DEIS, which consists of three binders; I have followed the scoping documents, I have followed the preliminary draft EIS, and now I've got this laid out in front of me, and I don't see how anybody here tonight could possibly make substantive comments. It just takes too long to make your way through this. There is parts here, there is parts over here, you have to go back on the computer, you have to, you know, put it all together.	PRO6
12	We have a summer home in Ely, MN. I watch loons and bald eagles catch fish. I want them to live.	G2C

*Alphabetical by sender's first name*

<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
13	<p>The Construction Industry throughout the state of Minnesota is struggling. The economic recession has taken a toll on the construction industry as unemployment reaches devastating levels. Hundreds of Signatory Union Contractors in Minnesota and the region have equipment and resources sitting idle, while many Skilled Construction Craft Union Laborers remain unemployed. It is truly a rough time to be in the building and construction industry. The PolyMet Mining Company proposal to build a copper-nickel-precious metal mine and processing facility near Hoyt Lakes, MN offers Union Contractors and Union Laborers some hope to get through this recession. Construction will require approximately 1.5 million man hours of construction over a two-year period, which will greatly help our struggling economy during this recessionary period. The impact that construction work brings to the economy is numerous and includes: state taxes, income taxes, goods, services, food, lodging and other expenditures. The PolyMet Mining draft Environmental Impact Statement (EIS) for the project has reviewed all of the potential impacts and offers options for mitigation, where appropriate. We hope that you find the draft EIS to be adequate so that construction may begin quickly. PolyMet has demonstrated it can produce these critical metals while following Minnesota's strict environmental requirements to protect air, water and land. With an abundant supply of natural resources to process, the PolyMet Mining project appears to be one that offers resources and supplies that will be utilized on a worldwide market, making it an even more worthy construction project. On behalf of the Minnesota LECET Board of Trustees, we support the PolyMet Mining Project and would like to see it move forward quickly without delay to help move our economy forward again.</p>	EOO
14	<p>The economy of Minnesota is an ecosystem just like the ecosystems found throughout the state. When one part of the ecosystem is struggling, it has a negative impact on the related parts. The Building Trades in the Twin Cities Metropolitan Area are struggling; the economic recession has devastated the industries that have kept our members employed. As many as 50% of our members are sitting on the bench on any given day. The PolyMet Mining Company proposal to build a copper-nickel-precious metal mine and processing facility near Hoyt Lakes offers our members some hope to wait out this recession. Construction will require about 1.5 million man hours of construction over a two year period; some of my members are bound to part of that construction work force. But we don't have time for delays. PolyMet has made our job relatively easy by proposing a very environmentally friendly project. Much of the infrastructure for transportation and processing will be recycled from the old LTV plant. Stockpiles will be managed so water infiltration is minimized and so any water that does percolate through the piles is collected and treated. Sulfur in the ore will be used as fuel in the process, and waste streams will be managed. Air emissions will be much less than other facilities in the region – so much less they're considered a minor source. The draft environmental impact statement for the project has done a very thorough job of looking at all the potential impacts and offering options for mitigation, where appropriate. The draft EIS should be deemed adequate so that permitting can begin quickly – and so our members can start working to build the facility.</p>	EOO

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
14	<p>As Chair of the Minnesota Section of the Society for Mining, Metallurgy, and Exploration, I am pleased and honored to convey our Section’s officers support to an adequacy determination of the draft Environmental Impact Statement (DEIS) for PolyMet Mining Company’s NorthMet project proposed near Hoyt Lakes. The Society for Mining, Metallurgy, and Exploration (SME) is the world’s largest society of mineral professionals. The Minnesota Section is made up of over 350 mining professionals from around Minnesota. The SME advances the worldwide mining and minerals community through information exchange and professional development. As mining professionals we understand the complexities of our industry and emphasize the role of environmental stewardship and regulation in mineral development and processing. The DEIS demonstrates that, time and time again, PolyMet has made well researched engineering and other choices so that it can operate the mine and processing facility without harming our environment. PolyMet carefully laid out the entire project so that the disruption of wetlands would be minimized and developed a comprehensive, multi-step waste rock management regimen to minimize the potential creation of acid mine drainage. PolyMet proposes to maximize the value of the ore by using the sulfur it contains to fuel the processing. Not only does this make the best use of the material mined, it also eliminates the need for greenhouse gas-producing fuels for the process. PolyMet will manage waste streams appropriately. To ensure no financial burdens falls on the people of the state, the State of Minnesota will regularly review the closure plans, estimated costs and the financial instruments proposed by the company. Before the first shovel of ore is removed the State will need to be satisfied that all costs of closure will be set aside in bankruptcy-proof financial instruments to cover estimates closure costs. As mining professionals, and engineers of all disciplines, we not only have a keen interest in seeing this project move forward but also a strong desire to ensure that any mining be done right, with a minimal impact on our natural environment. As Minnesotan’s, we support the proper development of its mineral resources for the positive impact it has had on its people, the local area and the state. We believe the Draft Environmental Impact Statement adequately identifies the environmental issues associated with the PolyMet project and that measures have been determined to adequately address those issues. We support an adequacy determination for the draft Environmental Impact Statement (DEIS) for PolyMet Mining Company’s NorthMet project. Any other determination would be a detriment to the State’s otherwise valuable mineral resource. The PolyMet project should move from environmental review to the permitting stage.</p>	EOO
15	<p>I think that the project has been studied in full and [illegible] no change for the final EIS. Let Polymet get on with it.</p>	EOO
15	<p>The economy of Minnesota is an ecosystem just like the ecosystems found throughout the state. When one part of the ecosystem is struggling, it has a negative impact on the related parts. The Building Trades in the Twin Cities Metropolitan Area are struggling; the economic recession has devastated the industries that have kept our members employed. As many as 50% of our members are sitting on the bench on any given day. The PolyMet Mining Company proposal to build a copper-nickel-precious metal mine and processing facility near Hoyt Lakes offers our members some hope to wait out this recession. Construction will require about 1.5 million man hours of construction over a two year period; some of my members are bound to part of that construction work force. But we don’t have time for delays. PolyMet has made our job relatively easy by proposing a very environmentally friendly project. Much of the infrastructure for transportation and processing will be recycled from the old LTV plant. Stockpiles will be managed so water infiltration is minimized and so any water that does percolate through the piles is collected and treated. Sulfur in the ore will be used as fuel in the process, and waste streams will be managed. Air emissions will be much less than other facilities in the region – so much less they’re considered a minor source. The draft environmental impact statement for the project has done a very thorough job of looking at all the potential impacts and offering options for mitigation, where appropriate. The draft EIS should be deemed adequate so that permitting can begin quickly – and so our members can start working to build the facility.</p>	EOO
16	<p>I live in the Town of White, just outside of Aurora. I am in support of the Polymet Project. The technology that will be used in this project is the most up to date process that will have the least amount of impact on the environment that is available today. We have the natural resources here and we need the jobs. Having the plant in Minnesota with one of the strictest environmental regulations in the country is better than elsewhere with less regulation.</p>	EOO

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
16	I attempted to review the E.I.S. on line, but was unable to access the process flow sheet. This item would be most valuable to ascertain: 1. Reagents used in the process 2. Containment provisions for: a. Waste dock b. Loan ore c. Gaseous containment. 3. Discharge points. 4. Dewatering plans. 5. In plant spill containment. I hope this session and/or future information will bring clear light to these issues.	RFI
16	Someone should do the math on the following How much money would Obama have to spend of our tax dollars on money we have to borrow from China to create 1000 jobs for 20 years? Go PolyMet	EOO
17	My name is Brock Kangas, and I'm for the project of PolyMet Mining. I think we need the mining up here. Things have slowed down. We need a new industry. Times are changing. They say it is for the hybrid cars and all the greenhouse -- the energy saving stuff. Let's do it, let's get it done, and let's put some people back to work.	EOO
18	We are very much for the polymet project. I have been following this project for 4 yrs. This is a company that is willing, and has already spent millions \$ on the range w/o any TAX or government help. I am for this and the other precious metal projects. This project is key to our future in Northern Minnesota. I believe any environmental hazards have been overstated by outside special interest groups.	EOO,G1
18	Please don't do this! Our water, wildlife and land is what makes Minnesota special. Money will come and go but we must keep our responsibilities to our life our water. The threat is too high not everything goes as planned. We need clean water to sustain life.	EOO,G2
18	I think Polymet mining would be a great asset to the East end of the Range after listening to the comments on the Draft. We need jobs. The study took a long time (to long) I think it will open the door for more industry. We lived in Northern MN for 80 years + seen up + downs tax, etc. I hope Polymet will be successful + I think it will because a lot of study went into this project.	EOO
19	This city of Hoyt Lakes has attempted to obtain water from sources other than the Partridge River, with no results. It's the only water we have!!! I'm concerned that the quality and flow will be screwed up by the reduction of the watershed. Also the MP+h plant needs a set volume of water from Colby Lake which the Partridge River feeds. During August – the river is very low! Hopefully this won't end up with poor water quality + reduced flow so we experience water shortages, contamination + having to buy all our water.	WR3F
20	I believe with all the new Laws + equipment that the process is safe for all + our convience store personnel for tourists. I know you will use your education to see that it is right to proceed at this time.	EOO
21	I am writing in support of PolyMet. They have always been available to answer any questions we have. They have invested enormous amounts of money and time making sure they have the process right. We need jobs in this area. Need I say more. Issue the permits already.	EOO
21	I support Polymet Project for the future of Aurora and for the jobs it will create!	EOO
22	Let's get this off the ground + in production, our economy/ lives depend on it!	EOO,G1
23	Yes –	EOO
24	My name is Larry Brunfelt, and I'm in favor of this project, and I believe that it has went on -- the process has taken too long already, and I think it is time to move this forward. And we can use the jobs in the area, so -- that's all.	EOO
25	I have reviewed the summary EIS. I find, in it many concerns have been addressed. I also feel confident (very) that the project sponsors will be good stewards of our Natural Resources. Those of us who have grown up in this area and made it our home should look at this project closely. Not only does it address OUR concerns it also gives us hope for a future.	EOO
26	I am in full support of the PolyMet project and the economic benifit that it will bring. I believe that Mining can occur in an environmentally sound manner and benefits our country.	EOO,G1
26	I agree with Mayer Mary Hess in the support of opening the mine. Let's get it done!	EOO,G15
27	I believe PolyMet will be good for our area. We need jobs for the willing to work people of our area.	EOO

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
28	I think this would be good for the area economy. The jobs this will bring good for the tax base. They have relieved my concerns about what this will do to the environment	EOO
28	I am in favor of approving the permit requests for PolyMet. We need jobs or our towns will die. PolyMet has shown that they will not pollute the environment.	EOO
28	This project is not only important for the economy of NE MN but is also important for the security of the US. We can not depend on third world nations for our stratigis in metal supplies.	EOO,G1
29	We need jobs! Good union jobs.	EOO
30	I am writing in support of the Polymet Project. It will be a benefit to the area in form of jobs, will support small businesses, and the communities as a whole. The project is well planned and very well studied as evident by the very thorough EIS process. I am looking for this operation to see a successful precedence for other operations of this type. The US needs more primary industry, especially well run primary industry.	EOO
31	My name is Dave Lislegard. I live in the city of Aurora. I serve on the city council. I am also the Chairman of the City of Aurora HRA, and I understand the inner workings of small government and also big government, and I realize that not only in this city, but in this state and in this nation, we are facing crisis for financial, health care, a wide variety, and many people are on fixed incomes. I think it is extremely important that we look at this project. I believe that many things are looked at that needs to be perfect, and perfection in all reality is subjective. We strive for excellence. I believe this plan covers that, and I think that -- I think it is time that we move forward, and I would appreciate a speedy process. Thank you.	EOO,G1
32	I support Polymets mine development proposal and look forward to the prompt issue of permits for this important project. Polymet has demonstrated through planning consultants and mitigation that such a project can be brought into production in a careful and sensitive way. The products produced by Polymet are key to the nation's manufacturing and are strategic to our nation. We should support projects such as this which balance carefully development and environmental values.	EOO,G1
32	At this time we need copper and we need jobs. We must go ahead with this project.	EOO
32	I am a union boilermaker & have been for the last 2 ½ years. I feel that mining has been the back bone of northern Minnesota for many many years, I don't feel we should stop that now! I also feel that the development of the polymet mining project would have a great impact on not only many families in the area but it would greatly support our surrounding communities and educational systems.	EOO,G1
33	Copper is a needed resource. It will be provided to the market. Please help Polymet do it with respect for the environment rather than in a third world economy that does not follow needed safe guards. Move ahead with this project!	EOO,G1
33	We need this project to proceed. Our children need jobs we need the tax base.	EOO,G1
34	Polymet is a must! To boost the economy and stimulate jobs! Very important!	EOO
35	I firmly believe that the Polymet project should move ahead to construction and that all necessary permits are granted. We need the jobs and the new industry on the Iron Range. The completion of this project will surely open the doors to additional development. Let's get this done quickly!	EOO
35	Given the high number of outstanding environmental concerns raised by this proposal, I believe it is incumbent on regulatory authorities to hold an event of this type in Duluth.	G10
36	I support this project because jobs are needed in our area. Times are tough the economy is down. This is an opportunity to not only provide long term jobs for several area people but also many short term jobs via the reconstruction process.	EOO
37	I support this project I'm a Union Iron worker and would like to see this go ahead. We could use the work.	EOO

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
38	My name is Virgil Sohm. I'm a Bois Forte Nett Lake tribal member. I'm here to represent the future generations, and I oppose the mining of the copper and the other precious metals. This area is used for our gathering, our hunting, our wild rice, and it is part of a treaty area, so I concern myself with the contamination possibility of our hunting, fishing and gathering areas. Thank you.	G3A
39	I think is a great thing in tough times like were in now to have this project go ahead. Because it will put a lot of people back to work that are laid off. And it might bring a lot of other jobs to there area which would be a good thing. And it can't be that bad for the environment.	EOO
40	I am a student at Mesabi Ease High School. I feel that this project would be a great success. Learning about Iron Range History has made me proud of this area and proud to be a part of it. The Polymet Project is history in the making. This is the future not only for Minnesota, but for the United States. I greatly support!	EOO
41	I feel that PolyMet has completed an extensive environmental impact study and is able to demonstrate that they are fully competent to operate the proposed facility in an environmentally friendly and safe manner. The EIS should be clearer. PolyMet is not in a Boundary Waters watershed. Enough said.	EOO,G2
42	We import 80% of ore copper from overseas, keep the job here. They have addressed all the requirements, let them build.	EOO
43	As a member of the building trades, my primary reason for supporting this project is the creation of jobs. I've reviewed the EIS online, and am comfortable that this project is possible without damage to the environment. As a proud citizen of the Iron range (10 min from Polymet site) I am concerned with the lack of economic possibilities for my children, and this project is a step in the right direction. Though it won't solve the entire economic recession for the Range, we must move ahead wherever we can.	EOO
44	I think the Polymet plant will be good to the area for jobs to all kinds of trades and small businesses. I believe in protecting the land and water but also bringing in jobs for families like mine. It's not like there ruining the land there because the old LTV plant is here somebody should use the old mine. I believe we should mine are natural resources instead of letting them go to waste.	EOO
45	Bring long awaited jobs, will be an economic boost to the economy. The development will take place on land already developed. These won't be any soil disturbed. Low environmental impact.	EOO
46	I'm curious -- I don't think I've seen enough analysis of what would happen in terms of catastrophic failure surrounding the tailings ponds. I'm a farmer.	GT2
46	I support the Polymet Project. This area needs the jobs that this project will bring for construction and permanent jobs. The EIS is well thought out and in a good plan.	EOO
47	So I think we need further assurances about the durability in the long-term, you know, 50, 100, 200 years, for some of these technologies they are going to be using in those storage pits.	GT2
47	I fully support the Polymet project. We need secure minerals for our national defense. It will be done in a manner, good for the area and environment.	EOO
48	And then a third consideration would be discharge of any contaminated water affecting wild rice. They mentioned wild rice on the Embarrass River, and one of the alternatives I believe then instead would channel some of that discharge into the Partridge River, but my understanding is that further south of the area there are wild -- significant wildlife areas that that water would be flowing into. And I know for a fact that sulfates can affect the health of wild rice and maybe the viability. So I would need further analysis and assurance that any discharge flowing into any of those rivers, you know, we need some study that it is not going to affect rice areas even outside of the mining site.	WR1E,WR4F

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
48	I support the NorthMet project. The economic impact of this industry in our backyard is immense. Not only will Polymet create over 400 permanent jobs for the next 20 years, but the construction and spin off jobs created will stimulate our economy. At a time when employment is almost impossible to find also the millions of tax dollars that state and local communities will gain. Environmentally it has been proven that Polymet can mine for these metals without destructive waste and damage to the water, land and air. The metals that will be mined will be used for green technology such as wind turbines, hybrid cars also electronics that we use in everyday life and controlled here locally instead of somewhere overseas where environmental restrictions are not in place. I live and use all of Minnesota's natural resources I and my family camp, fish, hike, bike and have friends who live here in this area and some who have recreation property as well. I understand the balance between mining and living in this area and I strongly support this project.	EOO
49	Unemployed member painter and allied trades Local 106 Duluth. Project would be great for area and state with the technology available the impact to the environment should be very minimal with proper oversight.	EOO
49	I feel this phase is similar to the taconite industry was 60 years ago. No one wanted that at the time either. Polymet will have more gov't scrutiny than any company could possibly put up with. Please let them continue!	EOO
49	I have lived here on the Iron Range for 25 years. It is a great place to live and a great place to raise a family. This project would do this area and this end of the Range a great deal of good. I also believe that this is no better place to mine for these precious metals than right here in the US. I would rather see more jobs produced here on home soil than jobs overseas. I would also like to see this go through for the local economy and the surrounding local businesses to help everyone here out. This would help keep many families right here on the Range which if you are from here, you would understand the reasons why you would want to stay here. Keep up the good work.	EOO
49	I want nothing more than to see this project go 100%. With the number of jobs we will get in a time of large unemployment will wonderful. With minimal effect on the areas habitat and water is a great bonus and shows what today's technology allows us to accomplish. To think of all the families that this project will help and benefit from is great as well. My family has been part of the mining industry for more than 40 years and I hope that it will continue to stay that way for years to come.	EOO
49	This whole part of Northern Mn needs this project. I am a member of Local 49 Heat and Frost Insulator and we need jobs to put our member of other people to work. We need to put food on the table and put our kid through school. It's a no brainer, move forward, times have changed.	EOO
49	Another concern would be further financial assurances. It has been an unfortunate tradition for mining companies to sort of hit the road when the heat gets on, so financial assurances to the State in case of an event in which PolyMet would go bankrupt or, you know, further safety, water quality monitoring or clean-up procedures, you know, if they were necessary, financial assurances that PolyMet would -- bonds or whatever is needed, that that money would be available and the State wouldn't get footed with those bills. We all know that Superfund is a vastly underfunded program at the moment.	PD4
50	A great opportunity for the Range, NE MN, MN, USA and World!	EOO
50	We need jobs!!!	EOO

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
50	They also say there's "a high degree of uncertainty regarding key input assumptions for water quality at the mine site". So again, we simply don't know how much pollution is going to result from this. We have a loss of over 1500 acres of wetland, a loss of 1700 acres of vegetative cover, direct impact to seven endangered species of plants. The tailings basin and residue facility embankment have "a low margin of safety due to previous mines and the underlying soils". So in other words, whatever gets put in the tailings bin doesn't stay in the tailings bin. And that's going to be sulfates. Finally, their alternative plan for the tailings basin entails testing of a permeable reactive barrier, ostensibly a chemical barrier, to prevent seepage. I find it very disturbing that PolyMet is relying on untested, unproven technology as a mitigation tool, and it should tell us -- it should give us severe pause, give the DNR serious pause in considering approving this Impact Statement. So in conclusion, I urge the rejection of the Environmental Impact Statement, the rejection of the sale of National Forest Service land and the rejection of pollution of our precious waters, which both provide habitat for wildlife, environment for recreation, huge tourist industry and drinking water for tens of thousands of Minnesotans who haven't been adequately served by this public input process. Thanks.	EOO,G2,G7A,G8
50	My name is Jeremy Fleming. I am a teacher at Mesabi East High School. I live in Chisholm and commute to work 45 minutes. I am in support of the Polymet project due to the fact that this area needs jobs like we used to have. Mines in this area ave produced iron ore that has produced metal to build this country. I believe this company will do everything to ensure that our quality of life will not be affected. The proposed LTV site which Polymet will be using was used for an excess of 45 years. With technology that we have today, and the resources that will be mined, I see great benefits in not only the amount of jobs created, but the potential students we would gain at Mesabi East. We have a brand new K-12 building and we are looking forward to an increased enrollment for the first time in ten years. In closing I would like to stress that this area deserves good news something positive since the closing of LTV. The iron range can prosper with another mine for the next twenty years.	EOO
50	The tailings pit that's proposed for use, the old LTV tailings pit, we already know is leaky, we already know has significant sulfate infiltration and runoff into the Embarrass River and that will only get worse. It should be cleaned up, not allowed to get worse by a new type of mining that would inherently severely increase the amount of sulfate that is drained into the river systems there. The groundwater is expected to be drawn down until Year 65, and levels of antimony, manganese and nickel are expected to exceed the maximum contaminant limits "potentially for the long term at the mine site". That's extremely troubling that the groundwater could be polluted forever.	G7B
51	As a resident of Northern Minnesota I would like to show my support of the Polymet NorthMet Project. First, it would contribute significantly to our local and state economies and provide many much needed jobs for this area. With the financial stat of the state (and local) economy, this project could not come at a better time. Second as a person who cares about the environment, I feel the project has been designed with the environment in mind by reusing a brown field, re-using existing infrastructure and utilizing multiple safeguards to protect the environment. I would much rather have this mine located in Minnesota where there are regulations that ensure the environment will be a top consideration versus being located in a place where it wouldn't be considered at all. Thirdly I support the project because it will be supporting a buy local theme by producing several metals that are not currently mined anywhere in the US but that we need to produce necessary items for technology and green production such as photovoltaic cells and hybrid cars. In summary I believe that PolyMet is dedicated to protecting our environment, that our economy would benefit tremendously and we would reduce our need to import metals for certain industries. I support this project.	EOO
51	In addition, tonight we've had -- we've been under a snowstorm warning, we are continuing to be under a snowstorm warning until six o'clock tomorrow morning. So while I've come up with a small delegation of people from Duluth, others who wanted to come tonight to be here to comment couldn't, and they won't have the opportunity to do so unless the DNR revises its public input schedule to include a session in Duluth, which it should do to fulfill, you know, legally the requirement for public input.	PRO6,PD1
51	We as in Northern Minnesota need to have some work on the Iron Range.	EOO



*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
51	I don't believe the DNR has made adequate plans for public input on this project, and the public input that they're getting does not reflect the majority sentiment of the people of northern Minnesota who are going to be directly impacted by this project because no public input sessions have been scheduled in the major metropolitan areas that are impacted directly by the potential pollution from this site. You know, Duluth is the county seat of St. Louis County. It is the largest population area in the region, and it is directly downstream from the potential pollution that could be generated by the site, so all 150,000 people in the Duluth/Superior metropolitan area have a stake in this and their voices are being excluded by not having a public input session there.	RFI,PRO6
52	We need jobs in this area. This site will be good for the area as long as it is modified for contaminants.	EOO
53	My husband and I support the Polymet Project 100%. I think they have done their work to prove their product.	EOO,G1
53	I am in favor of this project for the fact that it will create jobs and potentially put me back to work so I can better afford to take care of my wife and kids.	EOO
54	My husband and I are retired, our children have jobs We are worried about our Grand Children. We trust in the E.P.A. We need work in the USA!!	EOO
54	I am here to support PolyMet. I believe most people who live in Northern Minnesota will tell you the same. We need this project! Not only will this project feed my family, but it will provide income for countless families in Northern Minnesota and many more in surrounding areas. With the economy at such a low point, this project will stimulate Minnesota's economy and the nation's economy by providing metals essential in producing many products such as wind turbines, catalytic converters, and computers. It will also stimulate local and national economy by providing income to other businesses local, state wide, and nationally who provide products and services to this mine. This in turn provides more jobs that the people of this country need! Many construction companies and workers will also benefit from its production and maintenance over the years. Polymet can do this in an environmentally sound maner by recycling an existing mine sit eliminating the need to cut down forests and minimizing the disturbance of wetlands. Using multiple safeguards they can protect the air, water, and land and follow Minnesota's strict guidelines. Bottom line, we need this project to pass! Thank you for reading this and hearing what I have to say.	EOO,G1
54	I was very impressed with information available at meeting + personel from all the government agencies available to answer my questions. I am confident polymet will get there permits.	EOO,G10
54	Local 106 painters, looking for more work, and to keep future going	EOO
54	I support the Polymet project for the economic benefit it will bring the Hoyt Lakes area and the Iron Range.	EOO,G1
55	I guess all I really want to say is that I'm for the project and everything looks environmentally safe. And I work out there right now for Our Gang Staffing and everything looks good. I hope to see some jobs on this side of the Range. That's all.	EOO
56	I support Polymet because they've takin the stepps in the direction of how to make sure that the process of mining these metals will be safe to the environment and cause no inamate threat to our Children's future and no threat to our wildlife. We've got thousands of people out of work and without health care this is our chance to better our Community and ourselves.	EOO
56	I would like to see Polymet go ahead with this project. We are probably one of the more enviromentaly consciencous countrys in the world, witch is good. To maintain a modern lifestyle we have to mine some place. And last, but not lease we really need the jobs in Northern Minnesota!	EOO
57	With 12 trillion dollars owed to the nations that make things it is time to get back to basics in the USA. The evidence of a profigate lifestyle is all around us in unemployment and debt. Job creation has to be the number 1 priority for this nation so that we can claim back the reputation of hard working productive people. This can be done with due regard to protecting the environment – and we need the close scrutiny that has been given to the project. The work on that front has been done. It is time to get on with the work of putting people to work on a good project.	EOO

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Comment ID	Comment Text	Theme Codes
57	Polymet says the [illegible] will last 50 years – etc. That is nothing – Wish you could be a cleared answer to damage to our environment. But, I know there [illegible] yes or no.	EOO
58	With 12 trillion dollars owed to the nations that make things it is time to get back to basics in the USA. The evidence of a profligate lifestyle is all around us in unemployment and debt. Job creation has to be the number 1 priority for this nation so that we can claim back the reputation of hard working productive people. This can be done with due regard to protecting the environment – and we need the close scrutiny that has been given to the project. The work on that front has been done. It is time to get on with the work of putting people to work on a good project.	EOO
59	I consider my self to be very aware and consciouse of the enviornment. I enjoy canoeing, hiking, biking and the outdoors. I lived in this area all of my life. I also support responsible development and job creation. I think its entirely possible to have both. I support this project and the process the State of Minnesota has to make sure it’s done right. Thank you for allowing me this opportunity to express my support.	EOO
60	The people of this area have logged and minned for well over 100 years. We can still drink the water we can grow garden in the soil eat the fish we catch. We have managed our resources and continue to do so. Poly Met certainly meets the standards for environmental responsibility and preservation of the land – Air + water.	G5
60	I am involved with mining projects throughout North America and internationally and the companies that comply with + invest in technology that keep our environment clean are the ones that should be allowed to mine our resources. We need these minerals + jobs. The planet will be better off buying our needed minerals from “Compliant” environmentally aware companies. Art Ostman Minnesotan’s including miners like clean water + aim to keep it clean.	EOO
61	My name is Karl Hansen. I just want to say that I feel good about PolyMet. I feel strong that it's environmentally strong. They're doing everything they can to do it the right way. And I feel that it's good for the people, good for the -- for the area, and I -- I strongly believe it's a really good, strong project for this community. And I hope it -- I hope it goes. And that's it.	EOO,G6
62	I beleive that this project would be a great asset to the iron range and it’s economy. I live here on the range and work here through the Ironworkers Local 512 out of Hermantown, MN. This project would really help a lot of people that live here provide for their families and get off unemployment. I really like the fact that it would create short-term and long term employment for the area. All mines create environmental issues but even if it was built somewhere else it still would.	EOO
63	I’m a union Boilermaker, and a local resident of Aurora. As a avid sportsmen me and my family hunt, fish, take nature walks + work here. So a main concern was what was the impact going to be on the environment? So looked online at the States and all I see is good. as a union Boilermaker working at all the taconite plants + power houses across the Range and else where the one thing that comes to mind is that technology has improved 110% since the 50’s, 60’s, 70’s. Alot is bieng done to clean up the mistakes of the past such as the SCR added to the power house in cohassette [illegible] to clean the NOC’S out of the emissions so with that said the next thing on my mind is jobs there is a lot of people on the Range without them, the proposal of 400 permanent jobs + 500 spin off jobs which is [illegible] my occupation [illegible]. this project will help the Range cities prosper once again. So in short I am all for Polymett mining project.	EOO,G2
64	I want polymet to come here to boost the jobs.	EOO
64	I want polymet to come here for more jobs.	EOO
64	PolyMet would be bomb on the range so come here. thank you	EOO
64	I feel poly met is good for this Region. We need job and things to keep people in this area it also will be good to have something beside minning ore this will be something to keep this area going when demand for steel is down people in our area what something to help keep there kids in the area our kids grow up and have to move to support there familys this will help in keeping job in the Region and keep familys intact.	EOO

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64	Why does Minnesota DNR, Politicians, decision makers think they can accomplish what no other state in the union could not, environmentally safe CuNi mining. Why has no mining co. stepped up to prove to Wisconsin that they could. They have had since 1989. On the way into the meeting I asked 6 Aurora residents for directions to the DNR meeting. I was asked "Do you mean the Polymet meeting?"	EOO
64	I support the Polymet Project and they should be given a permit to mine with these stipulations 1. They should buttress the tailing pond dikes beyond adequate requirements. 2. They should drill collection wells and treat any discharged water that can be regulated. 3. Polymet should be held to high standards not just lip service, the real thing!!! 4. Done properly it can be such a win-win for the economy and environment. 5. Hold Polymet to high standards and let them be a model on how it should be done. 6. Reuse of LTV facilities is a big plus!!!	EOO
65	Polymet has proven in my opinion, that they have a process for copper mining that is financially beneficial to them as well as the Iron Range. They have proven this process to be safe to the environment. These benefits have been backed up with the determination and financial backing that should be applauded. The representatives of this state have taken enough time to decide on this. If they have any pride in the state, and the legislative process they have an obligation to decide either way. I hope for the sake of the Iron Range and it's people they will allow this to go forward and police it from that day forward. We have been sitting on our hands long enough.	EOO
66	Let do it! We need jobs - - Best Welfare Program in the World!	EOO
67	I just wanted to give my support for this PolyMet project. I think they've really done a lot of research on this project. I've come to some of the other meetings and I've listened to all the background information and all the technology that they're using in this process, and I really think that they have jumped through a lot of hoops to make this project go. And I'm a hundred percent for it, and I think the State of Minnesota will protect our resources. And I think northeastern Minnesota is ready for a new -- new industry to take hold and give people hope in this area.	EOO,G6
67	I'm commenting in favor of the Polymet project. I believe that Polymet and the State of Minnesota have done their due diligence as to the environmental impact of this project. While there are risks in any project of this type Polymet + the State of Minnesota have done as much as is reasonable to identify any potential problems. When the potential problems are identified the state and the community gain awareness of the effects of these potential problems and are in much better position to deal with them. The economic benefits to the area would be to count.	EOO
67	I support the Polymet Project because of the positive economic impact it will have in our area and state. I feel they have adequately addressed the environmental issues that are associated with this project. As a resident of Hoyt Lakes, I feel the mining and processing process will not adversely affect the quality of the environment in our area and will result in the remediation of an existing field (i.e. Erie Mining to LTV Steel).	EOO
68	I support the Polymet Project. They have done their work to do this environmentally correct. We need jobs in our area	EOO
68	I support mining in N.E. Minn Polymets processes in [illegible] mining and processing not smelting. good for the economy	EOO
68	As a resident of Duluth, I live downstream of the proposed NorthMet project via the St. Louis river. I will drink the consequences of sulfide ore mining south of the Laurentian divide. As a business owner in Duluth, my livelihood rises and falls with the state of the economy as a whole. Thus, for better and for ill, I would be impacted by the project. This project should not go forward. The PolyMet corporation lack the technology and the will to deal with the environmental consequences of sulfide ore mining. Sulfide tailing represent a novel challenge in waste containment. The technology to contain those tailing is unproven – and NE MN is too large and too dear a place to serve as a test bed. Sulfide tailings are also a permanent hazard. The repeated history of mining companies winning out of existence when the remediation bill comes due prevents me from having any faith in PolyMet's ability to follow through on its commitments. In short, I fail to understand why this project is worth the risk.	EOO,G7
68	I support the Polymet project. Jobs- jobs – jobs We need this to help this area	EOO
68	The next time Blaine has an EIS, I hope they hold a hearing on the Iron Range.	G10

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Comment ID	Comment Text	Theme Codes
69	I am in full support of the Polymet Mining Project. I am a kindergarten teacher here at Mesabi East & would love to see an influx of families for the jobs that Polymet could offer. My husband has also been a Polymet employee for 5 ½ years. It is a great place to work – very family oriented. Polymet Mining has a lot to offer for many communities.	EOO
69	The environment was delt with threw out the ages. From a 20 yr life to who knows, we have advanced to better know how to deal with it. We have scholars that can advance our environment.	G2
70	I strongly support the Polymet project for the following reasons 1. Socio-economic - reserves will improve the economic stability of northern MN providing sound education facilities through school taxation 2. Mining the sulfide ore deposits will remove these potential sources of contaminants and improve ground water /stream water quality. 3. These are strategic metals for the future of the USA. This baseindustry will allow the USA to continue to be a world leader. 4. PolyMet can do this right. If we can plan a future mission to Mars 2020 we can certainly mine these reserves responsibly	EOO
70	I see no hidden facts, no pulling the wool over our eyes in trying to get the plan through. I think of all the people that are running this company, they're probably the most educated people they could get for this project. So -- and I'm all for the project. I can understand the environmentalist point of view, but they're comparing apples to oranges because they're basing it on companies and plants that were out West and in other parts of the country that have different mineral contents compared to what we are dealing with as far as contamination. And if they're going to fight this PolyMet plant, I think they should have the facts straight instead of a generic answer and look what happened out West. It's -- I had a brother that was involved in all the environmental testing for this plant, and even though he said it out of -- off record, he said this is probably going to be one of the cleanest copper nickel plants ever produced, so I don't think there is really any negatives to this. This part of this country is off the beaten path of traffic, so minerals is about the only product that can keep this area going. Tourism is a small part of it, but we're noncentrally located and the climate chases most people away anyway. So I'm all for the PolyMet. I think they're a very well-organized, well-led, honest company. And I think if they were given the chance, even the hardest protester of this company would see that they're going to do a clean mining operation with exceptional safeguards to prevent our most -- our most important natural resource from getting damaged, and that is our water. And I do see the point, but the facts are the facts and they have that all covered. That is it.	EOO
71	I am in 100% in favor of this project and strongly recommend approval of all permit applications. This project will provide needed jobs, benefits, and spin off benefits for many years. This project will set a new standard for environmental operation in an environment that will stand for nothing less. This project is widely supported by the immediate area, the region and broader interests. It is economically viable for the long term, providing many integrated benefits to our area. This project has been researched, vetted, and investigated and found to be well designed, environmentally safe & responsible, and well integrated into our region. The leaders of this effort are among the finest people I know. In my career of 21 years in mining and power, they have dedicated their lives to their family, their friends, and their work to provide a good future for all of the stakeholders affected by their actions. Build this plant. It's the right thing to do.	EOO
71	This company has put up millions to make the mining process safe. They want to employ people. They are mandated by the state agencies. They are mandated by the Feds. A mining process in any other country would not have to go through this process. Anyone can tell that the safe guards in effect will protect the environment. Wall Street can crush the country, however people want to stop Polymet from making jobs.	G1
71	Concerned about political influences on the final discussion as to permit the new copper nickel mining in NE Minn What is the degree (%) of political sway from both parties & the governor offices on the permitting process given that the Governor appoints the head of many state agencies that are involved putting together the final draft of the EIS & the final permits for the mining companies to pursue the mining process.	PRO1
71	We don't want jobs! We want welfare! OBAMA loves us!	EOO
72	We need to make this project happen! It will be done in a responsible manner with safeguards in place and plenty of watchful eyes. Let's make it happen.	EOO

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73	Build it. We need the work – the state of Minnesota would not let a company do work in MN without being held accountable. I believe that PolyMet with the draft EIS has shown they will do the mining correct.	EOO
74	I have reviewed the Polymet EIS and I strongly believe that Polymet has addressed all environmental concerns, I am the vice-chair of the Mesabi East School District and we need to promote business/employment in this area.	EOO,G1
75	My name is Gregg Benz, I'm from Hibbing. I'm here for the public meeting for the PolyMet Manufacturing, which I believe is a good idea to have to mine the precious -- precious minerals that are available here. The Iron Range has been hurting for work for a long time, can't just rely on taconite plants forever. We gotta think of our kids also coming up, they need places to work. Besides, I remember when I went to high school, there was 400 kids in my class in '81. Now there's only 150 graduating. And it shows how much of -- of the economic value of people around here are losing. I mean can't go down the street without seeing five houses for sale in one block, which is sad. I know I'm not much of a talker. That's about all I have to say. I really don't have much else to say except that I hope this goes through. It's going to be good for the Range. Also it's not going to be a -- a huge factor in the environment because of the way they're mining, for one. That's all I have to say. Thank you.	EOO
75	I have read the EIS and support the proposed mine! I live in Hoyt Lakes and own a large tract of land on the partridge river near the proposed mine. If I didn't think the safeguards in place were adequate I would not be in support of this project. My friends and neighbors will run and work at the mine and I trust them to protect our lands. It is our Home.	EOO
75	I am requesting an extension of the comment period through the end of March. Those of us who have followed this entire process since the scoping hearing in 2005 do not feel we have ample time to study the DEIS. Likewise more hearings are needed. This project has ramifications that need to be addressed.	PRO6
76	I support the polymet project. Because I feel it would bring more jobs to area. And, we really need growth in this area. I think it would benefit everyone in many ways.	EOO
77	I would like to see this project go it's a safe process and we need jobs up here, I would like to see the range and its kids have a future here. So thanks for letting me comment and lets get this project going.	EOO
77	I am currently an equipment operator at Mintec. And I know first hand what good paying jobs mean to this area. We need jobs that pay a "living wage" not the 7.25 an hour, few and far between jobs that are currently available. And nowhere will you find more hardworking honest people to do the job! We are all proud of our area and support the environment. We all want responsible employers like Polymet & other mines. These mines are not the mines of the 60's! Where the environment was second to profit. Lets get this project going as the EIS shows all necessary safeguards are already in place! Let's put the people of the great Iron Range to work!	EOO
78	I am in support of the Polymet Project. It will bring needed jobs to our area – I think that from what I am told that they are very conscious of the environment and will abide in all rules that are in place.	EOO
78	I support Polymet 110%, I've been in new construction at Mesobi Nugget. As we near operation I am in the process of learning our environmental requirements. Knowing Polymet will be held to equally exacting standards for air/water emissions is good enough for me, The monitoring standards are incredible. Feel free to call me @ 218 750 3955	EOO,G5

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Comment ID	Comment Text	Theme Codes
2683	With this letter the Northern Counties Land Use Coordinating Board - a joint powers board of eight counties covering over 10 million acres and representing over 282,900 citizens - voices its support of the PolyMet Mining Corp. Draft Environmental Impact Statement on its proposed NorthMet non-ferrous mine on the Mesabi Iron Range. The board qualifies its support by including the following points: 1) The board recognizes the economic benefits to the region such a development represents, especially at a time when challenges to full employment are causing hardships to area families. 2) The board underscores the fact that while the region's economy has historically been dependent on its natural resources, throughout recent years best practices that support social and environmental concerns have developed alongside economic benefits. 3) The board puts confidence in the strong, well-defined environmental protections in place in the United States and Minnesota and in the agency personnel trained to ensure these protections. NCLUCB relies on these agencies and the permitting processes they have established.	EOO,G5
2684	4) The board insists that enforcement of permit requirements remain essential to the project. The board adds that third-party verification would add a measure of confidence regarding the EIS.	G5
<b>Sender Last Name:</b> Flankey		<b>Submission ID:</b> 2116
2507	We are presented with a Golden Opportunity that we can't let slip away. With unemployment nearing record highs, many jobs going over seas and an economy steadily declining we need to do something about this. With Polymet Mining we have an opportunity to create hundreds of jobs right here at home. These new jobs will not only be direct jobs with Polymet, but many spinoff jobs will also be created. And with these new jobs comes money that will be spent in the community thus stimulating the economy. An existing infrastructure can be utilized and an existing brown field site can be reused. A thorough study, as detailed in the EIS, has been conducted to show that there will be minimal impact, if any, on the environment. I say 'Don't Delay', issue the permits, it is what America needs right now.	EOO
<b>Sender Last Name:</b> Flaten		<b>Submission ID:</b> 164
154	I would like to comment on the EIS I recently reviewed for the Polymet project in the Aurora & Hoyt Lakes area. I would just like to say that I am fully behind this project and would like to see it proceed. This project is vital for the residents of the Iron Range and will also benefit the entire state of Minnesota as well. Please proceed with this project and bring much needed jobs to the Iron Range.	EOO
<b>Sender Last Name:</b> Fleming		<b>Submission ID:</b> 1683
689	will effect the Superior Forest ecosystem 3)Tailings basin construction which allows excessive seepage and is susceptible to earthquake damage causing major damage to local waterways.	GT2
1017	1)Lack of financial assurance calculations which are essential to understand public financial burden to clean up the probable "mess".	PD3
1018	2)Lack of a detailed reclamation plan. This mine will exist for 100's/1000's of years and I need to know what it is going to look like and how it	PD3
1057	These comments relate to the Polymet Draft EIS. I have read the DEIS and understand most of what is written. It seems to me that there are significant technical weaknesses(list below) that need to be addressed before the project moves forward toward permitting. The key technical issue is the high potential to generate acid mine drainage and associated acidified lakes and streams in and around the project area. Acidified waters lead to direct damage to aquatic and ultimately land animals and plants including humans and associated indirect damage through the high concentrations of dissolved metals in the acid waters. There is too much risk to take a chance on the above water pollution.	WR3D,FM1
1058	5)Mercury and other metal pollution above accepted standards.	WR3I,AQ6,AQ6A

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2154	6)Cumulative impacts of all effects generated by the mine and processing facility. These must be taken in conjunction with expected effects from other copper/nickel mining proposals,e.g., Franconia & Duluth Metals,which are in real formative stages now.	G9
2155	There are other detail items in the DEIS that reflect inadequate or incomplete science which need to be examined prior to moving ahead. I believe the project should be placed in the NO ACTION category pending data and science based clarification of the many problem areas.	G8
<b>Sender Last Name:</b> Flesvig		<b>Submission ID:</b> 3730
20681	2.1 Acid Mine Drainage The Draft EIS (4.1-53) recognizes that waste rock from the Polymet mine could be a source for acid mine drainage (AMD). The plan to eliminate this source for AMD involves: 1) depositing the waste rock in the mine pits, 2) submerging the rock to create anoxic pore waters, and 3) applying limestone as a neutralizing agent. Although these treatments are commonly used to limit acid mine drainage elsewhere they are not always effective since exceptions have been reported in the scientific literature. First, it is now recognized that Acidithiobacillus ferrooxidans (formerly known as Thiobacillus ferrooxidans) , the common bacterium responsible for pyrite oxidation and acid mine drainage, is a facultative anaerobe since it is capable of surviving and solubilizing metals under anaerobic conditions (Pronk et al. 1992). A. ferrooxidans, for example was the dominant bacterium in anaerobic and highly acidic (pH of 2.4) mine waters that were pumped from 2 flooded copper mines in Wales (Coupland and Johnson 2004). Second, A. ferrooxidans has been shown to grow and etch pyrite crystals under circumneutral conditions in: laboratory cultures apparently by forming biofilms that maintain an internal environment favorable for its growth (Mielke et al. 2003). In view of these findings a degree of caution should be exercised in the Draft EIS with regard to predicting the generation of acid mine drainage by the waste rock. Specifically statements such as those listed below should be either altered or qualified to recognize that the prescribed treatments have not always been effective in preventing AMD at other locations. Specific Examples from the DEIS that need modification include at EIS, 4.1-56, 3rd paragraph: After inundation, wall-rock oxidation essentially stops due to the low solubility (~10 mg/L) and the slow diffusion rate (i.e., ~1/10,000th as fast as in air) of oxygen in water, so submerged wallrock may be considered essentially inert. (emphasis added); and DEIS, 4.1-56, last paragraph: Waste rock backfilled to the pit lake has a chemical effect similar to wall rock, with waste rock above the lake surface oxidizing and leaching solutes to the pit lake. When inundated by the pit lake, however, leaching stops and the submerged rock is essentially inert fill. (emphasis added). Recommendation: Although the measures taken with regard to waste rock disposal may limit acid mine drainage an element of uncertainty still exists with regard to the effectiveness of these measures because of the heterogeneities of the waste rock itself and the ability of the bacteria responsible for pyrite oxidation to cope with apparently unfavorable environmental conditions (e.g. anoxia and circumneutral waters). As a result a continuing monitoring plan should be designed to check for the generation of acid mine drainage within the mine pits and its seepage into surrounding areas.	WR1E,WR4A,WR4B

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**Theme Codes**

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|-------|---|---------------------|
| 20681 | <p>A portion of the groundwater leakage from the tailings basin is predicted to occur toward the Partridge River during operations (4.1-63). If the tailings-basin alternative is implemented, some portion of the recovered groundwater seepage that would have gone to the Embarrass River could also be redirected in discharge to the Partridge River (4.1-155,156). Following closure additional sulfate loading to the upper reaches of this river will occur via overflow from the West mine pit and to the lower reaches (below Colby Lake) as discharge from the tailings basin through Second Creek (4.1-88). While the DEIS recognizes that these hydrologic inputs will increase sulfate loading to the Partridge River, the risk of sulfate-enhanced mercury methylation is downplayed because (1) sulfate levels are already high in the lower river (below the confluence with Second Creek, which drains former LTV Pits 1 and 6 on the proposed Mesabi Nugget site) (4.1-39), and (2) there are reportedly few wetlands along the Partridge River where mercury methylation might be enhanced. In-stream production of methylmercury is generally considered to be of minor importance relative to other watershed sources. However, elsewhere in the DEIS (4.1-23) the Partridge River is described as having "a very well-developed floodplain along most of its reaches with" ... many beaver dams along the entire length ... which create wide pools." Recent studies have shown that beaver impoundments provide conditions suitable for active mercury methylation and represent net sources for methylmercury in riverine systems (Roy et al. 2009). It thus seems likely that the risk of enhanced methylation from sulfate discharge to the Partridge River may be greater than is concluded in the DEIS. Two lakes located in the Partridge River watershed, Colby and the Whitewater Reservoir, could also see increases in mercury methylation as a consequence of the proposed action. Colby Lake is predicted to see a modest increase in sulfate loading from the Partridge River (increasing lake concentrations from 10 mg/L to 15 mg/L) (4.1-116), and the Whitewater Reservoir is expected to see a larger range of water level fluctuations (to maintain water levels in Colby Lake) than currently occurs (4.1-105). Fluctuating water levels are known to increase mercury methylation - principally through redox cycling of sulfate in littoral sediments during drying and rewetting (Munthe et al. 2007; Sorensen et al. 2005). The DEIS incorrectly concludes that this will not be a problem in the Whitewater Reservoir because it does not receive inflows from the Partridge River under normal flow conditions (4.1-127). This conclusion presupposes that additional sulfate inputs from the Partridge River would be necessary for water-level fluctuations to induce mercury methylation. However, it should be expected that current sulfate inputs to the Whitewater Reservoir (e.g. from other inflows including the City of Hoyt Lakes WWTP) would be sufficient to stimulate microbial sulfate reduction (and mercury methylation) during water level fluctuations.</p> | WR1E,WR4A,WR4B,WE2, |
| 20681 | <p>The Draft EIS (e.g. 4.1-89) proposes that wetlands could be used to treat acid mine drainage that leaks from the tailings basin and/or other sources. Although wetlands are often used to consume the acidity and immobilize metals arising from AMD they have not always been effective in other locations. Acid mine waters, for example were pumped from 2 Welsh mines and discharged into a wetland, which had little or no effect on either the acidity or metal content of these waters (Coupland and Johnson 2004). Unfortunately the term wetland covers a very wide range of ecosystems that are characterized by very different sets of physical, chemical, and biotic properties. It should therefore not be surprising that their capacity to neutralize the acidity and remove contaminants from different types of pollution sources varies depending on the type of wetland considered and its hydrogeologic setting. The natural neutralizing capacity of wetlands, within the project site, moreover, maybe limited by the low carbonate content of the glacial deposits in this area that are derived from the Rainy Lobe of the Wisconsin Ice Sheet. Recommendation: A long-term monitoring plan is needed to test the effectiveness of the wetlands for remediation of acid mine drainage from the tailings basins and/or waste rock stockpiles. A contingency plan should also be in place in case these wetlands prove to be ineffective in treating drainage from the tailings basins since many types of wetlands have a low acid neutralizing capacity.</p>   | WR4B,FM2,WR1E       |



*Alphabetical by sender's first name*

**Comment ID    Comment Text**

**Theme Codes**

20681 The DEIS predicts substantially increased groundwater leakage from the proposed NorthMet tailings basin largely in the direction of the Embarrass River to the north ( 4.1-65). This leakage would occur as a result of increased head gradients and is expected to discharge through an area of extensive wetlands located between the basin and the Embarrass River. Because leakage rates are expected to greatly exceed the flux capacity of the surficial aquifer, upwelling and surface ponding and drainage is expected to increase. According to the DEIS classification (4.2-3), most of these wetlands (72%) are ombrotrophic bogs (though a review by P. Glaser indicates that most are poor fens). Indeed, the DEIS concludes that legacy leakage from the existing LTV tailings basins is currently impacting portions of this wetland complex - though the actual extent of impact appears to be poorly known because of a lack of on-the-ground observation and sampling. Groundwater discharge through these wetlands and toward the Embarrass River is expected to increase from a current estimated rate of 1800 gpm to 3800 gpm by year-20 of operation (4.1-65). A tailings basin alternative in which ground-water seepage would be intercepted by a series of wells and returned to the plant operations as make-up water (or partially discharged to the Partridge River) is included in the DEIS (4.1-147). These operations, if implemented, would cease upon closure, and the tailings-basin leakage would revert to the Embarrass River wetlands (4.1-65). In my view this tailings-basin leakage poses the project's greatest risk of increasing mercury methylation and methylmercury export to downstream aquatic environments. As pointed out in the DEIS, wetlands are important sites for mercury methylation, and the aerial extent of hydrologically connected wetlands is one of the strongest predictors of fish-mercury levels in area lakes and streams (St. Louis et al. 1996; Wiener et al. 2006). Mercury methylation rates are strongly sulfate-limited in bogs (and poor fens), so that addition of sulfate from atmospheric deposition or groundwater discharge would be expected to stimulate methylmercury production (Branfireun et al. 2001; Branfireun et al. 1999; Jeremiason et al. 2006). The configuration of the Embarrass River wetland complex makes it especially susceptible to sulfate-enhanced mercury methylation. Not only would these bogs/poor fens be sulfate limited (and hence sensitive to additional sulfate), but the anticipated discharge would upwell through a mercury and carbonrich, anoxic environment ideal for SRB. Such groundwater discharge at the upland-wetland margin has been identified as creating sites of intense mercury methylation - "methylation hot spots" where methylmercury concentrations (or %MeHg) are exceptionally high relative to other wetland areas (Mitchell et al. 2008a). The increased ground-water and surface discharge toward the Embarrass River would also increase mercury transport from, sites of methylation to the river itself where the methylmercury load could then impact downstream aquatic systems. It is one of the unfortunate outcomes of Barr's stream sampling scheme that no water samples were apparently collected within the wetland complex north of the tailings basin (except locally at its toe). Such sampling would have provided a picture of current (legacy) groundwater discharge and associated sulfate and mercury levels by which a better understanding of the effects of increased groundwater discharge might be derived. Perhaps the best analogue for what might be expected from discharge of sulfate-rich groundwater through the Embarrass River wetlands is provided by the Everglades ecosystem of south Florida where agricultural drainage of sulfate-rich surface waters has greatly increased mercury methylation and mercury levels at all levels of the food chain (Gilmour et al. 1998). More recent reductions in sulfate discharge to the Everglades are closely associated with mark

WR1E,WR4B,WR4B,WE2,

**Sender Last Name:**    Flint

**Submission ID:** 1883

2466 Please accept these comments on the PolyMet Mining Corp. NorthMet mining project Draft Environmental Impact Statement. I have grave concerns about this project's potential impacts on Minnesota's natural resources and public health. As a Minnesota citizen I value the natural resources we have in this state. I enjoy spending time up north and have serious concerns about the implications of allowing this kind of mining here. I am not opposed to tapping our resources for economic benefit, unless it comes at the expense of the very reason so many Minnesota citizens love this state. Please apply the appropriate level of scrutiny to this proposal. I look forward to enjoying the beauty of norther Minnesota, and sharing it with my friends and family, for years to come. The PolyMet DEIS describes serious environmental issues associated with this proposed mine. These issues should be addressed and resolved before this mine is approved by the U.S. Army Corps of Engineers and the Minnesota Department of Natural Resources.

G2,G6

*Alphabetical by sender's first name*

**Comment ID    Comment Text**

**Theme Codes**

**Sender Last Name:**    Florell

**Submission ID:** 2275

2693 The PolyMet DEIS describes significant environmental issues associated with this proposed mine. These issues should be resolved before this mine is approved by the Minnesota Department of Natural Resources and the U.S. Army Corps of Engineers. This is my home, this is our home. Please, Please consider the negative impacts this will have on our land, it people now and the generations to come. Thank you for considering these words.

G6

**Sender Last Name:**    Flugstad

**Submission ID:** 2260

2670 Dear Mr. Arkley When I first read that this project, Polymet Mining Proposal, was getting positive attention by the DNR, I could not believe my eyes. I thought they were failing me. Being an ardent trout fisherman and having done so in the West and Midwest including the BWCA and surrounding areas, I have grown to value fresh water resources immensely. It is impossible for me to believe that an open pit mine using sulfuric acid to dissolve the metal and then leave that toxic waste out in the open behind earthen dams can be stable for the hundreds of years it takes for the compounds to detoxify. Breaches in dams are common place. I have seen myself what mining has done to streams and rivers in Montana, with the taxpayers picking up the cleanup tab. With full cleanup very questionable, so fish are edible, I think this a huge mistake. So please put me on record as very opposed to the permitting of the Polymet mine. I will be watching your actions with great interest.

EOO,G7A

**Sender Last Name:**    Flygare

**Submission ID:** 1305

1515 NOTE: the paragraphs below this are a form letter, but I'm leaving them in since I agree with them. My personal comment is that I was born and raised in MN. I've been to Lake Superior and BWCA nearly every summer growing up and I have some knowledge of the tourist and other industries around there from my adult work experience. You are destroying jobs, lives, and livelihoods by allowing sulfide copper mining, it is not like taconite mining, and it is not going to profit MN (although it may profit some few in MN who are already quite well off). Please look to the long term and preserve our state's natural resources, health, and beauty.

G2A,G11

**Sender Last Name:**    Forberg

**Submission ID:** 2213

2620 MR. FORBERG: Well, I think it is probably a really good idea for PolyMet to do their mining up there. First of all, it seems they have little to no environmental impact from what I have read. It is going to be really good, you know, during the economic downturn and recovery to have more jobs not only in Minnesota but in the Iron Range. That seems like it has had a little more trouble since the closings and layoffs up there. It would be nice to not have to travel really far to have to work. They are using pre-built facilities. They just have to refurbish them. What is it? 1.5 million man-hours of jobs. 400 permanent jobs. Spin-off jobs for not only the local economy, but it will be nice to actually keep it in state. You know, I was born and raised in the state and I would like to see Minnesota have more opportunities for people. And I know it won't just benefit the range, but it will also benefit Duluth and the surrounding cities; Cloquet. It will give the working men more opportunities to further themselves, especially with the trades. You know, I'm in the Ironworkers and I would like to see a lot of the other people in the trades, even people that aren't in the trades, be able to make enough to have a better life, both at home and within the drivable area, you know, so. And I would have to think more. It is nice to know that the money, you know, as long as it goes through, that the money is going to stay in state. If they don't open it up here, where else are they going to open it? It is either going A lot of the stuff they are going to be mining there, proposed mining, is stuff that we have to import from overseas, you know, for everyday things that we use. And the environmental standards here in the United States are a lot higher than they are overseas, so it would be an environmental impact worldwide as well, so. I think that's about as much as I have to say. Thank you very much.

EOO,G5

*Alphabetical by sender's first name*

**Comment ID    Comment Text**

**Theme Codes**

**Sender Last Name:**    Ford

**Submission ID:** 1755

2294 I have serious concerns about the proposed sulfide mining in northeastern MN. This is an unacceptable risk to the area. Despite the best intentions and reassurances, there is no guarantee that the mine and its waste rock piles will be kept safe. It has not been shown anywhere yet that it is possible not to pollute the ground and water. The continued maintenance of this very real potential hazard is an unfair burden to pass along to the many generations who will follow. The proposed mine(s) could touch two major watersheds, including the precious Boundary Waters Canoe Area Wilderness. Two decades or more of mining jobs is very important and needed. But if we're trading two decades of mining jobs for ruining our natural areas (quite possibly including the BWCAW) and losing tourist dollars for many hundreds or thousands of years, that is not a trade-off worth making. This is an unacceptable choice, and we who love this place, who live here and who visit here, want to preserve our natural places from sulfide mining and its contaminants.

G7A,G11

**Sender Last Name:**    Foreman

**Submission ID:** 2490

3020 I am anxious to submit a comment regarding the PolyMet Corp. NorthMet mining project Draft Environmental Impact Statement. I am concerned about the consequences this project will have on Minnesota's economy and precious natural resources. I am certain you have received a number of responses outlining concerns about 1) safety, 2) impacts on water quality, including water leaching from waste rock piles, 3) long-term responsibility for clean-up, 4) subsequent tax burdens, 5) high sulfate (and therefore mercury) levels, 6) stability of tailings basins, 7) long-lasting contamination. I share these concerns, and I urge the DNR and the U.S. Army Corps of Engineers to more carefully examine the DEIS, working with PolyMet to complete stability analyses and create realistic long-term plan for containing pollutants and striving for minimal impact. I am encouraged by the relationships which have been set up in Wisconsin between the DNR and potential mining companies, because I value the care and thought put into permit grants. I would appreciate a similar prudence and critical eye from the Minnesota DNR. I understand the value of increased economic opportunity in northern Minnesota. I am a Minnesota resident and have spent significant time in the ecosystems under consideration for these PolyMet mines. I know the economy could use a boost. However, I know that the pristine nature of these ecosystems is a huge part of their appeal, both for tourism and for agriculture and for industry. For these reasons, I strongly urge the DNR to not only reconsider the PolyMet proposal but to implement a creative problem solving team to move towards sustainable innovation in northern Minnesota. The solution is not simply to abandon all mining prospects. I see the solution situated somewhere within a compromise, one that protects Minnesota's natural resources so they can continue to build an economy with vibrant tourism, fish and wildlife opportunities, and safe communities. I have grave concerns about the PolyMet proposal as it stands, and I fervently hope the DNR will reconsider before approval.

G4,G6,G7A,G14

**Sender Last Name:**    Forrest

**Submission ID:** 1

1 I'm a member of Painters and Allied Trades, Local 106, unemployed. I think the job opportunities will be great up here. Hopefully the technology has moved forward in the mining industry, and I think with the correct oversight we can do it safe; and the jobs is something that's really important, not only to the local economy, but to the whole State of Minnesota. I think it's a great opportunity for our area. I just give the project my full support. Thank you.

EOO

2608 I'm an unemployed member of the Local 106 Painters and Allied Trade in Keewatin near Hibbing, and I think it would be a great project for the jobs it would bring, not only to the area but for the state, to contribute. There's technology moving forward more and more every day, and we can, you know, take care of any problems that we have with anything coming, you know, any of the problems with the runoff and everything, we should be able to manage and take care of, the company should be up on it. And with as great as the state of Minnesota monitors stuff, we should be able to do good, and I'm just for the project.

EOO

*Alphabetical by sender's first name*

**Comment ID**    **Comment Text**

**Theme Codes**

**Sender Last Name:**    Forsman

**Submission ID:** 31

29 I'm currently the county commissioner that represents the Fourth District here, which is in the -- this project will -- and this mine will be located, of course, in the district that I represent. I -- I watched -- having been -- having worked at the mines, and a steelworker for many years, I have -- I worked at Reserve Mining Company till I was laid off in 1982. When I look at how that affected my friends, myself, and that -- the -- the loss of employment and the difficulties that came on, I realize how important employment is on the -- on the Iron Range. Many of my friends, many of my neighbors, worked at LTV Steel when it was -- when it was closed down. When we look at the site that is the -- the proposed PolyMet site, we're looking at a brown field. We're looking at putting back less than the -- much less than the jobs that were lost at LTV. With a -- with a program and a mine that -- and all of the things that I've watched as a county commissioner, as I've watched, as I've listened to, as I've read about this thing, this is going to be an environmentally safe program that the -- mining company mining copper today in Northern Minnesota with the low sulfur that we have at this site, with the -- with the -- the -- the autoclaves that keep the process together, with the protections that the -- that the waste rock dumps are going to have, all of those things that are all under the -- under the guidance and the rules of -- of the State of Minnesota and the DNR, it is going to be a -- I believe it's going to be a -- a very benign system when we look at not only decades but centuries in the future. But the -- the -- the ability to put people back to work on the Range, put people back to work in Minnesota, and helping to take and build a -- a -- a -- a base for a -- for something that is -- is certainly, in my mind, a -- a -- a benefit to all of the -- it's so hard to talk when you're -- (indicating) -- but -- but it is a benefit to all of the people that reside up here. It -- the people buy homes, they buy at the grocery stores, they buy at the building centers. They -- and all of these things put a vibrant face to our -- to our -- our -- our -- the society we live in or the community that we live in up here on the Iron Range. Many people -- having been a resident of Ely, Minnesota, for the 62 years that I've been alive, I've watched as a -- as mining jobs have supplemented so many of those businesses that people consider tourism businesses, and I'll use just some examples. The Dairy Queen in Ely, I mean it was started by a -- by a foreman at Reserve Mining Company. As I go down Sheridan Street, many of these people all had secondary job -- they -- they became secondary businesses. They were -- they were -- but they had -- they -- the -- the dollars that came in from the mining companies were what sustained these businesses through the wintertime, the -- and -- and -- and without -- without these mining jobs on the Iron Range, I think that we -- that the -- the -- the depression that's facing the rest of the nation right now will be something that will be longlasting on -- on the Iron Range, and it -- you know, and I -- I guess I'm rambling a little bit, but, at the same time, it's -- it's -- we have a relatively benign, safe system that has been proven elsewhere, and putting it on the Range is going to take and be something that we can truly use and will be a great benefit to our community.

**Sender Last Name:**    Foster

**Submission ID:** 3491

3765 NO! I'll tell you just this. My ancestors made provisions for us to protect the water! These treaties will be reconciled in some ultimate fashion...AND they are not resting peacefully. Leave alone that which is within the ground, leave the open sores to heal! Leave it alone and move the capitalist to think how to reduce what we use and how to use alternatives! Please leave alone these things that don't have a voice in the Western Culture. We hear what they are saying and it is not good. Miiigwech, Binesi'odekwe

**Sender Last Name:**    Fox

**Submission ID:** 1270

*Alphabetical by sender's first name*

<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
1448	I worked in the boundry waters for 4 summers. I have traveled around the united states. I have explored Yosemite National Park, Joshua Tree, Florida Keys, the kenai peninsula, baja, canyonlands, and the tetons. There is no place that I have been that has such pure water as the boundry waters. In a world where civilization continually destroys pristine environments we have to ask ourselves is it fair to the earth and future generations. I know the answer for me is NO. Unfornately, I do not make the decisions that make such impacts. I am a voice, I am a person who has explored the boundry waters and I hope to someday re-visit them with my family. I hope that my child has a chance to see the purity that I have seen. I also hope that who ever reads this has the strength to stand up and say NO!	EOO,G7A,G11

**Sender Last Name:** Fraley

**Submission ID:** 1361

- |      |  |      |
|------|--|------|
| 4    | My concern about noise pollution is relevant to my work as a Spiritual Director, and Pastoral Care Provider to Clergy. I often advise people who are suffering from stress to care for their emotional, and spiritual needs by spending quality time in a place of beauty and peace. My family and friends frequently canoe in the Boundary Waters and we find that it is a restorative and therapeutic place to listen to the sound of silence and nature. Sound travels great distances across those precious waters and those in the Boundary Waters and neighboring resorts would experience mining noise from the blasting, drilling, and huge trucks hauling the minerals. How will this affect tourism? | N1   |
| 244  | Failure of the basin would result in serious and long-lasting contamination. I am also wondering how this will affect our bird, wolf and lynx habitat.   | WI5  |
| 400  | Some sites remain toxic for years after aggressive efforts to clean up the sulfuric acid waste. High sulfate concentrations turns mercury into forms that make fish dangerous to consume. Too many of our lakes and streams already are under mercury advisories. We live near the Mississippi River and there are advisories on both the kind and number of fish per week that can be eaten from it. I also believe that leaching chemicals from these mines can enter wetlands, peatlands, and tributary streams that have potential to be a hazard to our beautiful rivers and lakes.   | FM1  |
| 660  | I have viewed videos of the enormous pollution problems from this type of mining in places like Montana where clean-up efforts continue, and because the mining companies declare bankruptcy after their monies for clean-up are depleted the taxpayers are left with very long term clean-up efforts. Some sites remain toxic for years after aggressive efforts to clean up the sulfuric acid waste.   | PD4  |
| 703  | Some sites remain toxic for years after aggressive efforts to clean up the sulfuric acid waste. High sulfate concentrations turns mercury into forms that make fish dangerous to consume. Too many of our lakes and streams already are under mercury advisories. We live near the Mississippi River and there are advisories on both the kind and number of fish per week that can be eaten from it. I also believe that leaching chemicals from these mines can enter wetlands, peatlands, and tributary streams that have potential to be a hazard to our beautiful rivers and lakes.   | WR4B |
| 1592 | I am writing to convey my concerns about the proposed PolyMet mining project near Hoyt Lakes. I am concerned about the environmental and noise pollution from this site as well as the long term effects of mining in proximity to the pristine Boundary Waters area.  | G2   |

**Sender Last Name:** Frandrup

**Submission ID:** 3069

3468	I can't believe this proposal has even gotten this far. Actually, I can believe the shortsightedness of corporate interests and their unfailing resentment for what is more than pure aesthetic.	EOO
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**Sender Last Name:** Frank

**Submission ID:** 3648

*Alphabetical by sender's first name*

**Comment ID    Comment Text**

**Theme Codes**

18341 Just so you are absolutely clear from the get-go, the Climate Crisis Coalition of the Twin Cities (3CTC) is vehemently opposed to hard-rock, metallic sulfide mining in Minnesota or for that matter anywhere. Therefore, we call for not a moratorium or weak regulation thereof but a complete and thorough ban on all leasing, drilling, exploration, and extraction of metals by way of open-pit, strip and underground mining. The Arrowhead Region already looks like a wedge of Swiss cheese from all the drilling & exploration that has gone on thus far. We oppose this form of extraction not only the grounds of climate change but the long-term environmental and health impacts that will result if it is allowed to go forward. THE RELEASE OF GREENHOUSE GAS EMISSIONS Non-ferrous mining is just as energy-intensive as iron mining. The extraction, transport and smelting processes will release vast amounts of greenhouse gases that will add to global warming. With carbon dioxide levels already at 389 ppm, the planet cannot afford anymore such foolish and reckless behavior. The globe is rapidly heating up as seen in the alarming disappearance of Earth's cryosphere in the polar and alpine regions. Climate zones are shifting, bringing more droughts, heat waves and wildfires. Species are struggling to adapt with some succeeding and others failing and passing into the eternal void of extinction. More extreme weather events are causing natural disasters and unspeakable suffering and death for millions of people. The metals being smelted in Canada instead of here does not leave Minnesota off the hook. The state will be contributing hugely to the greenhouse gas equation and undermining Earth's heat balance. There is nothing climate-friendly about metallic sulfide mining especially since our climate is reaching its tipping point, which will eventually catapult the planet into complete ecological collapse. THE DESTRUCTION OF A VITAL CARBON SINK PolyMet's proposed strip mining operation will destroy 3,200 acres of forest and bog, which are needed not only for their water filtering capacity and precious wildlife habitat, but also for their carbon storage. Once the peat is removed and dried, it will oxidize and release tons of carbon. The deadly release of that carbon will add two percent to the state's CO2 emissions. It is quite astounding that the DNR could even consider it let alone grant a permit for such a heinous act as the destruction of an ecologically and climatologically essential peatland. PolyMet's promise to replace the lost wetland with another is only a ruse. A fake does not a wetland make. ACID-MINE DRAINAGE IN PERPETUITY Northern Minnesota being a water-rich region, it is extremely vulnerable to the pollution caused by the extraction of sulfur ores. The Duluth Tribune claims that the ore is low-sulfur, containing one percent or lower. The editors of the paper consider it negligible. However, an EPA senior research chemist, Gary Glass, has pointed out that "the folks who talk about low-sulfide ore content are using the 'game of units' to try to minimize the potential for impacts by the reactive component—sulfide—expressed in percentages.... By expressing the concentration of sulfide as a percentage, by weight, in the ore or ore tailings, the values computed are made to be small, but in reality, they are not insignificant." The sulfur contained in the huge volumes of ore that need to be mined in order to get at the sought-after copper, nickel, cobalt, palladium, platinum, gold and other precious metals will add up in no time as the rock waste accumulates. Once the rocks are blasted and piled up in slag heaps and tailings ponds, they will come into contact with surface and groundwater and the sulfur will acidify, making lakes and streams uninhabitable for aquatic life and causing massive fish and bird kills. That has been the experience elsewhere in the country. There will also be similar releases from tailings basins, whose linings are notorious for

G1,G2B,G3A,G3B,G5,G7C,

**Sender Last Name:**    Franken

**Submission ID:** 318

*Alphabetical by sender's first name*

<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
332	I am writing to express my support for the proposed PolyMet Mining Co. project in the Mesabi Iron Range. Minnesota needs jobs, and nowhere is that more true than on the Iron Range. PolyMet will help diversify the economy of the iron ore-dependent Range, and will help meet our nation's domestic demand for copper, nickel, platinum, cobalt, gold, and palladium. Most importantly, this project offers a real opportunity to put Northeastern Minnesota citizens back to work. At full operation, PolyMet will employ 400 people earning an annual payroll of about \$40 million. In St. Louis County alone, it will create more than 500 spin-off jobs and create an economic impact of \$242 million. Minnesota has strict environmental standards, and I have the utmost confidence in the environmental review process. This process includes public hearings, such as the one taking place here tonight. Throughout this multi-year process, PolyMet has done their due diligence and has faithfully followed the law. This includes providing all the necessary information for the draft environmental impact statement (EIS). The resulting draft describes the many steps PolyMet will take to minimize environmental impacts. I am excited to see this process move ahead, and I look forward to creating more jobs on the Iron Range.	EOO,G6
<b>Sender Last Name:</b> Fredrickson		<b>Submission ID:</b> 1111
1216	I respectfully urge that all necessary permits allowing PolyMet Mining to begin construction of its proposed precious metals mining operations be issued as soon as possible. I am very much in support of the project and feel there is great need for the jobs that will be created both in the construction phase and the operations phase. It is my opinion that the company has demonstrated that it has taken the necessary steps to assure little or no adverse affects to the environment. I believe the company has thoroughly evaluated the potential threats to the environment and has addressed those in detail in its draft Environmental Impact Statement. It will use existing infrastructure and land from the former LTV mining operation thereby reducing the need for completely new facilities. With the dismal state is our state's economy, the state is in great need of the tax revenues that will be generated from both taxes on the mining operation and the millions of dollars in salaries and wages that will be paid annually. The favorable economic impact to the Iron Range and to Minnesota as a whole would be phenomenal. I was raised on the Iron Range and have family and friends in Hoyt Lakes who have always been dependent on the mining industry and have suffered through its volatility. There is no better time to allow these new jobs to be created than now. Please consider carefully, the benefits to the people living in northern Minnesota.	EOO
<b>Sender Last Name:</b> Freeberg		<b>Submission ID:</b> 3533
3795	I believe the Poly Met project should be allowed to proceed. The project would be good for the local economy. Minnesota and US regulations are the best in the world. If Mining can be competitive I feel it should be done in the US rather than a country where there are no regulations to protect the environment or labor forces. Although mining can change the landscape existing mineral reclamation regulations can be enforced to protect the area. Richard Freeberg	EOO
<b>Sender Last Name:</b> Freundschuh		<b>Submission ID:</b> 204
202	I recently visited and toured the new PolyMet facility where they described their operation and processes. I was very impressed with the detail and effort already committed. As a Minnesotan, born and bred, I appreciate all our state has to offer. The lakes and woods are something I enjoy on a regular basis. I believe that PolyMet has addressed the issues of contamination as well as those of what to do with the bi-products developed. In good economic as well as current times, companies willing to invest in Minnesota should be embraced and thanked. This facility will provide jobs and support for the local communities as well as provide needed financial support for our state. The sooner this plant is up and running, the better. Thank you for the opportunity of presenting my two cents,	EOO

*Alphabetical by sender's first name*

**Comment ID    Comment Text** **Theme Codes**

**Sender Last Name:**    Fritschel **Submission ID:** 3188

729 Come on, guys....This is too much, too fast. There needs to be more time spent studying the effects of this, and more public hearings. Why do I care, living in Colorado? Because I love the Boundary Waters and everything it stands for. PRO6

**Sender Last Name:**    Froehlingsdorf **Submission ID:** 1050

1153 My name is Tom Froehlingsdorf, and I am -a skilled construction laborer, with a educational background in Wildlife Biology. I support the PolyMet mine project! It would have a great impact on the economy, both local and nation wide. We need more domestically produced metals with less means of transporting. We all know how much the environment is hurt by the ongoing chain of transportation. Environmentally I believe Minnesota is ready for this mine. The methods to mine the metals here in an existing, "infrastructure are a great idea. Please listen to all the positives this job has and what it could do both economically providing jobs, and environmentally controlling them. EOO

**Sender Last Name:**    Fryberger **Submission ID:** 1101

1206 As a life-long resident of northern Minnesota and affiliated with its Iron Ore industry the past fifty years, I have been witness to the many changes across our Mesabi Iron Range - from the numerous small underground mines to the "red ore" open mines and now to the large taconite operations with state-of-the-art technology to process the low grade ores. During the last 100+ years these changes have brought considerable progress in the areas of----environmental safe guards; safer work places for the employees; more and comprehensive benefits; a more stable tax base for the communities from Grand Rapids to Babbitt and finally the industry has been and continues to be the economic engine of northeastern Minnesota. This economic engine---- Contribute \$3.1 billion to the states economy in 2007 and supported more than 10,000 jobs - Paid \$148 million in state and local taxes in 2008 of which \$46 million supported local schools and \$11 million supported the University of Minnesota - As the foregoing makes very clear our minerals industry has certainly provided the foundation which has supported a high standard of living for many across our iron range. So it is not a question of whether or not our mining industry is important to our area and our state, that was determined years ago, but rather how do we manage an extractive industry without harming our precious natural resources of air, water, and land as we provide the necessary metals for our increasingly complex and technologically based way of life? I feel that Poly Met Mining, in their draft EIS for their Northeast Project, has thoroughly and painstakingly addressed the potential environmental hazards. The \$30 million that Poly Met spent in researching and documenting the process to be used to protect our natural resources in the development of the DEIS, along with the expertise input from the folks at the Minnesota Department of Natural Resources, Minnesota Pollution Control Agency, US Corps of Engineers, and other stakeholders certainly convinces me that the North Met Project is an environmentally and economically sustainable project, which I can wholeheartedly support. In addition, we are all citizens of the world, not only of Minnesota, and consequently it would be irresponsible of me to speak out against this thoroughly researched and responsibility documented project hoping to force Poly Met to relocate from Minnesota to focus their efforts on minerals reserves in other areas of the world - areas in which the environmental regulations are more lenient and by their nature, more damaging to the world's natural resources. So let's get behind the project and make it a state-of-the-art operation that protects our precious natural Resources and becomes the benchmark for all other similar mines throughout the world. In other words, let's be part of the solution rather than an obstacle to the protection of our natural resources, not only in Minnesota, but also around the world. We in northeastern Minnesota can, in an environmentally responsible way, produce these metals so dearly needed to build our green technology of wind turbines, solar energy, and hybrid automobiles. Thank you for your consideration and ongoing commitment to protect our natural resources while providing the cooperative leadership with other stakeholders which is so necessary if our extractive industry is to be economically viable. EOO



*Alphabetical by sender's first name*

**Comment ID    Comment Text**

**Theme Codes**

**Sender Last Name:**    Frye

**Submission ID:** 2856

3208 I live in Minnesota and love to take advantage of the many opportunities to be outside, especially on the North Shore. Some of my favorite places are the BWCA, Superior Hiking trail, State Parks and Forrest Service campgrounds, and all the trails and back roads of northeastern Minnesota. The drive up Highway 61 to Grand Marais and stopping to look out at Lake Superior is amazing. I will never forget the first time I saw the Partridge River at the falls with the water spray falling on me. I would certainly hate for the Polymet project to impact our precious resources on the North Shore. I'm concerned about the impact on the wildlife in the area; especially the Canada lynx and the wolves. I am also concerned the impact on the Partridge River and the aquatic life and habitat and nearby lakes due to the discharge of sulfates from the Tailings Basin. I am also concerned for the health of the BWCA. According to the U.S. Forest Service, the Polymet project alone will cause significant haze impairments in the Boundary Waters 36 days each year! I don't think it has been determined if there is any chance that polluted mine drainage (including acids, metals, or sulfates) could move in the rock over time to the north and into the Boundary Waters watershed. Please take the time to consider my concerns as well as those of others before approving the Polymet project.

EOO,G2C,G7A

**Sender Last Name:**    Fuglie.pdf

**Submission ID:** 2610

3146 As one who grew up in the lakes and trees of North Eastern Minnesota, I have real concerns for how this project will impact an already mine ravaged area. Please assure that the environmental impact is thoroughly investigated prior to allowing any further mining which will have dramatic consequences on an area that should be treasured and protected.

G6

**Sender Last Name:**    Funke

**Submission ID:** 3731

1 The wetland classification was based on a generalized, largely physiognomic scheme that was not effective for characterizing wetlands within either the project area or potential mitigation sites. With respect to peatlands, this scheme failed to distinguish between bogs and fens, which have contrasting sets of physical, chemical, and biotic properties. It was therefore difficult to adequately evaluate Polymet mining impacts on peatlands within the project area or the quality of the mitigation plan.

WE1,WE2

*Alphabetical by sender's first name*

<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
2	<p>According to the Draft EIS (4.2-3): The coniferous bog and open bog communities make up the majority of the wetlands at the Mine Site. Black spruce, tamarack, and balsam fir are the dominant canopy tree conifers. White cedar and deciduous swamp birch are also occasionally found in this community ..... Shrubs are usually ericaceous (belonging to the heath family) and/or speckled alder and raspberry. Sphagnum moss comprises an almost continuous mat with interspersed, non-dominant forbs such as bunchberry and blue bead lily along with sedges and grasses. However, balsam fir, white cedar, swamp birch, speckled alder, raspberry, blue bead lily, and all the grasses in Minnesota are reliable fen indicator species that are never found on true raised bogs (see papers in the Glaser C.V. and also Field Guide to the Native Plant Communities of Minnesota. The Laurentian Mixed Forest Province). The scientific literature defines raised bogs on the basis of a discrete set of physical, chemical, biotic, and hydraulic factors such as: 1) the interior of these peat landforms is higher than its margins (so the peatlands are called "raised bogs), 2) the surface waters have a pH less than 4.2 and Ca concentrations less than 2 mg/l, 3) the peatland has no fen indicator species, and 4) the peatland receives all its waters and salts solely from atmospheric deposition (so raised bogs are considered to be "ombrotrophic") (see Glaser CV for citations). Since the species composition provided for the bog vegetation types within the Draft EIS includes species that are clearly fen indicators, it is impossible to say that these wetlands are disconnected from groundwater or surface water flow systems as stated in this report. It is also illogical to conclude that these wetlands are "perched" since many of the wetlands in the Polymet site are probably forested or non-forested fens (or poor fens) that are supplied at least partly by surface or ground waters that have percolated through mineral soil. If these surface or groundwaters have elevated concentrations of sulfate, the wetlands could be significant sources of methyl mercury. The Draft EIS also fails to note that fens can be either forested or non-forested or that marshes are distinguished from non-forested peatlands by the absence of peat accumulation so that the vascular plants root directly into the mineral soil. Recommendations: The Draft EIS should be improved by using more generally accepted definitions for bogs, fens, marshes, peatlands, and other types of wetlands so that they conform to international scientific literature and also the scheme adopted by the Minnesota DNR's County Biological Survey's treatise on the native plant communities of Minnesota. It would be highly advantageous to collect samples of the surface water in the wetlands of the project areas for analysis of pH, alkalinity, and dissolved solutes particularly Ca for help in separating bogs from fens but also for assessing the acid neutralizing capacity of these wetlands.</p>	WE1

*Alphabetical by sender's first name*

**Comment ID    Comment Text**

**Theme Codes**

2 The Draft EIS needs more documentation with regard to all the sites evaluated for the mitigation plan. I realize that the report is very long and broad in scope but it was not possible to evaluate the reasons why so many nearby sites for wetland mitigation were rejected within the Saint Louis River watershed and adjacent areas. This decision weakened the mitigation plan because the closer sites have the highest probability of containing wetlands that are similar to those that will be directly impacted by the Polymet mine. At the minimum a table should be included that contains the geographic coordinates and some rationale for rejecting each of these sites. As it stands the case for selecting 2 distant sites near Aitken or Hinckley for the mitigation plans seems weak, and unsupported given their distance from the Polymet site and their differences with respect to vegetation and environmental setting. My reservations with regard to the mitigation plan are fourfold: First, the 2 sites identified for mitigation efforts have different environmental settings with respect to climate, depth to bedrock, and glacial deposits than those at the Polymet project site. Second, the wetlands selected within these sites are also probably significantly different from those of the Polymet project areas because the Aitken and Hinckley sites are located at the extreme southern fringe of the boreal and mixed-conifer hardwood peatlands of the northern portions of Minnesota. Third, geographic coordinates were not provided for all the sites evaluated for mitigation efforts so they could not be independently located with certainty and examined on Google Earth or topographic maps. Fourth, it is impossible to replace a peatland ecosystem within the lifetime of human beings since it takes centennial to millennial time scales for peatlands to form and develop into raised bogs. Fifth, I still feel that Polymet and the state of Minnesota are missing an important opportunity for restoring and protecting an exceptional complex of wetlands north of the town of Alborn in the Saint Louis River watershed that contains peatlands and wetlands very similar to those found in the Polymet site. This site was described in depth in my past report to Janette Brimmer of the MCEA and I am here enclosing digital files of its satellite image and a map of the site. Recommendation: In my opinion the DEIS misses an outstanding opportunity to restore and preserve an exceptional wetland complex in the Saint Louis River watershed that contains a complex of bogs, fens, and other types of wetlands similar to those at the project site and adjacent areas. In addition, this complex just north of the town of Alborn also has the most outstanding patterned fen in northeastern MN, robust populations of several rare and endangered plant species (*Carex exilis*, *Rhynchospora jitsca*, *Xyris montana*, and *Jungius stygius*). The site has been previously impacted by drainage ditches and a now abandoned road, but occupies largely tax forfeit land and is relatively wild. It has a wolf pack in the vicinity and is apparently a prime wildlife habitat based on its lack of development. The land could be purchased, restored (by filling in drainage ditches) and provided to the state or county to be managed as a scientific and natural area.

WE3

3 1. The Polymet DEIS and supporting documents I reviewed addressed issues pertinent to potential hydrologic and geochemical effects of the proposed low-grade ore heavy-metal mine (e.g. copper, nickel and associated metals except for mercury) to suggest that there will be little regional long-term water quantity and water quality effects caused by the mining activity, and probably not many effects locally and proximate to the mine other than in the mine footprint itself. However, there still remains enough uncertainty to merit the Minnesota DNR (herein termed, "DNR") to take additional steps to minimize possible environmental degradation in the vicinity of the proposed mine.

WR2G,WR3B

**Sender Last Name:**    Furlong

**Submission ID:** 255

268 As a resident and business owner in Hibbing, MN, I am writing to express my support for the Polymet Mining Corporation project. As a financial advisor in an area that has been hit hard in the past 18 months by the decline in the steel industry, I would be remiss if I did not reach out at this time to make known the importance of this project to our local region. As a business owner in the financial sector, I continually strive to run my business in a manner that supports the local economy. Without any solicitation whatsoever, my clients have continually requested that portions of their dollars be invested in Polymet Mining Corporation (PLM). It is nothing less than inspirational to see the hope and support that has been generated by this project so far. It is my understanding that Polymet will produce the copper, nickel, platinum, gold and cobalt in an environmentally sound manner and generate significant economic activity in this depressed part of Minnesota. In addition, it will provide millions of dollars in local and state Taxes that will, in turn, give a boost to our communities and educational systems. It is my request that you make every effort to see the Polymet Mining Corporation project through to completion.

EOO

*Alphabetical by sender's first name*

**Comment ID    Comment Text**

**Theme Codes**

1594 I am writing to you in support of the PolyMet Mining Company's NorthMet project. This project would be located in an established mining district on the Mesabi Iron Range. It would develop a new mine and reuse many processing facilities of a shuttered taconite plant and recycle a brownfield site. The company would use environmentally superior processing technologies including using sulfur in the ore to fuel processing reducing the need for additional fuel. PolyMet Mining is proposing a mine and processing facility near Hoyt Lakes to produce copper, nickel, platinum, palladium, gold and cobalt-many of which are used in medical applications. The annual production would be 35,000 tons of copper (to be used in electrical wiring, hybrid cars, wind turbines, plumbing, roofing and water heaters-the US imports 40% of the copper used annually) and 7,700 tons of nickel (used in alloys, batteries, aerospace and stainless steel for many medical instruments-there are no nickel mines in the USA). They will also produce 360 tons of cobalt used in super alloys, aircraft engines, cell phone batteries, steel belted radial tires, hand tools, and medical applications like joint replacements and cardiac stents. There are no cobalt mines in the US. In addition to these uses, they will also produce 106,000 troy ounces of platinum, palladium, and gold. Platinum is in catalytic converters, fuel cells computer disk drives, fiber optic cables, spark plugs, and anti-cancer drugs, surgical implants, neurosurgical applications and dental implants. The US imports more than 90% of the platinum it uses each year. Palladium is in catalytic converters, fuel cells, watches, carbon monoxide detectors, mobile phones, dental crowns and filings and blood sugar test strips. We import 85% of the palladium we use each year. Gold is used in telephones, cell phones, air bag systems, home appliances, electronics, computers, arthritis treatments, stents, pacemakers, and insulin pumps. We import more than 50% of the gold required each year. PolyMet will protect air and water resources while promoting efficient use of natural resources through an open and transparent process. The ultimate result of this environmental philosophy is that PolyMet will conserve and protect the air, water, and other natural resources upon which we all depend. PolyMet is dedicated to the conservation and protection of environmental resources and will conduct itself in an open and transparent manner regarding environmental monitoring, performance, and reporting. The PolyMet project will recycle and reuse water, be a minor source of air emissions, minimize impacts, reuse resources, and assure proper closure and reclamation. The project will have a huge economic benefit to the area. It will create 1.5 million hours of construction, employing about 300 workers over three years along with about 400 stable jobs with an estimated \$40 million annual payroll. There will also be an additional 500 spin-off jobs. This will create a \$242 million economic impact in St. Louis County and \$15 million annually in state and local taxes and \$45 million in federal taxes, based on 2008 metal prices. PolyMet has worked with federal and state regulatory agencies in drafting an environmental impact statement exploring potential impacts and ways to address them. In closing, I urge the DNR and the MPCA to issue the necessary permits to move the PolyMet project to a reality.

EOO

**Sender Last Name:**    Gabel

**Submission ID:** 2223

2631 My name is Jed Gabel from Hibbing, Minnesota. I am a small business owner, and I support PolyMet because it brings more jobs and more economic growth to the Northland, and I support that as a business owner.

EOO

**Sender Last Name:**    Gager

**Submission ID:** 180

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
171	I am writing to you regarding the PolyMet Mining Co Proposal. It is my hope that you will be encouraged to continue this project. My family has worked for the different mines on the Iron Range for as long as I can remember. My father retired from the mines, all 3 of my brothers worked for the mines and I have one brother who is still working for the mines. As you can see, my family relied on this work to be able to remain living on the Iron Range. I know that many of our young people have moved out of the area because there is little work here on the Iron Range. According to what I have read regarding PolyMet, it looks like this is a good opportunity for our people to “come home” and live in this beautiful Northland - if not to be employees of PolyMet than to run businesses of their own which will spin off from the increase in people coming to the Iron Range. It looks like the environmental review process has been very thorough and does address all the impacts and how to mitigate them. I believe that PolyMet will meet the environmental requirements and be able to generate a boom in the economy in the Northland that only adds to the betterment of all of our lives in this area.	EOO,G5
<b>Sender Last Name:</b> Gagnon		<b>Submission ID:</b> 3224
3553	Please do not compromise our wilderness for a temporary gain! We need our wilderness areas to sustain tourism and to uphold our charge to be good stewards of the land. I am not a die hard environmentalist, but selling our wilderness rights to a foreign strip mining company just smacks of nearsighted greediness. We are better than that. Some day our clean water and wilderness might be the greatest resource of all. Please honor that fact. Do not do business with Poly met. My tax dollar is speaking. Thankyou!	EOO,G2,G11
<b>Sender Last Name:</b> Gaillot		<b>Submission ID:</b> 3198
739	To do so I am rquesting a time extension of 30 to 45 days to conduct a review of the EIS. In addition I am requesting more public meetings in more places be conducted to gather public input. The current EIS review schedule is too limited. Public meetings should include the option for citizen statements and discussion in the open meeting.	PRO6
3223	The DEIS does not outline any specific plan for reclamation after the mine site is closed. There is no specific mention of the method or amount of financial assurance that the mining company will need to set aside for the potential disasters after closing. Because acid mitigation is difficult to predict and long term treatment after closing is necessary, there needs to be a large sum of cash held in escrow, in perpetuum, as a damage deposit and that amount should be specific and included in the final EIS. What assurances are there that the mine site will be reclaimed if Polymet is closed in the future due to a down turn in the mineral market and abandons/orphans the mine site and leaves their environmental devastation to the taxpayers to mitigate? There was little or no field sampling done on the movement of ground water through the bedrock. Since the mine and its waste storage site sits nearly on the continental divide it should have been determined if there is any chance that polluted mine drainage (including acids, metals, or sulfates) could move in the rock over time to the north and into the Boundary Waters watershed. This was not done and should be before permitting. The DEIS does not approach the most important question of cumulative impacts of this mine and the others that are proposed in the district. Polymet can not be looked at as a single, one-time event in N.E. Minnesota. With permitting of Polymet will come at least 2, perhaps 4 or more new applications for permitting from other mining companies. What will be the total impact on the environment by all these potential mines and how will the EIS deal with mitigation of all these in concert? Where is the plan for constant monitoring of the mining operation by the DNR? Waste rock needs to be sorted by sulfide content, tailings basins need to be inspected for leaks, and waste piles need to be sampled for pH in runoff water regularly. You cannot just depend on the mining company to do its own monitoring. There should be a program set up in the EIS for constant monitoring of operations by an independent environmental concern or the DNR	EOO,WR1A,WR1E,WR2D,
<b>Sender Last Name:</b> Gamble		<b>Submission ID:</b> 3570

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
3835	This letter is coming to you to inform you of my strong concern for the serious and dangerous water and wildlife impact your intended mining procedures would create. Keeping the waters of Minnesota and their contents not only safe, but as clean as possible has been the major concern of so many of us, especially in the Superior area and north. We are located on Burntside Lake in St.Louis County and actively participate in testing and protecting the purity of our lake.....and surrounding lakes. Sometime very soon we, as a country, need to become aware of the sustenance value of our water and environment. We have enjoyed the luxury of using all that our lands will give us with no recognition of what we are losing. We don't now nor will we want to pay for the added protection of our natural resources which are needed to provide us with safe drinking water and safe environs. We won't even have useable natural resources if we keep using all we have. I am sure you are already aware of all that I have said. My reason for writing you is to inform you of my great concern about the gradual destruction your mining procedures will cause to the priceless environment so many of us enjoy and intend to protect. Please take the time to develop safe methods. Those metals will remain there until you are ready with safe mining procedures. Until then, we all will firmly oppose the PolyMet proposal.	G2C
<b>Sender Last Name:</b> Garber		<b>Submission ID:</b> 2302
425	1. Extend the comment period beyond February 1 so more citizens as they learn more about this project can convey their opinions	PRO6
2743	The PolyMet DEIS describes significant environmental issues associated with this proposed mine. These issues should be resolved before this mine is approved by the Minnesota Department of Natural Resources and the U.S. Army Corps of Engineers. 3. Just because a foreign mining company can make money here for awhile, does not mean we should allow them to. Risking perpetual problems with our water makes no sense. 4. Why is our governor not standing up for the citizens of Minnesota on this issue?	G7
<b>Sender Last Name:</b> Garbisch		<b>Submission ID:</b> 1178
1293	I am writing to oppose the permitting of the PolyMet project or any other sulfide mine in Minnesota. While I am a more conservative, business-oriented person than many PolyMet opponents, a business like sulfide mining places huge risks upon people (us, the public) who have nothing to gain from the mine. These who seek to earn the profits should also shoulder the risks. Once Lake Superior or the Boundary Waters lose their pure water, it will be gone forever.	EOO,G7B
<b>Sender Last Name:</b> Garrity		<b>Submission ID:</b> 187
179	I'm writing to ask you to support PolyMet Mining. PolyMet's 400 employees and the hundreds of spin-off jobs will provide a huge economic benefit across all of the Iron Range. It will also provide millions of dollars in local and state taxes of much needed support our communities and educational system. I am the General Manager of Midwest Communications here in Hibbing; we have six local radio stations serving Northern MN. PolyMet would be a huge help to not only my business, but so many other existing businesses. Without more jobs in this area, more people will be forced to leave the area and more local businesses will close. This beautiful area has so much to offer, but we need jobs to be able to keep growing and prospering. I've lived on the Range my entire life and I would love my daughters to be able to live and work in this area. I'm so proud to have not only grown up here, but have been so lucky to have been able to stay and raise my daughters. Our youth have been forced to move in previous years due to the lack of work after college and it would be ashamed for this to continue. I think PolyMet would be a huge step in the right direction to be able to keep our area people employed, existing businesses healthy and our youth would have a chance to stay in this area after college and work and raise their children. I'm asking you to please support PolyMet Mining for these reasons I stated along with so many other reasons.	EOO
3820	I strongly support the Polyment project. I think they are doing everything they can to maintain the safety to the environment. This area needs jobs. Last year was the worst year ever in this area. I was layed off for the first time in my carrer.	EOO

*Alphabetical by sender's first name*

**Comment ID    Comment Text**

**Theme Codes**

**Sender Last Name:**    Gaschk

**Submission ID:** 3516

3784 I'm originally from North Dakota, and first came to Minnesota a few years ago for college. The North Shore is the most beautiful place I've ever seen, and I don't believe PolyMet has the capacity or the intention to conduct their mining in a safe and clean manner. The acid and toxic metals that will be released into our Minnesota waters will continue to pollute our rivers and streams for decades, long after PolyMet has cut and run from the disastrous site that sulfide mining has left in other states. Allowing this project to go through will be a mistake that will affect Minnesota for years.

G7A

**Sender Last Name:**    Gavitt

**Submission ID:** 15

14 Samuel Gavitt. I'm for the project because I'm a union ironworker and it will hopefully bring us a bunch of good jobs and also bring good jobs to all the people in the community and hopefully spinoff jobs like other businesses coming up here and all that good stuff. I'm totally for the project and hopefully this whole environmental impact statement shows people that it's a good thing and it won't really affect the environment that much. That's everything I have to say.

EOO

**Sender Last Name:**    Gedicks

**Submission ID:** 2233

1146 Increased levels of sulfates leached from the PolyMet Mine will increase mercury accumulated in fish tissues, causing harm not only to the fish but to animals and people who eat the fish. The DEIS did not adequately analyze the potential impact of the mine on mercury levels in surrounding waters and fish. This may have a disproportionate impact upon the Fond du Lac Chippewa Tribe who depend upon fish in their diet to a greater extent than their non-Indian neighbors.

WR4B,WR5C,FM1

1817 The PolyMet Mine will result in sulfate releases that will exceed state standards for wild rice, which is sensitive to sulfates. These sulfates will likely eliminate wild rice in the Partridge and Embarrass Rivers, and diminish the famous wild rice beds in the St. Louis River estuary near Duluth, which is 100 miles away from the mine. Any contamination or elimination of wild rice resources will likely have a disproportionate impact upon Chippewa Indians, who depend upon wild rice to a greater extent than their non-Indian neighbors.

WR4F,WR5C

2011 PolyMet does not propose a liner for the Tailings Basin. This would result in increased seepage from the tailings basin relative to existing LTVSMC seepage, including both surface seepage through the tailings basin embankment and groundwater seepage through the base of the LTVSMC tailings. It is the Tribal cooperating agencies' position that the existing LTVSMC tailings are contributing substantially to the level of constituents observed in the groundwater. More mine waste will simply make this problem worse.

PD2,G9

**Sender Last Name:**    Geiger

**Submission ID:** 1848

304 I am most concerned about the loss of wetlands.. The project allows the loss of 1200 acres of wetlands in St. Louis County and the St. Louis River watershed, with an inadequate mitigation plan. The loss of these wetlands will result in a net loss in carbon sequestration provided by these wetlands (peatlands).

WE3

310 Harmful To Wildlife - The DEIS does not adequately address the mining project's impact on Canada Lynx and Grey Wolf Habitats. It also does not address the destruction of existing wildlife corridors. The project is located on land the USFWS designated less than one year ago as critical habitat for the Canada Lynx.

WI1,WI5

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
1280	I do not value short-term economic gains over long-term water quality. As an inner-city kid, going to the Boundary Waters changed the course of my life. The experience of being able to drink the water and have silence- made me more aware of the environment & how valuable it is. PLEASE take the time to judge this decision carefully. I don't want sulfide mining to ruin the BWCAW.	EOO,G11
<b>Sender Last Name:</b>	Geist	<b>Submission ID:</b> 1244
1395	As an environmental science instructor and resident of Minnesota, I have serious concerns about the safety of this project and its potential impacts on Minnesota's natural resources, including waters and native habitat, especially lands designated as critical habitat for the endangered Canada lynx.	G2C,G7B
<b>Sender Last Name:</b>	Geiwitz	<b>Submission ID:</b> 299
313	I am pleased to support PolyMet Mining's NorthMet Project. The mining of these valuable metals is vital to the economic growth of Minnesota. At the same time, I know that the State of Minnesota has sufficient regulations to successfully guide the production of these metals using responsible, environmentally appropriate mining practices. The PolyMet Project offers Minnesota an opportunity to be the sole source of critical metals that are used in products across many competitive industries. Growth in employment in the Arrowhead region, growth in the tax base and the associated benefits to area communities/educational systems, all make the PolyMet Project a vital next step for the state economy. As an investor in private businesses, the prospect of increased production using environmentally responsible guidelines is the perfect formula for successful returns in today's economy. I urge the DNR to support the PolyMet Mining Project and therefore support the continued success of our MN economy.	EOO
<b>Sender Last Name:</b>	Gemuenden	<b>Submission ID:</b> 371
412	The Draft EIS must assess the cumulative impacts of past actions, including past mining activities, on affected aquatic species in considerable more detail than what is presented, including ongoing adverse impacts resulting from the pollution occurring at the LTV site. See e.g., DEIS, 4.5-9, n. 4 (Tribal cooperating agencies comments, stating "there is no evidence to support a conclusion that low species richness in either the macroinvertebrate or fish communities is solely a manifestation of poor habitat, and not also potentially a result of previous mining impacts in the watershed").	FM3
3573	I support PolyMet Mining's NorthMet Project. PolyMet will significantly contribute to the state and local economy at a time when we really need the jobs and economic benefit. PolyMet's 400 employees and the hundreds of spinoff jobs will provide a huge economic benefit to Minnesota and the Arrowhead region/and my local business GPM,inc. PolyMet will provide millions of dollars in local and state taxes to support our communities and educational system. The metals that Polymet will mine are essential to green technology such as wind turbines and hybrid cars and are necessary for pollution prevention devices such as catalytic converters. The PolyMet project has been designed to minimize environmental impacts; reusing a brown field site, reusing existing infrastructure, minimizing disturbance of wetlands and utilizing multiple safeguards to protect the environment. Polymet is not using Yesterdays Technology that cause people to be fearsome and water in the BWCA is on the otherside of the watershed.	EOO
<b>Sender Last Name:</b>	Gerdes	<b>Submission ID:</b> 3157



*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
3115	<p>I believe that the PolyMet sulfide open-pit mining project proposed on public land in Minnesota’s Superior National Forest would harm the environment and has not been properly studied in the DEIS. I understand that the water leaching from waste rock piles at the site is expected to exceed water quality standards for up to 2,000 years. It is unreasonable to expect that mining companies will be able to maintain water treatment facilities for that amount of time and it is an unfair burden to pass on to future generations of Minnesotans who will inevitably be left to pay for these operations. Additionally, it will be all but impossible to calculate sufficient financial assurance for a mining operation that is going to require such long-term care. In addition, the DEIS predicts contaminated waters to be discharged from the mine site into the Partridge River after the mine’s closure, as well as tailing’s basin discharges, high in sulfate concentrations. High sulfates can turn mercury into forms that make fish dangerous to consume and affects the growth of wild rice. Changes in water levels caused by the mine would affect a large surrounding area, impacting recreation as well as mercury levels and water quality. It is also my understanding that PolyMet proposes to use an existing mine tailings basin for the disposal of its tailings and toxic materials, but that the basin already has stability issues making it unsafe. All liners will eventually leak. Any failure of this basin to hold its contents would result in long-lasting and serious contamination. PolyMet should complete a stability analysis of the basin and devise an acceptable design before being able to proceed with this project. Require PolyMet to show that their waste rock and tailings piles won’t collapse and dump uncontrolled pollution into nearby surface and ground water, and that they will not create water pollution from mine pits, seepage or discharge that lasts for decades or even thousands of years. Multiple discharges from the PolyMet project to surface water and ground water would violate Clean Water Act and State water quality standards, putting human health and animal species at risk. Safe, clean drinking water is a critical global issue and a matter of national security, as well as a state and local concern. Permitting a mine that projects these kinds of pollution outcomes and these uncertainties is unacceptable to me as a responsible citizen and steward. The DEIS has not addressed the effects of climate change, especially on water levels. What are the effects of regional predictions for warmer, wetter winters and hotter drier summers? How do these predictions affect the ability of the proposed technology, to control water levels to contain sulfuric acid and other contaminants?</p>	<p>EOO,WR1E,WR2D,WR3I,P</p>
3116	<p>Specifically, the tribes commented that the studies of water pollution, wetlands, mercury in fish, wild rice, endangered species, financial risks and perpetual pollution from the sulfide mine are inadequate. I am convinced that there is no objective evidence that sulfide mining for copper, nickel, and other nonferrous metals can be done in Minnesota at this time without impairing wetlands, habitats and water quality of lakes, streams, rivers, and the aquatic species, ecological systems and communities that depend on them. The PolyMet DEIS describes significant environmental issues associated with this proposed mine.</p>	<p>EOO,WR1E,WI2,WE2,PD3,</p>
3117	<p>Furthermore, PolyMet has not yet done the research needed on existing LTVSMC contamination and drinking water wells near the tailings basin.</p>	<p>WR1E</p>

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
3125	I understand that the water leaching from waste rock piles at the site is expected to exceed water quality standards for up to 2,000 years. It is unreasonable to expect that mining companies will be able to maintain water treatment facilities for that amount of time and it is an unfair burden to pass on to future generations of Minnesotans who will inevitably be left to pay for these operations. Additionally, it will be all but impossible to calculate sufficient financial assurance for a mining operation that is going to require such long-term care. In addition, the DEIS predicts contaminated waters to be discharged from the mine site into the Partridge River after the mine's closure, as well as tailing's basin discharges, high in sulfate concentrations. High sulfates can turn mercury into forms that make fish dangerous to consume and affects the growth of wild rice. Changes in water levels caused by the mine would affect a large surrounding area, impacting recreation as well as mercury levels and water quality. It is also my understanding that PolyMet proposes to use an existing mine tailings basin for the disposal of its tailings and toxic materials, but that the basin already has stability issues making it unsafe. All liners will eventually leak. Any failure of this basin to hold its contents would result in long-lasting and serious contamination. PolyMet should complete a stability analysis of the basin and devise an acceptable design before being able to proceed with this project. Require PolyMet to show that their waste rock and tailings piles won't collapse and dump uncontrolled pollution into nearby surface and ground water, and that they will not create water pollution from mine pits, seepage or discharge that lasts for decades or even thousands of years. Multiple discharges from the PolyMet project to surface water and ground water would violate Clean Water Act and State water quality standards, putting human health and animal species at risk. Safe, clean drinking water is a critical global issue and a matter of national security, as well as a state and local concern. Permitting a mine that projects these kinds of pollution outcomes and these uncertainties is unacceptable to me as a responsible citizen and steward. The DEIS has not addressed the effects of climate change, especially on water levels. What are the effects of regional predictions for warmer, wetter winters and hotter drier summers? How do these predictions affect the ability of the proposed technology, to control water levels to contain sulfuric acid and other contaminants?	WR2D,WR3I,PD2,PD3,PD4
3126	Specifically, the tribes commented that the studies of water pollution, wetlands, mercury in fish, wild rice, endangered species, financial risks and perpetual pollution from the sulfide mine are inadequate. I am convinced that there is no objective evidence that sulfide mining for copper, nickel, and other non-ferrous metals can be done in Minnesota at this time without impairing wetlands, habitats and water quality of lakes, streams, rivers, and the aquatic species, ecological systems and communities that depend on them. The PolyMet DEIS describes significant environmental issues associated with this proposed mine. Furthermore, PolyMet has not yet done the research needed on existing LTVSMC contamination and drinking water wells near the tailings basin.	EOO,WR1E,WI2,WE2,FM1
<b>Sender Last Name:</b> Gerhardstein		<b>Submission ID:</b> 3754
1	Outstanding EIS work. Great for MN jobs. Product for MN Mtg in copper, etc. Will help us economically. More jobs in support areas. Great tax income. Go for it!	EOO,G1
1	I suggest we move from 1.5 to 2 times wetland replacement + recovery. Wetland are critical to the eco system and our [illegible] should reflect that. Therefore – more taxes on mining revenue - greater percent of wetland replacement rejoined – from 1.5 to 2 times	WE3
2	I support the project. It seems that Polymet is trying very hard to assure Minnesotans that they have their hazards identified enviromentally. I am slightly concerned with Polymets' attitude towards it's own workforce. Mesabi Nugget which is its neighbor at the old LTV site is only paying some of it's employees \$9.00 hr. This is not a living wage. I would hate to see Polymet get a permit if they are going to pay their employees only \$9.00 hr. If polymet can make assurances they will pay their employees well, Grant them a permit, but Minnesota's economic environment needs to be protected as well.	EOO,G1
3	My name is Carey Kowalski, I am the Apprenticeship Coordinator for Boilermakers Local 647. I have unemployed Apprentices in this area who need work as well as fellow Journeymen. I support PolyMet! The only way out of these hard economic times is to create jobs not to stop them.	EOO
3	I support the project. I think we should use of are resoruces to keep are economic growth strong. These jobs, it would bring should be good wages with health and pension for stuably	EOO

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
4	The project just makes good sense. Jobs, Revenue, product for the world market. JUST GET IT GOING!	EOO,G1
4	Well, my name is Bob Croteau, and I'm all for this PolyMet Mining. I've got a lot of people up here that need jobs, and after the mine closed down, this would be a very good thing to replace our work force. So that's about it.	EOO
4	Safe, environmentally sound mining that produces the products we all need and provides jobs & taxes to run our community. I am definitely in favor!	EOO,G1
4	Considering the following: - The strict rules governing possible environmental impact of mine development - The strategic nature of the mineral resources to the country - That this is one of the worlds largest resources of nickel & copper - The need of these metals for developing & manufacturing green technology - The positive impact it will have on the economy of the region & the state - The positive economic impact to the education system of Minnesota It would be a disservice to the local population & the state as a whole to prohibit this development.	EOO,G1
5	I think this project shoul be allowed to move forward. I believe the project is safe and will help economy. I live in city but own property near mine & Birch lk. I have nothing to gain from this mine personally but know it's the right thing to do. Polymet is not asking for Bail out money to start business is creating work with/out government job creation at not cost to tax payers. THIS IS WHAT OUR COUNTRY NEEDS. I also was told how tailing ponds are forever contaminated in the area. I was told that even a fathead minnow could not live in these ponds. I was told this from members of Sierra Club. Guess What? I still trap minnows in these ponds and have for years. So in ending I hope Sierra Club can find more factual information.	EOO,G2
7	I am writing this letter to support the MolyMet project. This project is not only very important to Northeast Minnesota, the the many people, families and businesses this project will benefit. The additional jobs from construction to the long term employment opportunities the PolyMet project will bring to the State of Minnesota through additional individual income taxes, corporate taxes, lower unemployment costs, additional savings from people having health insurance coverage to people in northeast Minnesota having a positive attitude towards the economy will in its self be Northeastern Minnesota's "STIMULAS PLAN". As a person who decided to move to this area several years ago, I understand the need to balance the available resources such as monerals and water with the development of a project like PolyMet. I feel the EIS lays the groundwork for developing an environmentally, economically project that will benefit not only northeast Minnesota residents, but people throughout the country and world by showing this type of mining can be achieved through good governmental entities and local people. In the end, this entire process should set the bar for future projects. I fully support this project. Thank you for your time and commitment to make this process open to everyone.	EOO,G1
7	My name is John Dahmen from Aurora, Minnesota. I'm a student here at Mesabi East, and I guess my interest in this project is more so for our area, too, because we were pretty devastated with the whole LTV closing, and we need something to, I guess, get our area boosting again. But I guess for my future in a way, because the way I look at it, once I leave from the area to go to college and stuff, what is here for me to come back? You know, how am I supposed to get a job back here if there is no options for me? And, you know, along with the economic boost for our area, us being northern Minnesota, Iron Rangers, we are pretty -- we care about our environment and stuff, so to see this many people in such favor for a project like this, that means that they must care for the environment, too, the company; otherwise, obviously we wouldn't be for it, too, because, I mean, we live in the outdoors, so we care about it, and we care about what happens with it. So I guess that's my statement I want to make. You know, the support that we have, not only is it for looking out for us and the money and the jobs and stuff, but it is for our future, I guess, for our kids and stuff, and the environmental future also for our area.	EOO

*Alphabetical by sender's first name*

**Comment ID    Comment Text** **Theme Codes**

7 As a life-long citizen of Grand Rapids, Minnesota and Itasca County, I am very pleased to share my thoughts on the draft environmental impact statement (EIS) for PolyMet Mining Company's proposed non-ferrous mine near Hoyt Lakes. We are interdependent upon the industries of northern Minnesota with many citizens working and living in and about the communities of the Iron Range. A project such as this has rippling effects throughout all of northeastern Minnesota, and I am strongly in support of the approval of the EIS. I have been well informed at various presentations throughout the last couple of years about the great care and concern the management has taken to address the many environmental issues involved with a project like this. I am confident that all state of Minnesota environmental processes will be followed, and the appropriate authorities will monitor all progress in the project. Economically, this project is a positive sign for the future of northeastern Minnesota. With rampant unemployment and young people leaving the area at a rapid pace, the types of jobs created by this project as well as the spinoff jobs will come at a very critical time. I am confident the state and federal agencies will do their jobs to determine the adequacy of the EIS and I recommend permitting when all processes are complete.

EOO

7 Birch Lake is a treasure and we can't allow it to be contaminated.

G7

7 As a construction worker who lives in Northern Minnesota, I have a first hand view as to what construction jobs will do for our area. I support PolyMet Mining's North Met project. As a parent, I would like to see our area continue to grow so my children can continue to love and play in Northern Minnesota. This project will have a huge benefit to the area. As an American, I would like to stop our dependence on foreign suppliers. From what I have read, they will mine and produce some metals not currently mined anywhere in the United States. This is crucial to our part in the global economy. I am hoping the DNR will consider all the positive impacts this project will have.

EOO

7 I am in favor of the PolyMet project. As a person who grew up in the area, educated in the area, and had to move away from the area to find work after my education I know the full value of this area. This project would bring many good paying jobs to an area that has been forced to outsource it's youth to places with more opportunity. This is one of the many projects that would bring young people back to an area that knows family values and community.

EOO

**Sender Last Name:**    Gerhardt

**Submission ID:** 1318

1538 I am writing to voice my support of Polymet Mining/s NorthMet project. Kraus-Anderson Construction Company has been based in Minnesota for 113 years and is the largest provider of construction services in the State of Minnesota. I have reviewed the draft EIS for the NorthMet project and believe that mining and processing these minerals in Minnesota can be done in an environmentally sound manner. Minnesota places a great value on protecting our natural resources and I'm confident that we can implement mining practices that balance the ability to extract these valuable resources while protecting the surrounding environment. The people that live and work in Northern Minnesota would stand for nothing less. This project will provide many long term good paying jobs, with benefits] and tax revenue. It will also generate other jobs and business opportunities that will help keep our State and local communities stay strong and vibrant. I support moving forward with the permitting necessary to proceed with the NorthMet project.

EOO

**Sender Last Name:**    Gerharstein

**Submission ID:** 2389

2879 As my fiancé and I say our wedding vows this August on the shores of White Iron Lake we want to be sure that our children and grandchildren will have the same experience of beauty and access to clean and safe environment as we've had. Please take the time to add supplements to the draft EIS and give people in Minnesota a fair chance to know what impact the PolyMet project would have on our State.

G6

**Sender Last Name:**    Germ

**Submission ID:** 1347

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
1574	People need jobs! Educating and engaging citizens that do not have good paying jobs is difficult no matter how important the cause maybe. Big mining companies may lie, pollute and leave a mess for many years but they hold the upper hand when offering citizens jobs. Friends of the BWCA need to be able to say "there are green jobs let's explore these coming to our area."	EOO
<b>Sender Last Name:</b> Germolus		<b>Submission ID:</b> 256
269	I appreciate the opportunity to submit this letter in support of an adequacy determination for the draft Environmental Impact Statement for PolyMet Mining Company mine near Hoyt Lakes. The Chisholm-Hibbing Airport plays a key role in the economic development of Northeastern Minnesota - ensuring regional businesses have access to convenient, efficient air transportation. In turn, having a strong economic base helps ensure the success of the airport by ensuring a consistent stream of customers for flights. PolyMet Mining Company will be a significant player in the regional economy creating 400 direct jobs with an annual payroll of about \$40 million and at least 500 indirect jobs with an economic impact in the county of about \$242 million. In addition, PolyMet will pay millions each year in royalties and local, state and federal taxes. While the economic impacts of this project will be huge, the environmental impacts will be negligible, as demonstrated in the very thorough and comprehensive draft Environmental Impact Statement. PolyMet has worked hard to propose a project that doesn't require northern Minnesota to sacrifice its environmental riches for economic development. The project is in the midst of a well established mining area that also has been logged off. PolyMet proposes to reuse significant existing mine, processing and transportation infrastructure-recycling this valuable equipment instead of scrapping it. The footprint has been designed to minimize the impact to wetlands. Waste rock, which could create acid mine drainage if not properly handled, will be managed according to acid-generating potential. All stockpiles will have engineered foundations and liners with drainage systems that will collect water and treat it before reusing it for processing. At the end of mining, stockpiles will have special covers installed to make it difficult for water to contact the rock. Greenhouse gases will be kept at a minimum, as well, because PolyMet will use the sulfur found in the ore to supply the fuel to start recovering the metals. Waste streams will be managed appropriately. And, as required by state law, PolyMet will set aside financial resources to cover all closure costs before operations even begin-ensuring that the taxpayer won't have to do so. PolyMet will be mining critical metals used by each of us every single day, even though the United States must import 40% to 95% of these strategically important metals. Do the countries importing these critical metals have similarly strict environmental standards and can we guarantee the long-term stability of these imports? It makes more sense to rely on U.S. materials mined under U.S. environmental standards providing employment for U.S. citizens! As someone involved in the aviation industry, I am particularly concerned that we have clean, reliable, domestic sources of cobalt and nickel, alloys of which are used in jet engines, a high-performance application where components must retain strength and physical properties to ensure the safety and security of passengers. From my perspective, PolyMet offers tremendous benefits - to the region and to our nation's economy. The draft Environmental Impact Statement has adequately addressed the environmental and other issues associated with the proposed project and should be deemed adequate so that permitting can begin quickly.	EOO,G2,G4
<b>Sender Last Name:</b> Gerten		<b>Submission ID:</b> 3103
3486	The pristine area of the Boundary Waters must be preserved. Anytime the surface of the earth is scarred either by striping the surface or placing extracted earth a reclamation plan must be made with dollars set aside to do it upfront. The polluting of the waters must be prevented with a verifiably successful processes used elsewhere before the project begins and again the dollars must be set aside to implement this plan over time as the mining occurs.	G4A,G7
<b>Sender Last Name:</b> Getting		<b>Submission ID:</b> 1343

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
1569	My father told me about a mining operation in his part of Ohio near a little stream where he had played as a child. After the mining (for coal) he said that there was "not a living thing in the stream, not a living thing." with deep sadness in his voice. While I know things have progressed since that unregulated day, still risk remains and beautiful and precious things may be ruined for a short-term benefit. I know we need beauty and wilderness. How badly do we really need these ores and jobs?	G2C
<b>Sender Last Name:</b> Gibson		<b>Submission ID:</b> 3189
730	I would like to request an extension to the comment and study period. This project and future expansion could possibly have a devastating effect on our watershed. It is clear to me that extreme caution should be exercised before moving forward. More public comment and understanding is required. Thank you.	PRO6
2496	Please allow more time to comment and study this issue. It is far too important and potentially devastating to rush into! Bob Gibson, 12855 64th ave SE Blooming Prairie , MN 55917	G10
3534	I want to voice a "NO" to the proposed PolyMet project in northern Minnesota. I believe that Minnesota should adopt a similar ban to this injurious sulfide mining as Wisconsin. It states that there will be no sulfide mining in Wisconsin until a mine has proven to be safe from water pollution for 10 during the mining and for 10 years post the mining. To date, this has not been proven. Why would our state, the state that just self-imposed a tax to protect our waters, allow such a travesty. PolyMet is a Canadian company with a short business record mining copper and cobalt that has a very volatile market. Jobs are a great incentive but it may be that the clean-up jobs at taxpayer expense are more predictable. You are the department of natural resources and minerals are a small part of your operations. Our healthy aquatic life and those who enjoy our vast water resources should have first priority. No to PolyMet!	EOO,G7,G12
3736	Jobs should not come at the expense of our environment. There is simply too much risk with this project. Please do not approve.	EOO
<b>Sender Last Name:</b> Gilk		<b>Submission ID:</b> 1085
1189	I work for Eaton Corporation, which is a major employer in the state of MN. Through these difficult economic times, Eaton has made some tough decisions that have unfortunately cost the state of MN jobs. As a resident of Chanhassen, MN, I don't want to see any further increases in the state unemployment rate. I would like to voice my support for PolyMet Mining's NorthMet project. The number of jobs that will be created by this business is substantial at over 400. I would estimate that suppliers and other beneficiaries of a project (and ongoing business) of this magnitude would add significant jobs as well. It appears to me that any environmental concerns are far outweighed by the positive economic impact of a successful ongoing business who is a good steward of the environment. Environmental issues are much better addressed by many businesses participating in a healthy economy. I look forward to seeing PolyMet Mining move forward with its NorthMet project. Your support is appreciated.	EOO
<b>Sender Last Name:</b> Gillach		<b>Submission ID:</b> 16



*Alphabetical by sender's first name*

**Comment ID    Comment Text** **Theme Codes**

163 I am Senior Mine Manager for Cliffs Natural Resources. I have been working in mining for 15 years on the Iron Range and in Australia. I am writing you to endorse the Northmet project by Polymet Mining Co. The project would bring more than \$1 Billion of revenue to St. Louis county. When the Northmet operation is running successfully it will foster the development of at least 5 other companies and the development of the second largest Cu-Ni PPG deposit on the planet. Final revenue to the county and state could be more than \$13 billion. I feel that there is a more important reason for allowing Northmet. Mining companies represent the most active and well funded environmental stewards today. We do more to protect the environment than anyone. I have read the Northmet EIS Statement. It is thorough, professional and large. Polymet has covered all the environmental bases and the project will clean and controlled. Northmet represents an opportunity for the mining industry to prove that we will be environmental champions and we will usher in an era of mining and environmental protection. The Northmet project is exactly what the county and state need in this economy. It will be a safe, clean and profitable project that will lead to massive growth in the region.

EOO

**Sender Last Name:**    Giuliani

**Submission ID:** 308

322 I represented the Mining Industry in 1960 at the 1st National Air Pollution Conference. Until I retired in 1986, I represented Pickands Mather regarding dust and water problems throughout the U.S. & Canada dealing with underground mines, coal mines, and all the Taconite Plants. I was basically concerned about the pollution to protect our employee health so I am well trained in what is going on with PolyMet. I am all for getting this Copper/Precious metals mining going as soon as possible & approve their permit as soon as it can.

EOO

1134 I think that you people are doing a real good comprehensive study on this project. I handled all of the pollution problems for Erie Mining Company starting in 1960. When a new endeavor is started, there are bound to be problems that turn up that were not considered in the original design. We studied these problems and one by one we were able to correct them. These included air, water, power plant emissions, asbestos, PCB transformers, etc. When I retired in 1986, I felt we had made Erie a show place. I also assisted in working on the Wilwaukee Salvey Coke Plant in downtown Milwaukee, the Carbad Limertare + Coal operation in Ohio-Penn border + the Zolran Mines in Canada operated by Pickandes Mather. Before I came to Minn, I worked as a ventilation engineer for 6 underground mines in Northern Michigan. My only reason for going into the above is to remind you that as good a job as you are doing, there are going to be somethings that will be over looked. With all of the talented people out there, I have no doubt that they can be solved or corrected. Therefore, all I'm saying is that be prepared for things that you overlooked in the study but please give the company's a chance.

EOO

**Sender Last Name:**    Glass

**Submission ID:** 3649

18342 1) The draft EIS document fails to mention the wealth of information in the US and Canada on the observed negative impacts to aquatic resources from mining activities where sulfidecontaining minerals were mined and the disturbance of the soil and aquifers resulted in 2,500 miles of permanently acid-polluted streams draining sulfide-containing coal mines in Pennsylvania, and 10,000 acid-contaminated sulfide-mineral mine sites in Canada. In Minnesota, where acid-forming sulfide minerals were encountered and buried at the Dunka Mine area in the 1970s, acidified runoff is still being observed to this day from the reactive sulfide-containing rock, and the treatment plant that once was operated to mitigate the problem is no longer running, resulting in continuously contaminated surface water runoff from that source of acid-forming sulfide-containing rocks. The Dunka Mine pit case of omitted information and data should be added to the final EIS, along with an assessment of past and present resultant impacts, and the necessary requirements for permanent mitigation.

WR3D



*Alphabetical by sender's first name*

<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
18343	2) The magnitude of the current problem in Pennsylvania is exactly what will happen in Minnesota unless totally protective measures are implemented. Sulfide mineral mining without regard to sulfide-air reactivity and resultant acid-drainage has resulted in continuous on-going environmental problems dating from the early 1900s, and before. Federally funded research (overseen by the Duluth EPA lab) from 1970 focused on identifying the origin of the problem: sulfide-containing mineral-air oxidation to sulfuric acid, and the resultant mobilization of soil/rock components, (primarily iron, manganese, and aluminum) which caused the acute and chronic toxicity to aquatic life in streams receiving acidified groundwater and acidified-surface water containing toxic levels of mobilized metals. Pennsylvania's acid-drainage mitigation program is on-going and information may be found on the web address: <a href="http://www.depweb.state.pa.us/abandonedminerec/cwp/">http://www.depweb.state.pa.us/abandonedminerec/cwp/</a> or by contacting: Bureau of Abandoned Mine Reclamation Director: Roderick A. Fletcher, P. E. Rachel Carson State Office Building P.O. Box 8476 Harrisburg, PA 17105-8476 Phone: 717-783-2267 FAX: 717-783-7442. See reference listed below. Relevant information from this state's extensive experience has been omitted from the DEIS, and the relevant information and data should be added to the final EIS, along with assessments of resultant impacts, requirements for permanent mitigation, and the methodology presently being tested and implemented.	WR1E
18344	3) The DEIS omits the information and data from Canada relevant to describing and assessing the proposed mining project. The magnitude of the current problem in Canada originating from sulfide-minerals that have been mined in more than 10,000 sites were described in a Geology Dept. seminar at UMD on Nov. 8, 2007, A Canadian professor from the University of Waterloo, Dr. David Blowes, summarized over 20 years of research on more than 10,000 mines in Canada. All Canadian mine operations Dr. Blowes studied and summarized have exhibited contaminated the groundwater at each of the sites, to greater or lesser extents, from the oxidation of sulfide-containing minerals, rock-wastes, and mine tailings, and the subsequent leaching of metals and sulfuric acids into groundwater. If any sulfide minerals are present, they are oxidized and leach toxic acid and metals in toxic concentrations. Prof. Blowes presented detailed data and information, and his conclusions were: 1) Immediate oxidation of sulfides by gaseous air is the major mechanism causing toxic components to be leachable. The first five-to-ten years or mineral exposure to air are the most important to control and prevent oxidation and leaching; 2) Groundwater is the major recipient and conduit for toxic leachate from waste sulfide-containing piles to surface waters down stream. Water travel-times of 2-200 meters per day are typical for contaminated groundwater streams containing toxic acids and metals; 3) Permanent maintenance funds should be required for all sulfide mineral mine, rock pile, and tailings deposits before mining is allowed to begin. Funds must be permanent and by "bankrupt proof" to assure they will be available in future time when groundwater pollution becomes evident and mitigation is required, and: 4) Permanent methods for the collection and treatment of all runoff, run-through, and leachate are required if downstream water quality is to be protected. Different types of prevention and remediation mechanisms are being studied, but no "best methods" are available at this time. Further study and research are underway. The DEIS omitted relevant information from the University of Waterloo Department's efforts that should be summarized and included in the final EIS for use in evaluation, assessment, and mitigation of the known negative impacts from mining sulfidecontaining, acid-forming, toxic-metal mobilizing minerals.	WR1A,WR2E

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
18345	lean ore over the life time of the mine, 20 yrs. On a daily rate basis, the tonnages are 32,000 and 91,200 tons per day, respectively. The finished product annual yield from the proposed effort are stated on page 3-2, in tons, as 38,821 copper, 9037 nickel, 400 cobalt, and, in ounces, 22,184 platinum, 87,129, palladium, and 13,824 gold. Comparing the annual ore tonnage to the copper yield gives a beginning ore percentage of copper, 0.33%, and nickel, 0.077%. Assuming CuS and NiS as the predominant chemical forms for each, the mass of sulfide in the ore calculates to about 24,000 tons annually, with a potential to form about 72,000 tons of sulfuric acid. It is not at all clear where and to what fate the sulfide annually processed mass will become or whether of not it will be neutralized. Assuming the extraction process to be 99% effective this would leave residual copper and nickel concentrations of 33 and 7.7 ppm, respectively, in the extracted sludge. If the waste rock and lean ore were one-tenth the concentrations of the metal sulfide ore being processed, then the potential for sulfuric acid formation by air oxidation in the piles 1-4 would be potentially 24,000 tons x 0.1 x 1.7 = 4,080 tons sulfide, and the potential for 12,000 tons sulfuric acid, added annually, (but not necessarily formed or released annually, since reaction times can take several years). Since there would be no metal extraction, the copper and nickel concentrations if 10 % of the processed ore would be, 330 and 77 ppm, respectively, in the waste rock and lean ore. Clearly these concentrations of metals in conjunction with oxygen reactive sulfide-containing lean ore would be of great concern from the potential for environmental damage to the aquatic environment from the piles containing 394 million tons of waste rock and lean ore. The calculations illustrated above for total mass quantities, using actual known values for metal and sulfide content of the ore, waste rock and lean ore, should be added to the final EIS, with the assessment and interpretations necessary to evaluate and mitigate probable environmental impacts.	PD2
18346	5) All sulfide-containing mined rock, ore, and sulfide-containing material is capable of reacting (Piles 1 - 4) with atmospheric oxygen and results in generating toxic sulfuric acid which then absorbs water from the air, mobilizes and transport toxic metal concentrations, and causes groundwater and surface water pollution. Data are absent for measured reactivity and predicted acid formation as functions of times of extraction, particle size, and exposure to various concentrations of oxygen in air vs. depth of cover and precipitation. The entire mining site can become a toxic acid-toxic metal solution generator where ever sulfidecontaining materials are deposited when mined, transported, handled, crushed, stored, processed, shipped, and their resulting wastes are finally disposed of. Long times of reaction will result in toxic acid and toxic metal solutions being generated over decades of time from when these reactive sulfide-containing minerals, ores, and wastes are exposed to atmospheric oxygen, extracted by precipitation, resultant runoff and groundwater displacement. Mine disposed of mineral extraction wastes in semi-pervious cells, build upon and within leaky iron-ore tailings basins are unacceptable and do not meet the specific requirements described in Minn. Rule 6132.2200 for REACTIVE MINE WASTES. Contaminated water collection systems must be put in place and all runoff water collected and treated at the WWTF for completion of mine waste reaction times to consume all reactive sulfide present, probably several decades into the future, post-closure. This information needs to be generated and added to the final EIS.	WR1E,WR3I,AQ4,AQ5
18348	6) All mine waste piles exceeding nickel concentrations of 1 part per million and other components exceeding specified concentrations in M.R. 7045.0214 EVALUATION OF WASTES should be handled and treated as hazardous wastes under Minnesota Rules. Any waste solid or liquid samples with concentrations exceeding the ppm values given in MR 7045.0214 are classified as hazardous wastes and must be properly treated and disposed of as such. The following components and concentrations in ppm (mg/kg) exceeding these values are defined as hazardous waste: antimony, 0.10 ppm; arsenic, 0.50 ppm; barium, 7.6 ppm; beryllium, 0.010; cadmium, 0.050 ppm; chromium (total), 0.33 ppm; cyanide (total), 1.8 ppm; lead, 0.15 ppm; mercury, 0.009 ppm; nickel, 1.0 ppm; selenium, 0.16 ppm; and silver, 0.30 ppm; thallium, 0.020 ppm; and zinc, 70 ppm, respectively. Any and all expected wastes predicted to exceed these concentrations must be properly disposed of in a properly designed, licensed, hazardous waste facility, according to Minnesota laws and regulations, with permanent monitoring to assure compliance, and the protection of present and future health and welfare. Specific components predicted to be present in the various mine wastes need to be added to the final EIS.	PD2,HM2

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
18349	7) The remaining ore and waste rock (from section "Rail Transfer Hoppe Demolition and Reclamation," page 3-37), including Category 1, 2, 3, & 4 piles of sulfide-containing rock, and including ore spillages along all rail tracks and haul roads that are expected to contain acid-forming sulfide rock and dust accumulations must be collected and placed in approved, lined disposal areas where all surface and ground water runoff is collected and treated in the WWTF for elevated concentrations of acid and metals including H <sub>2</sub> SO <sub>4</sub> , Cu, Ni, Co, Mn, Fe, Al, and others toxic components. Any of these reactive sulfide-containing materials remaining after the mining operations are completed must be located in protective enclosures where all water leachate is collected and treated at the WWTF, on a permanent basis, for the foreseeable future, otherwise toxic acid and toxic metal pollution will result and downstream river reaches and Lake Superior will be adversely affected. These considerations need to be used to strengthen the technical design approach, and added to the final EIS	PD5,PD7
18350	8) As stated in section (pg 3-37): covering acid-forming sulfide-containing ore and waste rock with two feet of soil and vegetated according to Minnesota Rules, parts 6132.2700 and 6132.3200 is not an acceptable treatment for reactive, acid-forming sulfide-containing ore and waste rock and will lead to acid and metal contaminated surface and ground water runoff, and eventually led to acid and metal polluted streams and lakes. These reactive mine wastes must be properly contained and treated to mitigate any remaining reactivity as indicated by the presence of sulfide-containing materials and comply with the specific provisions of M.R. 6132.2200 for reactive mine waste. Measurements of total sulfide, and correlations with measurements of chemical oxygen demand (COD) are absent and would be useful in determining the total quantities of oxygen capable of reacting with atmospheric oxygen for the different categories of ore, waste rock, and mine tailings as a function of particle size and condition. This information should be generated, evaluated and added to the final EIS.	PD2
18351	9) "Proper disposal" as stated on page 3-38 for "Nuclear sources" and "Partially used paint, chemical, and petroleum products" must include complete inventories, safe packaging, and be shipped off-site to an approved, licensed hazardous waste disposal site. Disposal on-site is unacceptable and will lead to surface and ground water contamination and pollution. The	PD2
18352	10) The Waste Water Treatment Facility (WWTF) if operated properly will generate solid wastes containing the extracted components from water contaminated with toxic metals and other dissolved and suspended particulates. This solid sludge must be properly disposed in an approved, licensed solid waste landfill suitable for handling this waste. The cost for operation and disposal of contaminated sludge is absent from page 201 showing Closure Costs Estimate Summary Tab. 3.1-14 and omits the post-closure costs of continuing operation of WWTF and disposal costs for contaminated sludge. Both costs during the time of mine and plant operation (20 yr) and continuing after mine site closure for the several decades need to be specified and planned for, because of the remaining reactivity of the sulfide-containing rock present in the 294 million tons of waste rock and mine tailings generated by the proposed project. The costs for these operations need to be described and added to the final EIS.	PD3
18353	11) The reaction times for the reactivity of atmospheric oxygen and sulfide-containing mineral and other substances to form sulfuric acid, and the subsequent reactions caused by newly formed sulfuric acid, itself, acting as a reagent, reacting to cause toxic metals to be mobilized and leached from mineral and soil particles must be determined. This information is presently missing from the DEIS, and is absolutely necessary to evaluate the time frames for observing environmental impacts and devising methods for their possible mitigation. It is a requirement of M.R. 6132.2200, Subp 2, B. (1) to determine when the reactive mine waste "is no longer reactive." The time frames for the various types of solid and liquid wastes to become non-reactive for both sulfuric acid formation and sulfuric acid reactivity in mobilizing metals must be measured and known, and added to the final EIS and used to determine the total scope and magnitude of the treatment and potential mitigation necessary for the proposed project. The time frames for surface and groundwater movements must also be known, and in combination with the inputs due to the reactivity of the mine and mine wastes, and added to the final EIS.	WR1E,PD2

*Alphabetical by sender's first name*

<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
18355	12) The use of impermeable liners to collect and control all infiltration into and through the piles, layers, and storage of reactive solids containing reactive sulfide mined ore and waste rock is absolutely critical that these liners do not leak. And if for any reason that water should contact the acid laden sulfide-containing particles resulting in leaching toxic concentrations of metals, the supporting structure under the storage piles must be constructed to collect all contaminated water and conduct it to the WWTF without any contact with the natural soil surface or be allowed to contaminate the ground water aquifer directly underlying the foundations of the storage piles. Liner leakage is referred to on page 209, and ditches to convey contaminated leachate water is not acceptable under any circumstances. Safeguards must be build into the plan to make sure it is impossible for any leakage what-soever to escape the second or third barrier to catch any highly concentrated toxic aqueous	WR2D,PD2,PD5
18357	13) The same is true for liners (described about in 10) used in mine waste storage cells constructed on the iron-ore tailings basin which was not constructed to retain all water and a significant quantity leaks out of the basin into the ground water and subsequently contaminates the surrounding surface waters. This condition of leakage must not be allowed for any water present in the mine-waste storage cells. These cells must be sealed for all time upon closure, and no precipitation or water through-put may be allow to occur, otherwise severe contamination of the ground water aquifer will occur and down-flow surface waters will be polluted, requiring very high cost mitigation and cleanup. These additions are needed in the final EIS.	WR2D,PD2
18359	14) The mine itself will leave exposed surfaces of reactive, acid-forming, sulfide-containing copper and nickel minerals which, like described above, will continuously form sulfuric acid and toxic concentrations of copper, nickel, aluminum, iron, and manganese, and mimic the acid-mine drainage problems observed in Pennsylvania for over 100 years. The final size and condition of the porosity of the mine wall surfaces will control to some extent the surface and groundwater flows into and out of the final mine pit. There is little question that the water contacting the solid surfaces of the sulfide-containing minerals making up the mine walls will change composition by leaching sulfuric acid and toxic metal concentrations into the otherwise potable water observed in iron-ore mines, absent exposed sulfide-baring minerals. Contaminated polluting acid mine drainage will have to be collected and treated through the WWTP requiring the probable permanent post-closure operation of such a mitigation process. These post-closure operations and costs need to be added to the final EIS.	WR1E,WR3I
18360	15) Human, animal health risk from airborne mineral fibers and mineral dust. A continuous program of air monitoring for mineral fibers (especially during times of high dust exposures during blasting, crushing, and conveying powdered minerals) is warranted to protect workers and the general population (City of Hoyt Lakes and the Boys Scout Camp, within 4 miles) given the positive identification of cancer-causing mineral fibers in test samples (Sec 4.6.5.1., pg. 4.6-60). ) A program to continuously monitor the health risk from intermittent air exposure to mineral fibers is an absolute requirement given the positive identification in test samples and the un-sampled exposure conditions which will occur over the life-time of the mine, and ore processing, from non-homogeneous pockets of fibrous minerals which will be encountered in the ore body over the lifetime of the mine. These concerns and precautions need to be added to the final EIS.	AQ4C
18361	16) Accumulative Economic and Social Cumulative Effects (Tab. 4.10-14) omits at least three potential probable negative impacts from the potential health and safety hazards associated with the proposed project. Probable human exposures and negative impacts known (4.6-57) to be caused from exposure to mineral fibers in air may led to increases in lung cancer, asbestosis, and mesothelioma over the present baseline numbers, as well as increases in asbestosis over current known numbers of cases. This increased exposure most likely will lead to increased mortality and higher incurred health-care costs in the working population, and may well produce a number negative and cumulative impacts which are	SE5

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
18362	17) Hazardous wastes and Hazardous Materials (4.12). The section 4.12.2 Impact Criteria gives four bullets stating conditions where "a significant environmental impact" would occur. The impression given is that small quantities of substances necessary for the project would be used and are classified as hazardous, and if for some reason or accident, some escaped would cause a (small) amount of environmental damage "if not recovered in a timely manner." (4.12.2). Omitted, and not found else where, is the fact that the object of the project - the Cu/Ni ore itself, is classifiable by its own chemical properties, as a reactive, hazardous mine waste, by the content of at least several components (see # 5 above). This information should be generated and added to the final EIS.	HM2
18363	18) The section 4.12.4 Cumulative Effects states these effects "...could not be predicted." This is because of the narrow definition used for "hazardous materials" and focusing of the relatively small quantities of these substances while ignoring the real threat from the 294 million tons of reactive, oxygen-consuming, acid-generating, toxic-metal mobilization and transport from within the natural environment's atmospheric oxygen and forces of the hydrologic cycle of water (pg. 4.12-15). The larger view and scope of the impacts should be added to the final EIS, and in comparison with negative wide-spread impacts observed in other states and provinces.	HM2
18364	19) Comparison of Anticipated Impacts for Each Alternative, Tab. 5.1-1. Fish and Macroinvertebrates (pg 5-11) entry in the table states "no significant effect." is incorrect and a significant omission do to the admission that increased mercury emissions and concentrations would be created further contributing to contaminated waters (4.1-24, -29, - 30, -31) (pg. 5-8) and mercury mobilization and methylation rates would be increased by further sulfate increases (5-12), the causative reactant in methyl-mercury formation and mobilization (Tab. 5.1-1 Mercury and Bioaccumulation (pg 5-12). Mercury in precipitation exceeds state water quality standards and reflects unacceptable, polluting sources of emissions from upwind sources including mining operations and constitutes the major source of contamination for Minnesota surface waters and fishery resources. All mercury additions from the proposed project will contribute to increasing the contamination already at	ALT6
18365	20) Financial assurance, 3-48. Add to the final EIS: given the proposed project would leave behind a massive quantity of reactive mine wastes, it is reasonable and good public policy that a portion of the finished product from the proposed project be left behind to guarantee financial assurance that any future needs and all remaining and developing problems are properly mitigated and attended to. The problems experienced by other states (Pennsylvania acid mine drainage lasts greater than 100 years/mine) and provinces indicate that 15% of the gross annual profit would not be out of line for guaranteeing financial assurance. An annual deposit for financial assurance should be paid from the annual metals production, in native Minnesota gold, silver and platinum, and be deposited and held in the North Shore State Bank of Duluth for as long as is necessary to assure permanent protection of Minnesota's aquatic resources of the Lake Superior watershed from the impacts of the proposed project.	PD4
<b>Sender Last Name:</b> Gobats <span style="float: right;"><b>Submission ID:</b> 235</span>		
244	Give Polymet their Permit. We can go on and on letting people make rules on the fly. They have met the requirements existing on the books. The government agencies have done their job and know way more then "Joe Public" knows about the project. They have followed "due process" and deserve to be given their permits.	G6
<b>Sender Last Name:</b> Gohmath <span style="float: right;"><b>Submission ID:</b> 1170</span>		
1285	Northeastern MN is a unique environment that is a very attractive tourist and educational asset belonging to Minnesotans. There is no way that mining will have no negative impact on these lands and waters. I am opposed to mining in the NE Minnesota and do not think the risk is worth the cost. It is my hope that my daughters will be visiting the same BWCA that I visit now. Please do not permit sulfide mining in NE MN.	EOO,G11
<b>Sender Last Name:</b> Golder <span style="float: right;"><b>Submission ID:</b> 1246</span>		

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
1402	Finally, and not only as an avid outdoors man and wildlife enthusiast, but also as a concerned Minnesotan, I would like to add to this letter a word from The Lorax; "Unless".	EOO
<b>Sender Last Name:</b>	Goldsmith	<b>Submission ID:</b> 3361
3652	We need to protect our environment. If this mine goes through, we can kiss the boundary waters good-bye. God Bless the almighty dollar.	G7
<b>Sender Last Name:</b>	Good	<b>Submission ID:</b> 1560
1916	Like every one of your neighbors human, animal, and vegetable in Northeastern Minnesota who are not motivated by greed for minerals and disregard for the true value of our resources, I must register my adamant opposition to the further consideration of the Polymet and Franconia Sulfide Mining operations being pushed by "The New generation of Mining in Minnesota." The assertion that removal of sulfide ore here at the very top of the watershed for the North American Continent can somehow magically be done in an "environmentally responsible" manner is simply absurd. If there is a proven way to isolate, contain and remove sulfuric and hydrochloric acid from the water and land from which it is extracted, it has never been demonstrated anywhere these mines have operated in the world. There are plenty of examples of the opposite: Vast yellow-orange acid-killed wastelands where nothing green will grow, rotten-egg stinking streams of acid devoid of fish, fowl, and fauna forever. We refuse to let our yearround and vacation homes and international wilderness be laid waste like Sudbury, Ontario which was for the sake of employment in Copper/Nickel mining and smelting turned into a moonscape devoid of any living thing except the humans in that "industry." The jobs we have in tourism and forestry are too valuable to discard for this short term gain and eternal damage. Besides that, it is just not right. The past, present and future defenders of our Boundary Waters will never allow this vicious assault to proceed. Any truthful assessment of these operations' environmental impact without including the words "horrific", "devastating" and "irreversible" have to be drafted by the mining corporations themselves. Oh, wait, "truthful assessment" and "mining corporations" don't really fit in the same sentence, now do they? Those who have worked in the mines ought to know that by now. Remember the pensions they promised?	EOO,G2B,G2C,G7A,G7B,G
<b>Sender Last Name:</b>	Graff	<b>Submission ID:</b> 1128
1236	I am not in favor of the sulfide mining. It will destroy our natural resources of water, aquatic life, animals, the aire, etc. These resources are irreplaceable. The contamination can not be cleaned up. It will ruin the Bwca, pollute our waters, etc. A little ore today is not worth the 200 years of pillution + troubles + expense.	G2C
<b>Sender Last Name:</b>	Graham	<b>Submission ID:</b> 3138
7	I've been coming to this area since 1968. I come here for the same reasons that your famous son, Sigurd Olson, came here - to enjoy the peacefulness of the place, to respect the natural surroundings, and to bask in the splendor that only northeastern Minnesota can offer. I am sure that I am not alone in objecting to the grating, blasphemous noise pollution that mining operations bring to the region.	N1
31	It is not news that tourism and wilderness recreation do not abide the mining industry. Mining companies are notorious for promoting job estimates that are over-inflated and promising jobs that don't materialize. In addition, mining jobs are often filled by non-local workers. Are you willing to sacrifice the growth in tourism for unsubstantiated job estimates? As tourism falls, will the economy suffer or will mining families infuse more money into the system? I believe the history of mining in northeastern Minnesota answers that question. Certainly, there will be an increase in the number of bars, but I question if the quality of life will improve.	SE4

*Alphabetical by sender's first name*

<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
504	When workers get sick, and they will from air-borne asbestos (amphibole) fibers, will the State pick up the tab? Will you get the mining company to pay? Do you have enough attorneys on board to address this issue with the mining company and affected parties?	AQ4C
1291	The integrity of liners and cover systems are notoriously suspect, especially in humid environments like Minnesota. The MPCA should be able to verify the questionable long-term sustainability of liners and cover systems.	GT1
3077	The MPCA can't establish specific sulfate discharge limits. This should be a particularly big red flag. What levels are you willing to accept on a non-scientific basis?	EOO
3078	Analysis of downgradient water quality using Uncertainty Analysis and deterministic modeling is guess work. Because someone can develop a model does not make it right. Areas like northeastern Minnesota that are humid, covered with vegetation, and have a complex subsurface of bedrock and glacial sediments do not lend themselves to precise (or accurate) groundwater models.	EOO
3079	If I'm reading the DEIS correctly, groundwater quality at the mine site will exceed MCLs or MDH limits for antimony, manganese, and nickel. Sulfate will exceed the groundwater evaluation criteria of 250 mg/L. Knowing that contaminate levels will be exceeded and that humans live downstream, are you willing to approve this mining operation?	WR2C
3508	This mining project proposes using unproven technologies in a relatively pristine area that has developed into one of the nation's premier tourist destinations and ecological wonders.	EOO
3509	When workers get sick, and they will from air-borne asbestos (amphibole) fibers, will the State pick up the tab? Will you get the mining company to pay? Do you have enough attorneys on board to address this issue with the mining company and affected parties?	G4
3510	I am not opposed to progress. Certainly, northeastern Minnesota has experienced a significant growth spurt in the past 25 years that has brought prosperity to Ely and revived this community. Because this area is so unique, and it is unique in every sense of the word for no where else on Earth can you find such an environment, I do not believe that the DEIS contains adequate safeguards to protect this marvelous ecosystem and I suggest that if you do not reject this mining operation altogether, which is what I would propose, then you seriously consider an expanded critical review of the project.	G8
3545	What happens when the mine packs up and leaves? Does the state of Minnesota have enough money to monitor surface and groundwater and if needed, address contaminants (especially mercury) into the resource?	PD4

**Sender Last Name:** Grahek

**Submission ID:** 288

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
302	The Iron Range Building Trades and Construction Trades Council appreciates the opportunity to lend its full support to an adequacy determination for the draft Environmental Impact Statement (dEIS) for PolyMet Mining Co. PolyMet's plans to develop a copper-nickel-precious metals mine near Hoyt Lakes and process the ore at the facility formerly owned by now-bankrupt LTV Steel Mining Co. offers several benefits to the Iron Range, the State of Minnesota and the country. Constructing the \$600 million project will require 1.5 million man hours of construction labor over two years and result in full-time employment for 400 people in the mine and plant with an annual payroll of \$40 million. These employment figures do not include the hundreds of spin-off jobs, with their related economic benefits. Clearly, this would be beneficial for the economy of the Iron Range and all of Northeast em Minnesota. The project also will provide minerals that are used in everyday living - from pigments to blood sugar test strips, jet engines to wind turbines, catalytic converters to cell phones. The members of the Iron Range Building Trades and Construction Trades Council can be confident that PolyMet will produce these minerals in a way that protects our natural resources and treats workers fairly; we do not have the same degree of confidence in the environmental or human rights records of foreign producers, from which the U.S. gets up to 95% of these critical metals. The State of Minnesota will benefit from the increased sales and income tax revenue, in addition to the millions in taxes and royalties that PolyMet will pay. The U.S. economy also will derive many benefits, including the ability to have a domestic source for metals critical to American consumers. The dEIS demonstrates that PolyMet has the ability to produce these metals while protecting the air, land and water. It will generate negligible air pollution and won't discharge process water. Stockpiles will be managed to minimize water that comes in contact with the rock and to collect and treat any water that does contact the rock. The Iron Range Building Trades and Construction Trades Council believes in fair play. PolyMet has invested more than four years and more than \$20 million providing detailed information and research results to inform the development of this dEIS. PolyMet has followed the very tough rules of environmental review. Now it's time for regulatory agencies to acknowledge that the draft EIS has done what it's supposed to do - adequately identify and address potential environmental impacts - and to get about the business of issuing permits so our members can get about the business of building a mine and processing plant that will contribute to our regional, state and national economies.	EOO
<b>Sender Last Name:</b> Grams		<b>Submission ID:</b> 181
172	As a small business owner in Hoyt Lakes, I would like to show my support of the Polymet project. I run a daycare out of my home and rely on new families to come into the area and also to retain the families that are currently living here. In these hard economic times, we need the jobs that this endeavor will supply to our area now more than ever. Over the last few years, I am impressed with the patience and precautions that PolyMet has shown during their wait to start production. I know and live in the same community with the workers at PolyMet and they are committed to the safety and welfare of our future. I am excited to have them as my neighbor and to start production as soon as possible. They will be an asset to our area.	EOO
<b>Sender Last Name:</b> Graveel		<b>Submission ID:</b> 2863
6	Impact on Aquatic Vegetation (ie, wild rice); fish & humans that eat the fish w/ increased levels of mercury. Will we have to stop fishing like they did in New York because of mercury in samon.	WR4B,FM1
967	Studies on the effects of wildlife; ie, Canada lynx, wolves, bears, elk, fish and all other small animals in the area of the mine and areas where the tailings of the mine are dumped as well as run-off areas.	WI5
2738	We need field sampling & test on the effects of the watershed - acids, metals, sulfates, cyanide, & any other items detected in the sampling.	WR1A
3175	Are you planning for Constant Monitoring by the DNR? You will need a larger work force	PD8



*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
3176	What is the plan and estimated cost to reclaim the mining area when the mine to shut down. Does NorthMet Mining Operations have enough (\$) money to put things back in order? & do they list Potential Problems and test to prove everything is covered in their request including money to cover disasters.	PD3,PD4
3212	DNR needs to review the impact of other Companies that may follow with request ( I have heard of four (4) other that may turn in a request. OR is the DNR going to just grant only one company for mining this area or other close by?	G8
<b>Sender Last Name:</b> Green		<b>Submission ID:</b> 2454
25	Please accept these comments on the PolyMet Mining Corp. NorthMet mining project Draft Environmental Impact Statement. I have just written a lengthy comment on my concerns about the PolyMet DEIS. Unfortunately, my computer deleted these comments when I attempted to send them. Therefore I would like to briefly state that I feel that the environmental and economic risks of this project are extremely high. The DEIS itself indicates many potential problems - probable leakage from pits and tailings basins, release of toxic chemicals such as heavy metals and sulfuric acid into waterways, the loss of peat and other wetlands, which would release greenhouse gases, and the loss and severe disturbance of critical habitat for wildlife. Much of the economy of northern Minnesota depends upon the maintenance of a relatively pristine environment, and the loss of income should waters become polluted, large areas cleared and degraded, noise and air pollution increased, would be devastating for it. We will be left with a huge bill and everlasting toxic waste long after the mining company has paid its last paycheck and vacated the state. This DEIS shows us how remarkably hurtful this project would be to northern Minnesota. We cannot sacrifice the long-term health of our region for short term interests.	SE4
1298	Short term gains in precious metals are not worth the potential impact on the environment. Find better jobs for the criticized on Northern MN! Can they recover 100% of the sulphur?? DO NOT PERMIT!	EOO
18367	The plan calls for placing all of the saturated overburden material (with potential for exceeding standards for S content), compacted, in the Category 1 and 2 stockpile, “although the effectiveness of compaction to limit oxidation [therefore AMD] is uncertain.” (p. 3-15). This should be known before permitting.	PD2
18368	The liner systems for Category 3 and 4 waste rock and Lean Ore include 80 mil LLDPE geomembrane. What is the industry experience with this material? For how many years has it been used? For how long has its performance been monitored under similar industrial and climatic conditions to this? On what quantitative basis is PolyMet’s confidence based, that this element will maintain its integrity over the hundreds of years that society will depend on it to do so? If a leak develops in such a liner, it it even feasible to locate and correct it?	PD2
18369	On p. 3-33 and 3-34, under Hydrometallurgical Residue Cell Design and Operation, end of par. 2, the liner system is said to include a “geosynthetic clay liner”. What is this? Clay is a natural geological material; what is “geosynthetic”?	PD2
18370	Also on p. 3-41, para. 2, under Stockpiles – Design and Cover, the statement is made, “The vegetated soil cover would be designed to promote runoff with minimal erosion and retain water until it is either transpired through vegetation or evaporated from the soil surface.” How can this cover be designed both to promote runoff (thus favoring runoff over infiltration) and retain water to be lost slowly through evapotranspiration? Can we have it both ways?	PD2

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
18371	and/or physical remediation on into the unspecified future (“in perpetuity”?). This plan assures the ongoing involvement of some authority (MNDNR?) to carry out these activities. Who is to pay for this? Clearly this should not be an obligation of the citizen taxpayer. A fully legally-binding arrangement of financial assurance must be a basic element of any mining permit to make sure that the entity that profits from the project assumes all of these risks and obligations that are the consequence of the project. Some examples: p. 3-34, para. 3: “Turf and final cover would be inspected and maintained by mowing once per year or as needed, fertilizing when visual inspection indicates poor vegetation growth, and repair within four weeks after visual inspection . . .” p. 3-39, piping for dewatering “would remain until water quality discharge limits at compliance locations would be met.” p. 3-42, para. 2: “Water draining from stockpile liners . . . after closure would be monitored, returned to the WWTF for treatment if necessary . . .” p. 3-43, end: “PolyMet would develop a final Mine Closure and Reclamation Plan, which would include . . . ongoing maintenance /water treatment.” p. 3-44, Reclamation – Tailings Basin, “Periodic evaluation of dam stability by a qualified geotechnical engineer.” p. 3-53, para. 2, Vertical wells, “The pumping wells would be operated long term and until no longer needed when . . . conditions allow.” p. 3-54, para. 3, Increased rock buttress material, “The PRB, if built, may require periodic recharging.”	PD2,PD4
18372	3. Insufficient data presented in DEIS before permitting. Thus the full disclosure of the Project’s environmental impact is incomplete, preventing adequate public review. Several examples of this problem are: p. 3-43 end: PolyMet would not develop a final closure and Reclamation plan, with projected costs, until the post-EIS permitting stage. p. 4-13, Mine Site, Plant Site: “. . . however, a slope stability assessment has not been completed. Further design and analysis would occur during permitting . . .”; “. . . have a low margin of safety for saturated or static liquefaction conditions.” p. 4.13-3, Plant Site: “. . . there is a risk that static liquefaction . . . could occur and may cause a flow failure . . .”; Mine Site Alternative: “Further design and analysis would occur during permitting . . .” [Same comment for Tailings Basin Alternative.] p. 4.13-4, Mine Site, Tailings Basin: only during permitting; if risks or stability concerns are identified, would analysis be undertaken.	G8
18373	An egregious omission from the brief discussion in this section is all of the nonrenewable fossil fuel resources that will be consumed in the processes of development, operation, and closure/reclamation of this mine. These would include coalpowered electricity, diesel fuel, gasoline, lubricants, natural gas, etc. The combustion of these fuels would also generate large amounts of greenhouse gases, especially CO2, with their known deleterious environmental effects. These should also be recognized as an	IR1
<b>Sender Last Name:</b> Greenberg		<b>Submission ID:</b> 3466
1057	This is a project with a high likelihood of water and land contamination of disastrous proportions, both near the proposed site and well beyond. Any possible economic advantage to the local and state economy is very likely to be erased by the overwhelming cost of clean-up. And clean-up is never completely possible, so there would be a net loss in both money and ecological services. Proposed technology to reduce contamination includes the use of liners, which are notoriously leaky. If the proposed storage of mine tailings in "a subaqueous environment to reduce oxidation", and then to create wetlands from these sites is an indication of the "new technology" to be employed, we're in big trouble all around. Do they really think that water has no oxygen to oxidize sulfides? Do they really mean to create wetlands over tailings with heavy metals and sulfides and call that minimal environmental impact? It is shocking and disappointing that the state of Minnesota is seriously considering issuing a permit for such a project.	EOO
<b>Sender Last Name:</b> Greenberg - DUPLICATE-same as		<b>Submission ID:</b> 3467

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Comment ID	Comment Text	Theme Codes
3226	This is a project with a high likelihood of water and land contamination of disastrous proportions, both near the proposed site and well beyond. Any possible economic advantage to the local and state economy is very likely to be erased by the overwhelming cost of clean-up. And clean-up is never completely possible, so there would be a net loss in both money and ecological services. Proposed technology to reduce contamination includes the use of liners, which are notoriously leaky. If the proposed storage of mine tailings in "a subaqueous environment to reduce oxidation", and then to create wetlands from these sites is an indication of the "new technology" to be employed, we're in big trouble all around. Do they really think that water has no oxygen to oxidize sulfides? Do they really mean to create wetlands over tailings with heavy metals and sulfides and call that minimal environmental impact? It is shocking and disappointing that the state of Minnesota is seriously considering issuing a permit for such a project.	EOO
<b>Sender Last Name:</b>	Greger	<b>Submission ID:</b> 3525
3789	The on line report has too much need for additional information to be considered at this time. Before undertaking such a project all questions should be answered fully. There is too much potential for environmental harm to have any doubt about the effects of such an undertaking.	G8
<b>Sender Last Name:</b>	Griffith	<b>Submission ID:</b> 3158
3118	Damaged water quality would impact the area's ability to capitalize on it's primary natural resource - a pristine, water-based ecosystem and all the myriad recreation opportunities it affords - for decades and decades to come. This risk for all area residents and their local economy, as well as the people like myself who love to visit the area for those very same natural benefits, is not worth the potential short term gain that would be afforded to Polymet and residents who may work for Polymet. I have traveled in the east and west where acid mine drainage has seriously damaged waterways.	EOO
3119	There is no real-life demonstration of successful new technology applied to remove sulfides from tailings and thereby prevent development of acid drainage that would contaminate ground and surface waters. Controlled demonstrations are not comparable to the setting that Polymet would be operating in with the extensive ground and surface water in Northern Minnesota. Please, please, do NOT allow hard rock mining to go	EOO,WR1E
<b>Sender Last Name:</b>	Grumbles	<b>Submission ID:</b> 3651
1	from Dr. David M. Chambers, Re: Draft NorthMetEIS. Further, NMW joins in and adopts the contemporaneous comments of the Minnesota Center for Environmental Advocacy, Water Legacy, Friends of the Boundary Water Wilderness Foundation, and Save Lake Superior to the extent not inconsistent herein.	G14
2	The DNR has released an incomplete DEIS for public comment. The DNR should prepare and circulate a revised draft of the DEIS that addresses the missing and inadequately presented issues. The current DEIS is inadequate and does not comply with federal regulations. Because this is a joint federal-state EIS, the environmental review process must comply with federal law, despite the fact that a state agency has taken the lead. Under U.S. federal regulations, The draft statement must fulfill and satisfy to the fullest extent possible the requirements established for final statements in section 102(2)(C) of the Act. If a draft statement is so inadequate as to preclude meaningful analysis, the agency shall prepare and circulate a revised draft of the appropriate portion. 40 C.F.R. 1502.9(a). For a number of reasons, the DEIS does not come close to meeting "the requirements established for final statements." Conclusion: To satisfy the requirements of the applicable federal regulations, the DNR should release another iteration of the DEIS for comment that addresses the missing and inadequately presented issues discussed below.	PRO3

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Comment ID	Comment Text	Theme Codes
3	Conclusion: The final EIS for the PolyMet NorthMet project must be deferred until a comprehensive supplement to the DEIS has been prepared, with appropriate scoping, notice and public comment. Such supplement should include a detailed analysis of the specific lands proposed to be exchanged for the NorthMet mine site and the impact of this exchange on the public interest, the environment and cultural resources of affected tribes with usufructuary rights in the 1854 ceded territory.	PRO1
4	Conclusion: Since reclamation planning poses a significant environmental and economic impact of the mine development, a complete preliminary reclamation plan and cost estimate analysis should be included in the DEIS. The plan should be developed to show the reclamation liability on a year-by-year basis. Further, the DEIS must specifically analyze how the closure and post closure activities required by the PolyMet project comply with Minnesota statutes and rules requiring stable and maintenance free closure and reclamation. The DEIS should also provide more detailed and candid assessments of environmental impacts during closure and post-closure, including but not limited to the following: Waste Rock Stockpiles. DEIS data demonstrates that many pollutants in drainage from stockpiles would exceed groundwater criteria for up to 2000 years after the mine is opened under the Proposed (DEIS, p. 4.1-84). Note that numerous references to extended periods of pollution were deleted in the few weeks between the June 2009 PDEIS and the public release of the DEIS. (Compare DEIS, p. 4.1-80, Table 4.1-45 with Appendix D, p. 4.1-72, Table 4.1-41). West Pit Lake. The west pit lake will overflow post-closure, discharging water predicted to exceed water quality standards for arsenic, cobalt, copper and nickel and containing significant sulfate levels. (DEIS, p. 4.1-111, p. 4.1-114, Table 4.1-64). West pit lake overflow is also likely to exceed mercury water quality standards. (DEIS, 4.1-115). Tribal agencies have noted the likelihood that the west pit lake will remain at the site “in perpetuity and will exceed water quality standards.” (DEIS, Tribal Positions p. 3-19). East Pit Wetland. Although east pit overflow is noted as a modeling assumption, (DEIS, p. 4.1-72) no information could be found in the DEIS to characterize east pit outflow or overflow. Tailings Basin. The explanation of the plant site reclamation and seepage collection neither evaluates the potential for ongoing seepage, nor cites historical exceedances of groundwater and surface water quality standards from tailings basin seepage. (DEIS, pp. 3-45; compare with Table 4.1-6, p. 4.1-12; Table 4.1-8, p. 4.1-15; Table 4.1-19, p. 4.1-30; Table 4.1-31, p. 4.1-49). Hydrometallurgical Residue Cell Closure. A geomembrane barrier and geosynthetic clay barrier are proposed to cover this cell of highly contaminated material. (DEIS, p. 3-34). The EIS should describe expected leakage rates during operations as well as the longterm effectiveness of the cover system. (DEIS, Appendix D, Tribal Positions on July 2009 PDEIS, “Tribal Positions,” p. 3-34).	PRO3
5	Conclusion: The DEIS must discuss not only reclamation costs, but the contingency reclamation costs that will be covered by financial assurance, and the financial assurance mechanism that will be used to meet this requirement. Until it is known that a sufficient amount of money will be available to cover closure costs when mining ceases, it cannot be concluded that planned closure activities will prevent environmental impacts.	PD3,PD4
6	Problems concerning the proposed tailings basin form the basis for numerous and substantial NMW section specific comments. Some of the most significant of these are summarized below and one new conclusion (identified as “ADDITIONAL conclusion”) is presented as a result. Tailings basin problems stem from four basic sources: 1) geotechnical instability in the area, 2) proposed construction of the NorthMet tailings basin on top of the existing LTVSMC tailings, 3) inherent problems in tailings basin waste treatment leading to long-term treatment, perhaps “in perpetuity,” and 4) the ‘experimental’ nature of the proposed processing technology and the resulting need for additional financial assurance. The response by the applicant to this situation has been inadequate and irresponsible.	EOO,WR1E,WR2D,WR3I,P
7	Conclusion: Geotechnical stability is too important an issue to leave for analysis after the mine has been permitted. These stability issues should be thoroughly investigated and the issues resolved as a part of the DEIS process. Perhaps the most important component of the proposed basin is the tailings dam. NMW contends that, (3.1.5.3) “Upstream-type tailings dam construction, which was used for the existing taconite tailings, poses a long-term stability risk to the proposed hydrometallurgical residue cells. Upstream-type construction will also be utilized to contain the project’s flotation tailings, and again poses a long-term risk, although less than that to the hydrometallurgical residue cells because the hydrometallurgical residues contain much higher levels of contamination. A thorough analysis of the risk associated with tailings dam construction has not been done, and needs to be conducted as a part of the DEIS.	GT1

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<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
8	Conclusion: Centerline construction of the expanded tailings facility should be considered even though it would be more costly, and would likely require the destruction of more wetlands. The problems of geotechnical stability extend to the Hydrometallurgical Residue Cell Design and Operations Cell Seismic Stability (3.1.5.3). NMW reports that “The hydrometallurgical residue cells will be constructed at the edge of the existing tailings Cell 2W. Construction of the hydrometallurgical tailings cells on existing tailings, which are susceptible to seismic liquefaction, and are contained by upstream-type dams, also poses long term seismic stability risks.” Further, “[f]or an upstream-type tailings dam, which uses the tailings themselves as a structural foundation for the dam, the tailings must be dewatered in order to safely support the dam under seismic loading.” “Hydrometallurgical residue cells would be lined to minimize release of water that has contacted the residue. The liner would consist of a composite liner system utilizing a geomembrane liner above a geosynthetic clay liner.” In NMW comments (4.13), “If the material on which the hydrometallurgical cells are built is unstable, then the hydrometallurgical cells will also be vulnerable to rupture during a seismic event.” From DEIS reports, “It is known that unstable areas exist in tailings cell 2E: it appears that the potential stability of the tailings in cell 2W is not known.”	EOO
9	Conclusion: The additional cost associated with a double liner with leak detection for the hydrometallurgical residue cells is not cost prohibitive. A double liner with leak detection would provide maximum protection for the residue material, and should be required. Further, since reclamation planning poses a significant environmental and economic impact of the mine development, a complete preliminary reclamation plan and cost estimate analysis should be included in the DEIS. The problem of geotechnical stability also complicates the evaluation of the Tailings Basin Alternative (3.2.3). The goal of this alternative is to increase the geotechnical stability of the Tailings Basin and to minimize impacts to the wetlands north of the Tailings Basin and in the Embarrass River that may arise from seepage water. The alternative reduces the Project’s potential impacts to surface and ground water quality by capturing approximately 95 percent of the seepage generated from the PolyMet operation including from the proposed NorthMet tailings As reported by NMW, “The explanation of the plant site reclamation and seepage collection neither evaluates the potential for ongoing seepage, nor cites historical exceedances of groundwater and surface water quality standards from tailings basin seepage.” NMW concludes (its evaluation of geostability impacts), (4.13.3.5): Due to the failure of the applicant to address any of the potential geostability impacts, it is the position of NMW that in the DEIS the applicant must address measures to assure the structural integrity of the tailings basin, provide a dam break analysis, and must conduct a risk assessment prior to permitting.	GT1
10	Conclusion: A complete geotechnical stability analysis must be conducted prior to permitting and must be included in the DEIS.	GT1

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Comment ID	Comment Text	Theme Codes
11	<p>The DEIS states that, “Current modeling assumes no interaction between NorthMet seepage with the underlying LTVSMC tailings.” (DEIS, 4.1-94). NMW concurs with the position of the tribal cooperating agencies that groundwater contamination from the previous mining activities is still an issue near the LTVSMC tailings basin more than twenty years after operations ceased. Because of the limited distribution of monitoring wells, the extent of the contaminant plume is not known. However, recent well data show that the plume extends in some areas at least as far as private wells along the Embarrass River. In the wells that do exist near the tailings basin, pollutants including iron, sulfate, manganese, aluminum, and fluoride exceeded drinking water standards. Recent wells near the northern property line show substantial contamination of the groundwater aquifer (Barr 2009, Memorandum: Results of Tailings Basin Hydrogeological Investigation. June 2, 2009). The baseline data on which to base estimates of the impact of the proposed project on water quality at the mine site and the tailings basins is insufficient. The existing analysis for the PolyMet project calculates the additional constituents that the project will add to groundwater, but is unable to realistically estimate what the resulting water quality will be because background water quality has not been incorporated into the estimates. Private domestic wells lie between the tailings basin and the Embarrass River where tailings basin discharge water is expected to ultimately discharge. Some of the sampled private wells have contaminants at levels several times the drinking water standard (Barr 2009, Memorandum: Results of residential well sampling north of LTVSMC tailings basin. January 27, 2009) Samples from these wells show exceedances of manganese and close to exceedances of the arsenic standard. Once a groundwater flow model is developed that would show the direction and rate of groundwater flow, that pattern of flow should be used to plan a groundwater sampling scheme that would map the extent of the existing contaminant plume. This data and analysis should then feed into estimates of how the proposed project would interact with existing contamination. The combination of existing conditions with impacts due to the proposed project would show what groundwater quality can be expected during and post project.</p>	WR1E
12	<p>Conclusion: At a minimum, contingencies should be put in place to fund long term water treatment well beyond the 65-year limit assumed in the DEIS.</p>	WR3I
13	<p>ADDITIONAL Conclusion: Financial assurance requirements must be readjusted (upwards) to reflect the additional risk associated with an ‘experimental processing technology.’</p>	PD2
14	<p>Many of the potential impacts of this project are still unknown because of a lack of data. Some of these gaps in critical information are pointed out in the DEIS, and some are not. However, the DEIS does not address the cost of obtaining the information for any of these gaps. Under the</p>	G8
15	<p>Stream flow, sedimentation, and water quality data (see Table 4.1-6). First, it is troubling that there is no stream flow data beyond 1964 for the Embarrass River, and beyond 1988 for the Partridge River. The lack of recent flow data calls into question the assessment of the severity of impacts to the Partridge River from mine dewatering, and the water quality modeling for the Embarrass River (which is based in part on dilution of pollutants from stream flow). Second, neither stream flow nor water quality data are available for the points of greatest impact to the streams, including Trimble Creek and Spring Mine Creek, area lakes, and the stretches of the Embarrass and Partridge Rivers closest to the mine site and tailings basin. Finally, there is no sedimentation data for the rivers in the mine area. In many forested locations, sedimentation from haul roads and stream crossings are the largest source of impact to streams, with the volume of traffic being the greatest single factor determining the degree of impact.</p>	WR3J
16	<p>Hydrogeological data under and downgradient from the tailings basin. Very little appears to be known about the hydrogeology of the area under and down gradient from the tailings basin. It is unclear at this point what additional data might be collected in response to the DNR’s recent request to PolyMet. However, more data on groundwater elevation, depth to bedrock, and groundwater flow is needed before an accurate model of ground and surface water impacts can be undertaken. As the EIS notes, it is impossible to estimate impacts on groundwater elevation based on available data, and thus the EIS provides no assessment of the subsequent impacts on vegetation, wetlands, and other surface water resources downgradient from the tailings basin. Sufficient data to make this assessment must be gathered and included in the draft EIS before permitting can proceed</p>	WR1E

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Comment ID	Comment Text	Theme Codes
17	Hydrological data at the mine site. The model of impacts to the Partridge River and adjacent wetlands is based on inadequate data. According to the EIS, ten single-well tests were done in the surficial aquifer at the mine site, which covers several square miles. The scarcity and quality of data are such that the assessment of impacts to the Partridge River and adjacent wetlands is virtually meaningless. Without this data, a determination of the potential acreage of impacted wetlands is impossible, as is a determination of the potential drawdown of the Partridge River. As the CPEIS concludes, “the potential for widespread drawdown of the water table within the surficial and wetlands deposits cannot be evaluated from the available study.” Monitoring wetlands and stream flow after the mine is built is not an alternative to collecting the data for the draft EIS. The whole point of the environmental review process is to reveal these impacts before decisions are made to permit the project.	WR3J
18	Mercury transport modeling. In several situations, mercury seems to have been deliberately left out of modeling and analysis presented in the CPDEIS. Since all of the water bodies in the mining area are either known to be or can be assumed to be above the water quality standard for mercury, this is a curious omission. As an example, the discussion of water quality impacts on the Partridge River omits mercury because “predicted concentrations for mercury were not available for the liner leakage of the stockpiles (RS53/RS42, SRK, 2007a) and groundwater recharge from the East Pit and West Pit (RS31, SRK, 2007b).” These predictions “were not available” because PolyMet has not done them, despite doing equivalent work for a number of other constituents that are far less likely to result in violations of water quality standards. It is incumbent upon the DNR to demand that this work be done so that it can be included in the EIS. The failure of the DEIS to address mercury release and transport is discussed further below.	WR4A,WR4B,AQ4,AQ6A
19	Wetland delineation and field data. The impacts of mine dewatering are likely to extend to wetlands far beyond those that have been delineated and described in the CPDEIS and the wetlands permit application. The lack of information on the hydrology of the mine site cannot become an excuse for failing to identify the full extent of potential impacts on wetlands. All of the wetlands that may be impacted must be delineated and field surveyed.	WE1
20	Conclusion: To comply with 40 C.F.R. 1502.22, relevant information, including, but not limited to the examples provided above, must be included in the DEIS.	G8
21	Conclusion: The EIS must provide a thorough analysis of the underground mine alternative. (See 3.2.4.1 for additional section specific comments.).	G9

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Comment ID	Comment Text	Theme Codes
22	<p>The DEIS is unclear about discharges to surface water. For example, “Reuse of the Mine Site process water at the Plant Site would eliminate the need to discharge any process water to surface waters.” (3.1.2.9.) This statement is misleading because the seepage to groundwater from the tailings basin will surface in wetlands and the Embarrass River. While it may be technically true that there will be no “surface discharge . . . to surface water” this does not mean that there will be no discharge to surface water. Based on this faulty reasoning, the DEIS concludes that a NPDES permit would be needed only for storm water run off during construction activities. (Table 1.1-1) The question of whether a NPDES permit is needed for the wastewater discharge through seeps is a question for the discharge permit proceeding. However, it is worth noting here that EPA and most federal courts require a NPDES permit where it is clear that a discharge to dry land or to groundwater is contributing pollutants to nearby surface water. The EPA has stated that “the Agency interprets the Clean Water Act to apply to discharges of pollutants from a point source via ground water that has a direct hydrologic connection to surface water.” 66 FR 2960, 3015. Most federal courts that have addressed the issue have agreed with this interpretation. Following an extensive review of the case law, one court concluded, “The logic of these cases is compelling: since the goal of the CWA is to protect the quality of surface waters, any pollutant which enters such waters, whether directly or through groundwater, is subject to regulation by NPDES permit.” <i>Washington Wilderness Coalition v. Hecla Min. Co.</i>, 870 F.Supp. 983, 990 (E.D. Wash. 1994). This conclusion is particularly compelling here where discharges to the Embarrass River and its tributary streams and wetlands through groundwater seeps have been treated as surface water discharges for decades. There is no rational reason to treat seeps that reach ground level at a point that is covered by water differently than seeps that reach ground level in a dry area. PolyMet appears to be seeking to take advantage of what it sees as a loophole in permitting requirements, and this attempt must not be accepted by the permitting agencies. The situation is further complicated in that PolyMet plans to discharge mine pit overflow to surface water (the Partridge River) after the mine closes. It is incredible that because this discharge will not be happening within the current NPDES permitting cycle, the discussion of necessary permits treats it as if it does not exist. Once again, the public is led to believe that the</p>	WR3A,WR3I
23	<p>As noted above, the DEIS “must fulfill and satisfy to the fullest extent possible the requirements established for final statements.” Thus the DEIS must include the comments and opinions of the Fish and Wildlife Service regarding impacts on lynx and lynx habitat. NMW can find no evidence in the DEIS of USFWS comments and opinions concerning the Canada Lynx (4.4.1.1 – Canada Lynx, and elsewhere). Conclusion: The EIS must include USFWS comments concerning the Canada Lynx that will satisfy the relevant federal regulations.</p>	WI1,PRO3
24	<p>Conclusion: At the very least, the EIS should identify the longest time frame that the activity might need to continue. This information is critical to evaluating environmental risks. Any activity that may be needed for years after mine closure presents significant risks that failures of the financial or regulatory systems will lead to a failure of the closure or mitigation activity. The longer the activity might need to continue, the greater the risk. In addition to a discussion of the potential length of time treatment and closure activities might need to continue, the EIS should include a description of the potential impacts if the operation or activity ends prematurely. Some of these activities (not a complete list) include monitoring and upkeep of wetland treatment systems; monitoring and upkeep of fencing around the pit lake; restricting tree growth on the top of bench areas in the waste rock stockpiles; pumping and piping drainage from stockpiles and the tailings basin; operation of the wastewater treatment facility; monitoring (and potentially treating) discharge to the Partridge River; pumping of water from Colby Lake to the tailings basin pond; monitoring and pumping drainage from the hydrometallurgical residue cells; and maintenance of the pit wall cover.</p>	WR3I,PD4
25	<p>The DEIS discusses the beneficial social and economic impacts of the PolyMet NorthMet project resulting from employment opportunities and increased tax revenue, but contains little analysis of potential adverse social and economic impacts from the project.</p>	SE3
26	<p>Without citing any reference, the DEIS suggests only negative social and economic outcomes from the No Action Alternative, including declining employment, population decline, underutilized housing and aging population. (DEIS, p. 4.10-21) The DEIS does not address as an adverse social or economic consequence the risk that project could create an unfunded Superfund liability for taxpayers, as other mining projects across the nation historically have done.</p>	SE1,SE3



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Comment ID	Comment Text	Theme Codes
27	Missing from the DEIS analysis is any acknowledgement of the boom and bust cycle of extraction industries in Minnesota and the adverse social and economic impacts associated with the cycle once ores that can be economically extracted and processed are used up. Research pertaining to Northern Minnesota documents repeated booms and busts in the mining industry, leading to community instability and long-term decline. From 1979 to 2005, 83 percent of the iron jobs in Minnesota were eliminated, while 80 percent of the nation's copper mining jobs disappeared between 1972 and 2002. (See Thomas M. Power, <i>The Economic Role of Metal Mining in Minnesota: Past Present and Future</i> , October 2007, pp. ii, 6, 7, 29, "Power Report" and references cited therein).	SE3
28	Price volatility affects the decline cycle. When metal prices are high, lower grade deposits are brought on line, adding to supply and moderating price increases. In a global market, poorer nations also attempt to secure mining jobs, displacing American sources. In addition, technical change steadily displaces labor with more powerful equipment and new electro-chemical processes, resulting in a smaller workforce even for the same amount of ore extraction. Although mining inevitably depletes economically viable ores in a relatively short period of time, the process of extraction and processing creates relatively permanent environmental damage. (Power Report, pp. ii, 6, 7). The EIS must assess the adverse impacts to local communities of the bust cycle, when population and payroll drop due to temporary shut-downs or inevitable closure. (DEIS, Appendix D, Tribal Positions on July 2009 PDEIS, "Tribal Positions," p. 4.10-14).	SE3
29	In correlating a "no action" alternative with adverse consequences, the DEIS also fails to analyze the actual economy of Northern Minnesota and its reliance on sectors of the economy that depend on residential preference and, thus, indirectly on environmental amenities, as well as tourism and recreation, that depend directly on environmental quality. Mining related income is only a small percentage of earnings in Northern Minnesota and the growth of other sectors of the economy has provided sources of income many times larger than the loss of the iron industry payroll. (See Power Report, pp. iii, 10,11, 22-23, 25) Tribal agencies emphasize that the EIS must acknowledge negative economic and social impacts to local communities if natural resources are lost or damaged due to the project. (DEIS, Tribal Positions, pp. 3-50, 4.10-14).	SE4
30	Finally, the DEIS fails to analyze the price assumptions on which both the opening and continued operation of the project depend. This is not an academic inquiry. Interest in the project was, no doubt, spurred by the quintupling of copper prices from 2001 to 2006, rising from about \$0.75 per pound to about \$3.80 per pound. In the 1970's, a similar sharp increase in copper prices spurred interest in development of Minnesota's copper ore deposits, but copper prices fell in the early 1980's and copper mines shut down nationwide rather than opening in lower grade Minnesota deposits. (Power Report, pp.1, 5). Recent economic recession and predicted economic factors that might lead to the intermittent operation, early shut down or failure to fund adequate reclamation and post-closure activities if the project were to move forward should be analyzed in the EIS.	SE3
31	The final EIS should include adverse economic and social impacts of the project and benefits of the no action alternative, considering the following: <input type="checkbox"/> Information on Minnesota's mining industry, including historical and reasonably predicted cyclical "boom and bust cycles; <input type="checkbox"/> Analysis of the regional economy's reliance on perceived environmental amenities, including tourism, recreation and industries such as health and finance which may be located based on residential choices; and <input type="checkbox"/> Analysis of the adverse economic and social impacts of population and payroll loss when mining activities stall or cease, or resulting from mechanization, including impacts on unemployment, demand for social services, and tax revenues to fund social services. Analysis of the price structure needed to support opening of the PolyMet mine and processing facility, sustaining operations and supporting closure and post-closure treatment and reclamation, including the potential economic risk that unfunded pollution costs would become a burden on communities or taxpayers.	SE3,SE4
32	Further, the discussion of socio-economics must include detrimental aspects of mining economies. Socio-economics cannot be reduced to the amount of money and jobs the project will ostensibly bring to the area.	SE3

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Comment ID	Comment Text	Theme Codes
33	The CPDEIS does provide numbers that reflect the fact that historically, mining has had more of a negative than a positive impact on communities. According to the CPDEIS, East Range communities, most of which are mining-based, have lower education levels, lower median income, and higher poverty rate than St. Louis County and the State of Minnesota as a whole. Table 4.9-10 indicates that of the selected East Range cities, Tower is the only one with less than 10% of its workforce employed by the mining industry; Table 4.10-6 indicates that while Tower has a lower median income than some of the cities that are heavily affiliated with mining, it also has a much lower poverty rate and a higher percentage of employed adults. This makes intuitive sense. Virtually anyone in Northeastern Minnesota who pays attention understands that mining jobs pay comparatively well, but are not stable over the long term. These statistics are also in line with studies of economic conditions in mining communities. <sup>1</sup> Rather than simply list statistics, the DEIS should provide some interpretation to make the numbers meaningful.	SE3
34	The CPDEIS ignores the volatility of the mining industry, assuming that jobs will continue uninterrupted for the predicted life of the project. It has no more to say about mine closure than “Unless new industry is developed in the East Range area prior to completion of these activities, it is assumed that 95 percent of working-age people formerly employed by the NorthMet Project would need to secure alternative local employment or would leave the area after this time.” This complete lack of concern for the impacts of mine closure is particularly galling given the fact that the taconite industry is currently suffering yet another downturn, and miners are being laid off as the DEIS is written. The DEIS discussion of socio-economics needs to include a discussion of the impacts of relying on a cyclical industry as the major economic driver of a community.	SE3
35	Since the mine site would be removed from the Ceded Territory in order for the PolyMet project to proceed, none of the wetland replacements proposed in the DEIS, including those on the mine site, would be within the 1854 Ceded Territory. At most, the 175 acres proposed to be restored on the mine site or the 175 acres to be restored post-closure (DEIS, p. 4.2-38) might have some relation to waters within the remaining Ceded Territory. The planned wetland replacement, thus, would lead to a loss of wetland function within the Ceded Territory. (DEIS, p. 4.14-5). Minnesota Rules state that a replacement plan for activities that involve modification of known archaeological, historical, or cultural resource sites must be denied if the proposed activities will have a significant adverse effect on the archaeological or historical value of the site. (Minn. R. 8420.0515, Subp. 5). Although the strict letter of this rule is restricted to sites eligible for inclusion in the National Register of Historic Places, its rationale may apply to the 1854 Ceded Territory. Tribal representatives have recently suggested that the 1854 Ceded Territory may meet the criteria for listing in the National Register, while the U. S. Army Corps of Engineers has concluded that it would not. As acknowledged in the DEIS, even if the Ceded Territory is not listed, “This does not diminish the significance of the Project impacts to the cultural geography of the Ceded Territory.” (DEIS, p. 4.8-15). The 1854 Ceded Territory represents an important cultural resource that may be impacted by loss and impairment of wetlands. DEIS does not include this issue in its description of impacts on wetlands (DEIS, Section 4.2). The final EIS must analyze the cumulative impacts of the PolyMet project on the 1854 Ceded Territory, including, but not limited to the loss of wetlands and changes in wetland functional values during operation, closure and post-closure, the additive effects of air and water emissions on wetlands, and the loss of tribal access to wetlands due to the above changes and the mitigation of wetland impacts by replacements occurring outside the ceded territory. (PolyMet DEIS, Appendix D, Tribal Positions on July 2009 PDEIS “Tribal Positions,” p. 4.2-44) Any loss of wetlands or loss of wetland functionality within the 1854 Ceded Territory that is not replaced within the 1854 Ceded Territory must be considered an irreversible and irretrievable loss of cultural resources resulting from the PolyMet project.	WE3,WE5,G3,CR1,CR2,CR
36	Conclusion: NMW repeats its request that the DEIS comment period be extended to at least 120 days.	PRO6
37	So few paper copies of the DEIS were made available that virtually all citizen groups such as NMW, as well as individuals were forced to work with electronic copies. With a complex 700+ page document, this is an unrealistic approach. Conclusion: The next version of the DEIS and certainly the EIS should be reproduced in sufficient quantities that citizens may reasonably make known their views.	PRO6

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Comment ID	Comment Text	Theme Codes
38	Comments are intended to be public. Citizens should have the opportunity to hear and to learn from the comments made by others in a public forum, and to have their own views challenged by others. The process adopted by DNR/USACE precludes these opportunities. Conclusion: Additional hearings should be scheduled and should include the opportunity to present views in a public forum and to challenge the views of others as part of the process.	PRO6
39	The PolyMet project is likely to have impacts on several receptors and from several sources that are not included in the DEIS. These include water quality in local wells at residences downgradient from the tailings basin; the impact of pit water quality on wildlife; mercury and sulfate impacts downstream from the tailings basin and mine site; and impacts from the generation of electricity used by the project. Conclusion: All of the above issues should be added to the DEIS.	ALT8,WR1E,WI2,CR1
40	NMW supports the tribal representatives view of themselves as uniquely and disproportionately impacted by mining activities in the 1854 Ceded Territory and it has not been possible to reach agreement on a number of conclusions within the DEIS. See e.g. Tribal Position on Chapter 4.10, Section 4.10.3.1 (Proposed Action; Environmental Justice). Extended NMW comments on the potential consequences of NorthMet on the tribes are presented under Major Issues and Multi-Section Issues.	G8
41	NMW urges USACE to reissue public notice of the section 404 permit because of significant changes in the Project design that have occurred since the initial public notice in 2005. As the DEIS states, “The majority of supporting documentation for the PD and potential impacts of the Project were submitted by PolyMet between July 2006 and July 2009, including documents and technical memoranda and reports as listed in Section 7.0.”	G10
42	Financial assurance can and should be addressed in the DEIS. NMW rejects the contention that financial assurance considerations can be postponed to the permitting phase. This position is developed in detail in the Major Issues section of NMW comments. Support for this position is also developed in comments in Sec. 3.1.8 of this document.	PD8
43	NMW supports the tribal cooperating agencies position that the Tribes were not involved as Cooperating Agencies during Scoping, or when the Final SDD was issued and that additional consultation and evaluation is needed to determine the degree of impact on the ceded territory as a result of this project.	PRO1
44	NMW supports the tribal cooperating agencies position that although groundwater hydrology and impacts to groundwater, Cultural Resources, and impacts to wild rice were “incorporated” after scoping, impacts resulting from groundwater drawdown and inundation cannot be determined without additional data. NMW notes further that consultation is ongoing between tribal cooperating agencies and USACE regarding Cultural resources and impacts to wild rice.	WR2A
45	NMW contends that, as proposed, Mine Site wastewater, both non-contact storm water and process water, will require treatment for centuries to avoid contamination to the Partridge River. Likewise, the proposed CPS will require operation potentially for centuries. Conclusion: Treatment in perpetuity is unacceptable and not allowed under Minnesota law. The Mine Site wastewater treatment proposal should be rejected.	PD8

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Comment ID	Comment Text	Theme Codes
46	<p>All waste rock piles are to have engineered liners. The waste rock with the least predicted ability to generate acid mine drainage and/or metals leaching is the Category 1 and 2 waste rock. Category 1 waste rock piles will have an engineered barrier layer and overlying drain layer to minimize the amount of waste rock seepage that will enter groundwater. Categories 3 and 4 waste rock liners have additional liner protection in the form of a synthetic liner placed on top of the engineered subgrade barrier. In describing the subgrade barrier layer to limit vertical infiltration from the waste rock piles, it is stated that the barrier layer will have permeabilities ranging from <math>5 \times 10^{-7}</math> to <math>1 \times 10^{-5}</math> cm/sec. (DEIS, Table 3.1-9) Clarification: The DEIS should describe how this specification will be tested during construction, and should disclose the methods that will be employed if testing indicates that the target permeability is not being attained? This subgrade will be the only barrier between leachate from the waste rock and groundwater for Category 1 and 2 wastes. Although this waste is not projected to generate AMD, it could contribute to Metals Leaching. Quality control in the placement of the subgrade barrier will be particularly important. Achieving these permeabilities, especially the lower ones, could be difficult unless the subgrade material has significant clay content. Amending this material, once in place, would be time consuming and expensive. Conclusion: A thorough testing program for verifying the target permeabilities of the various subgrade barriers should be required. If testing indicates that the specified permeabilities are not being reached, then corrective measures should be required.</p>	PD4
47	<p>According to the DEIS, trains consisting of up to twenty 100-ton side dumping ore cars would transport the ore from the Mine Site to the Processing Plant. Under the plan, the cars would have hinged sides that drop down when the cars are tipped at the Coarse Crusher for unloading. Ore would inevitably escape the confines of the rail cars during transport. The plan for limiting the escape of ore (with metal contaminants) from the rail cars is to load the cars at the centerline to keep fines from reaching the edge of the car where they would be subject to spillage through the hinge gaps. The likelihood that this procedure will prevent spillage from rail cars is, quite frankly, not good. Unless the rail cars are designed to be completely enclosed, there will inevitably be spillage and resulting environmental contamination along the rail line. Given time, the spillage from the rail cars would likely spread from the rail line across a wide area. Conclusion: Ore-transport rail cars should be completely enclosed, for example a tipple-dump type car that would not have hinges that could leak, and which could be sealed with a hardtop cover to prevent windblown dust loss. Soil monitoring along the rail line should also be required to document the absence or presence of soil contamination. Provisions should be made to remove contaminated soil as a part of mine closure. Failure to remove contaminated soil has led to contaminated storm water runoff at other mine sites.</p>	PD5
48	<p>The shipment of concentrate poses a significant risk for contamination because of its high metal content and the small particle size of the concentrate material. The shipment of concentrate from the plant is projected to be by rail and with pneumatically sealed rail cars, or in rail cars with a rigid cover. A risk of leakage, however, remains, and there is no plan to monitor for soil contamination. Conclusion: As with the rail transport of the ore, soil monitoring at the concentrate loading facility and along the rail line from the plant should be required to document the absence or presence of soil contamination.</p>	PD2
49	<p>Conclusion: Centerline construction of the expanded tailings facility should be considered even though it would be more costly, and would likely require the destruction of more wetlands.</p>	PD7
50	<p>Conclusion: Given the nature of the material to be stored in the hydrometallurgical residue cells, these cells should be designed to withstand the maximum credible earthquake.</p>	PD7
51	<p>Conclusion: A better description of the composite liner for the hydrometallurgical residue cells should be included in the DEIS. The additional cost associated with a double liner with leak detection for the hydrometallurgical residue cells is not cost prohibitive. A double liner with leak detection would provide maximum protection for the residue material, and should be required.</p>	PD10
52	<p>While the volume of water requiring treatment post closure may decline substantially, pumping and water treatment activities at the plant sites would have to be conducted in perpetuity. The proposed cover and liner would also require perpetual maintenance. These perpetual activities need to be addressed.</p>	PD2

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<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
53	Financial assurance associated with reclamation actions must be addressed in the DEIS, and not deferred until the permitting process as proposed. Analysis of the DEIS discloses the likelihood of extremely long-term/perpetual treatment, maintenance, and monitoring (centuries – perhaps thousands of years in some instances). NMW joins with the tribal cooperating agencies in requesting that DNR/USACE incorporate the views of EPA regarding inclusion of financial assurance in the DEIS. Namely that, because of its experience in expensive cleanups of contamination from many defunct or bankrupt sulfide mines, EPA Region 9 has strongly urged other Regions over the past two years to require financial assurance disclosure in the NEPA process. New national rules for financial assurance are under development by EPA, because “Given the history of adverse environmental effects resulting from some hard rock mines, and the expenditure of public funds used in some cases to address environmental problems caused by mining, EPA believes it is necessary to analyze these factors in the DEIS.” (from InsideEPA.com, Tuesday, August 25, 2009). The DEIS is misleading in the claim that, “Post-Closure and reclamation activities would be expected to be ongoing until such time as the various facility features are deemed environmentally acceptable, in a self-sustaining and stable condition. This is misleading because post closure activities may well continue for hundreds or thousands of years.	PD2,PD5
54	Likewise misleading is the DEIS statement that, “When PolyMet has completed all reclamation required by the Permit to Mine, they may submit a Request for Release per Minnesota Rules, part 6132.1400. This request would provide the Commissioner of the MnDNR with detailed information on the final reclamation status of the Mine Site.” This is misleading because if, as expected, the project would require perpetual maintenance it cannot be deemed to be “reclaimed” and would violate the stated goal of Minnesota’s reclamation statute.	PD4
55	NMW concurs with tribal cooperators who note that the scoping period for a federal EIS continues until the release of the DEIS. Therefore, new issues that have been identified during the review of the three PDEIS documents must be considered for the DEIS.	PD3
56	Conclusion: The cost-benefit analysis of the No Action Alternative should be redone to reflect the full range of anticipated outcomes	PD2
57	Conclusion: All Category 2, 3 and 4 waste rock should be backfilled into the mined-out East Pit, and Category 1 waste rock should be used to fill (i.e. top off) all of the remaining room in the East Pit.	PD8
58	Conclusion: It should be clearly stated in the DEIS what levels of contaminants would trigger the use of capture wells for treatment, and what standards the treatment of the water must meet in order to be discharged into the Partridge River. Another aspect of the Tailings Basin Alternative is the buttressing of the toe of a portion of the northern embankment of Cell 2E. Any effort to increase the stability of the present upstreamtype tailings dams would lower long term financial risk to the public, and lessen long term environmental risk.	ALT8,PD5,PD11
59	The DEIS statement asserts that, “The Tailings Basin Alternative resulted from the comprehensive mitigation planning effort by the co-lead agencies, and included input from all Cooperating Agencies and consulting tribes.” NMW concurs with the tribal cooperating agencies statement that “although they (tribal cooperating agencies) participated in the identification of potential mitigation measures for the tailings basin, they did not participate in the development of the tailings basin mitigation design.” In addition, NMW endorses the position of the tribal cooperators that, “an untreated discharge of contaminated tailings basin water to the Partridge River in order to dilute and dispose of tailings basin water would have environmental impacts that must be avoided in order to adequately protect the environment.”	PD5
60	The scope and depth of the analysis presented in ALT11 is not enough to state conclusively that underground mining is not economical at this site. Indeed, here, a significant portion of the mill processing facilities are already in place from previous mining. Underground mining might be economical at this site as metal prices increase, and when the processing technology proposed for the NorthMet operation has been proven enough to clearly quantify the costs.	PD11

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61	The comments by the tribal cooperating agencies also yield some additional information on the topic of potential underground mining. As noted there, "A study of this particular deposit was performed by U.S. Steel that recommended underground mining. By examining cross-sections showing the distribution of ore by depth, it appears that there are substantial ore reserves at depths that likely could not be accessed by the proposed open-pit mine. The ecological costs of open-pit mining and above-ground disposal of tailings and waste rock are immense. This ecological cost, combined with the most current understanding of deposit ore grades and reasonably possible metals prices, must be evaluated to determine the viability of this alternative." (DEIS, p. 3-64)	PD5
62	Table 3.2.4 E7 Underground Mining (p. 3-64) NMW endorses the position of the tribal cooperating agencies that this alternative was eliminated prematurely and without sufficient consideration. Tribal cooperating agencies note that, "analysis of unquantified environmental impacts, values, and amenities have not been evaluated as required by CEQ regulations." A study of this particular deposit was performed by U.S. Steel that recommended underground mining. By examining cross-sections showing the distribution of ore by depth, it appears that there are substantial ore reserves at depths that likely could not be accessed by the proposed open-pit mine. The ecological costs of open-pit mining and above-ground disposal of tailings and waste rock are immense. This ecological cost, combined with the most current understanding of deposit ore grades and reasonably possible metals. This ecological cost, combined with the most current understanding of deposit ore grades and reasonably possible metals prices, must be evaluated to determine the viability of this alternative."	ALT8
63	Conclusion: The discussion of impacts to water quality should not be limited to constituents for which water quality standards may be violated. The increased level of all pollutants over background levels must be assessed and disclosed.	WR1E
64	Conclusion: A more pristine, upgradient site should be identified for baseline water quality data.	WR1E
65	Conclusion: The historic and cultural significance of wild rice to the Ojibwe tribes is recognized in the DEIS, which reflects the beginning of the consultation with tribes required under law. (DEIS, pp. 4.3-1, 4.8-5) This consultation must be completed, including an objective and thorough wild rice survey. (DEIS, Tribal Positions, p. 4.1-33). The EIS must include detailed information correlating wild rice conditions with sulfate levels throughout the entire St. Louis River system. It must also include the impacts of the Polymet Project on wild rice conditions. Information presented in the DEIS implies that waters of the Partridge, Embarrass and St. Louis Rivers would need to be treated in perpetuity to remove sulfates in order to comply with Minnesota statutes. The final EIS must then evaluate impacts on cultural resources and environmental justice, as well as defining the extent of violations of the 10 mg/L water quality standards pertaining to sulfates in waters designated for or producing wild rice.	WR1E,WR4F,WR5C
66	Baseline data for both the Mine Site and the Tailings Basin are inadequate. A comparison of hydrologic data that was collected for two other projects in the region (GLIFWC letter to Jon Ahlness and Stuart Arkley, February 6, 2009) demonstrates that the PolyMet project is data-poor in the area of basic hydrology. The use of flow data on the Partridge River from a site twenty years and seventeen miles distant from the proposed project does not provide sufficient information to allow a full assessment of the hydrologic and environmental impacts of the project on the Partridge River. The data presented in the DEIS is also not representative of the Partridge River near the mine site. The gauging station is seventeen miles from the mine site and the data from that station is twenty years old and, therefore, unlikely to be representative of current conditions at the mine site. Conclusion: Additional data must be collected before the DEIS may be considered adequate.	EOO
67	The extent of existing wild rice beds has not been fully characterized and may be in violation in MN statutes.	WR1E
68	NMW supports the tribal cooperating agencies' position that the standard for wild rice waters, as currently in place, must be enforced. Tribal cooperating agencies report that extensive research in Minnesota has demonstrated that healthy and viable wild rice beds occur only in waters with less than 10 mg/l of sulfate.	WR3I,WR4F

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69	Listed parameters calculated for the Partridge River have little data to support them. The MODFLOW model was developed to assess the rates of mine pit inflow and as such, the results it gives for areas outside the mine pit footprint are unsupported by data. As noted earlier, the XP-SWMM is based on stream gage data that is 17 miles and 20 years distant from the proposed project. Field data collection is spotty or non-existent and the numbers used in this DEIS are derived from the MODFLOW groundwater model and XP-SWMM model.	WR1E
70	Conclusion: Closure water treatment, as well as the other closure costs, will probably require a financial surety of approximately \$100 million. This is too important an issue to be ignored in the DEIS process. The financial surety amount should be analyzed and disclosed to the public in the DEIS.	WR3I
71	In discussing the geochemistry of the tailings, as it applies to the ability of the tailings to generate contaminants, it is noted in the DEIS: "Current modeling assumes an average tailings sulfur content of 0.13%. Predictions made from kinetic testing suggest that water reacting with NorthMet tailings could become acidic when sulfur content is between 0.14% to 0.17% (Day 2008)." (DEIS, p. 4.1-95) It is well known that mine waste can produce contamination by way of Metals Leaching (ML) under neutral or basic pH conditions. It should also be noted that the flotation process produces tailings with a sulfide sulfur content that is just under the range that could produce Acid Mine Drainage (AMD). Conclusion: More discussion and verification should be given to the finding that the sulfide sulfur content of the tailings is and will remain under 0.13% and non-acid producing.	WR1E
72	Conclusion: The mitigation of storm water management controls should be required, not merely recommended. This is good pollution prevention practice	EOO
73	Conclusion: At a minimum, contingencies should be put in place to fund long term water treatment well beyond the 65-year limit assumed in the DEIS. This is for the protection of the budget and citizens of Minnesota and the environment.	WR3I
74	Conclusion: The DEIS must provide a quantitative analysis of the discharge of mercury to the Partridge and Embarrass River from these pathways during and after mining, and from direct surface discharge from the West Pit after mining.	WR4E
75	Water quality analyses of aluminum cannot be explained away by the fact that aluminum concentrations already exceed standards. Analyses of aluminum must include appropriate variables. The DEIS reports: Predicted aluminum concentrations appear to exceed the surface water standard of 125 µg/L for low and average flow conditions in all mine years (i.e., Year 1 through Post-Closure) with a predicted high concentration of 346 µg/L. The exceedances are in part explained by the fact that average aluminum concentrations in the Embarrass River already exceed surface water standards under existing conditions, with an average concentration of 192 µg/L and a peak concentration of 433 µg/L based on available monitoring data, and a modeled existing low flow concentration of 671 µg/L. (DEIS, 4-118) The fact that background water quality already exceeds standards does not mean that an increase is not a significant impact. Just the opposite; once standards are exceeded, any additional amount is problematic. Conclusion: The DEIS analysis must include existing violations of standards.	WR3H
76	The DEIS then goes on to state, the surface water standard is for dissolved aluminum, whereas the modeled values predict total aluminum. Therefore, "the predicted aluminum concentration is not expected to exceed the surface water standard." This conclusion is undercut by the choice of an inappropriate outcome variable. Conclusion: The appropriate variable must be chosen, or results using a different measure preceded by an explanation of the measure and of the way its results will be modified to reflect those using an appropriate variable.	WR3H
77	Conclusion: The no-action alternative should assume compliance with state and federal law in the clean-up of existing contamination.	WR1E
78	In this section it is stated that: It is assumed under the Tailings Basin Alternative that the vertical wells would continue to operate at least through Year 50, which is the same year that operation of the WWTF would cease under the Mine Site Alternative. (DEIS, p. 4.1-148) It is not apparent why the WWTF would no longer be required after year 50. This time frame for the WWTF does not appear to be substantiated by the discussion in the DEIS, or in the supporting documents. Note: This reference to the cessation of WWTF operation may be an inadvertent error, but if not the documentation that supports the statement that the WWTF will not be required after year 50 should be cited and the statement should be justified.	WR3I

*Alphabetical by sender's first name*

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79	Conclusion: The agencies should clearly state which of the mitigation measures would be required in the permits, and which they consider to be voluntary for the mine operator. That way the public has the ability to weigh the importance of the 'voluntary' mitigation measures, and can then comment on the relevance and importance of the voluntary mitigation measures.	WR1E
80	In the analysis of cumulative effects, it is stated in the DEIS: "In order to be reasonably foreseeable, an activity cannot be simply speculative, but should be included in government plans and budgets or, for private projects, have filed for required permits." (DEIS, p. 4.1-173) To require that a project must "... have filed for permits" in order for it to be considered for cumulative impacts is imposing an unreasonably strict definition of what is a reasonably foreseeable impact. For example, there are several mining projects in the advanced stages of exploration that should be considered as reasonably foreseeable. These projects include the Duluth Metals Ltd - Nokomis deposit and the Franconia Minerals Corp - Birch Lake deposit. Ignoring the potential for these developments understates the cumulative impacts to the region. Conclusion: Mining projects in the advanced stages of exploration should be included as reasonably foreseeable impacts for analysis of the NorthMet project's cumulative impacts.	WR5A
81	We join the tribal cooperating agencies in disagreement with the DEIS conclusion that the NorthMet Project is expected to meet all surface water quality standards under all flow conditions for all mine years in the Partridge River. Wild rice grows on the lower Partridge River and it is our position that the wild rice sulfate standard applies. The PolyMet discharge under the tailings basin alternative would not meet this standard.	WR3I,WR4F
82	We join the tribal cooperating agencies' position that the wild rice standard for sulfate applies on the Lower Partridge River.	WR3I
83	Conclusion: The Section 401 certification process should be reopened and the MPCA should have the opportunity to examine the Projects' adverse water quality impacts.	WE4
84	Wetland resources affected include approximately 3,016 acres at the Mine Site and 1,000 acres at the Plant Site and along the railroad and treated water pipeline corridors. But this is less than 50% of the area that will be impacted by disruption of the existing hydrology. This is especially true around the Tailings Basin which will likely be inundated. USACE is working to assess these impact, but they are not in the current DEIS. This is a significant omission. Conclusion: An analysis of impacts on all wetlands areas potentially affected by the Project must be conducted.	WE2
85	The evaluation of hydrologic impacts to the Mine Site is flawed due to reliance on "best professional judgment" and aerial photographs. Conclusion: Data-based scientific analytical methods exist and should be used for estimating the impacts to drawdown and inundation on wetland hydrology. The current analysis is flawed.	WE2
86	The Agencies incorrectly identified wetlands at the Mine Site as "perched bogs," which are dependent on precipitation rather than groundwater flows. These wetlands are actually cedar, northern ash or alder swamps, rich forested peatlands, and poor fens: all of these require significant groundwater inputs. The groundwater impacts to them have not been determined. Conclusion: The analysis is incomplete and should be redone to include the issues identified above.	WE1,WE2
87	The Tailings Basin is "an actively permitted waste storage facility" and approximately 5,700 gpm of tailings waste is released due to past LTVSMC activity. Conclusion: This has had a significant influence on the hydrology of the area which should be accounted for in the DEIS to avoid any further cumulative adverse impact.	WE2,WE5
88	A mitigation plan that covers all wetland impacts must be included in the DEIS.	WE3
89	Conclusion: The 100 mile awamp must be included in a recalculated wetlands impacts analysis.	WE2
90	Second, given the lack of information on hydrology, the projected number of acres potentially affected is a very rough estimate. Conclusion: Information on uncertainty needs to be included in the wetlands impacts analysis, along with some disclosure of what the largest impacted acreage might turn out to be.	WE2



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91	Third, mitigation plans are not included in the DEIS. Conclusion: Mitigation plans must be identified included in the DEIS because replacement of wetlands is regarded as reducing the significance of wetland destruction, it is impossible to assess the significance of wetland impacts without knowing what the mitigation will be.	WE3
92	NMW supports the tribal cooperating agencies position that the proposed action would violate section 404(b)(1) guidelines of the CWA which prevents permitting when a feasible cost effective alternative (underground mine) would have less adverse effects, or when water quality standards are violated or significant water degradation would occur.	WE4
93	NMW supports the tribal cooperating agencies position that a larger mitigation ratio is warranted given the larger quantity and high quality of impacted wetlands.	WE3
94	Cumulative impacts on the St. Louis River watershed must be addressed. These include air and water emissions into the Partridge and Embarrass River watershed wetlands, the loss of wetlands, and the changes in wetland functional values. The same concerns also apply to the 1854 Ceded Territory. The cumulative impacts analysis does not include a quantitative analysis of the long-term effects of mine effluent, especially in the Embarrass River. If mine related effluent is to be perpetual, then the effects of perpetual mine discharge on wetlands must be assessed. Conclusion: The long-term maintenance requirements of the Polymet mine must be addressed and the potential cumulative impacts on the St Louis River Watershed and the 1854 Ceded Territory evaluated.	WE3,WE5
95	The Northmet Project would be the largest wetland impact that has occurred or is proposed to occur in the Partridge River watershed (814 direct impact acres and 318 indirect impact acres). It would impact high quality wetlands with significant functional values. However, the proposed mitigation would occur outside the Partridge River watershed and outside the 1854 Ceded Territory. As discussed in 4.2.4.2, 475 acres of additional required mitigation have not been addressed and must be included in the mitigation analysis and plans. The Northmet Project would be the largest wetland impact that has occurred or is proposed to occur in the Embarrass River watershed. One result would be an indirect loss of 352 acres which are considered to be of low quality. Conclusion: NMW supports the tribal cooperating agencies position that the impacts of this loss would be significant and should be ameliorated	WE2,WE3
100	Conclusion: Among many other negative impacts to wildlife, the Project will, by destroying wetlands, cause potential serious harm to moose populations in the Project Site area.	WI2
101	Conclusion: The DEIS impact criteria is incomplete. The effects of the Project on species harvested on public land must be analyzed.	WI1,WI3
102	Polymet plans to undertake some restoration of disturbed areas after mine closure. This would entail the re-creation of forest, wetlands and open water but “the successional process would likely take decades,” according to the DEIS. Thus, the area would be unavailable as lynx habitat for forty years, or longer -- twenty years of mine operation plus at least another twenty years before the area would provide even minimally suitable lynx habitat. Indeed, there is no guarantee that excellent Canada Lynx habitat would ever be restored, especially as more flexible competitor species, such as the bobcat, can be expected to more quickly re-colonize the regenerating forest and occupy the Canada Lynx’s ecological niche. Conclusion: The DEIS should note that the proposed restoration plan for the Mine Site would provide excellent bobcat habitat and that the presence of the Bobcat, which is a superior competitor, might prevent repopulation of this site by Canada Lynx.	WI1

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<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
103	Among other important species which would potentially be affected by the Project is the bald eagle. Bald eagles are known to use a large range for both foraging and nesting. (Nests optimally do not occur within a ten-mile radius of each other, except where large areas of suitable habitat are unavailable.) According to the DEIS, “human activity within one-quarter mile to two miles can be seen by eagles and, depending on the level of screening and habituation of individual eagles, may cause them to abandon a nest.” Since there are nests approximately two miles from the Project Site, disturbances from the Project may have an adverse impact on both eagle nesting and foraging. Despite these manifest concerns, however, the DEIS ignores its own findings and proposes that “the Project is not likely to adversely affect bald eagles.” Conclusion: The DEIS fails to fully account for the potential negative impacts to bald eagles could result from the loss of feeding and nesting sites within or adjacent to the Project area. The DEIS should include, but is currently silent about, the potential that contaminants from the mine site, specifically mercury and other heavy metals, could bioaccumulate in prey species and have a secondary impact on bald eagle reproduction. The direct effects of heavy metals upon the survival of bald eagles, while unknown, are also potentially harmful	WI1
104	Although the Mine Site is adjacent to areas where there are known populations of wood turtles and the Project would produce water turbidity and flow modifications (specifically, a lowering of water levels in the Upper Partridge River), the DEIS asserts that “the Project is not likely to adversely affect wood turtles because there would be no direct loss of individuals, populations, or suitable habitat and the Project would have no indirect effects on downstream habitat.” The decrease in river flow would, however, “expose additional nesting areas” in the area which might be attractive to wood turtles. These additional nesting areas might induce the turtles to begin nesting in unsuitable habitat, such as sites where mining and vehicular traffic occurs. If so, these turtles would be subjected to nesting disturbances as well as increased mortality of both adults and younglings. Conclusion: Improved analysis is needed to support the claim that the Project is not likely to affect wood turtles.	WI2
105	Restoration efforts at the Mine Site would include afforestation over 792 acres of degraded land with red pine seedlings. As the DEIS states, “a red pine monoculture would not mimic the natural plant community [now present] at the Mine Site.” This red pine plantation would not cover the entire area of disturbed land at the Mine Site, and it would take twenty years for early succession to begin with aspen and willows, another two decades for larger aspens to grow, and 50-100 years to convert the more disturbed areas to a more diverse forest, as some native species such as jack pine, paper birch, spruce and fir invade. The disturbance would reduce the quality of habitat for decades because of soil compaction, removal of seedling stock, and the planting of a red pine monoculture. Conclusion: As recognized in the DEIS, and established in the scientific literature, singlespecies tree plantations (like the red pine monoculture proposed) do not in any way replace or replicate a diverse and resilient natural ecosystem (like the one that will be removed). Tree monocultures are impoverished in plant species, do not provide a rich variety of habitats for wildlife, and may actually retard the regeneration of a multi-tree-species forest due to removal of diverse seed stocks and the nutrients they need to take root, and by discouraging the presence of transient, seed-dispersing wildlife. The number of species of wildlife which can live or forage in these monocultures is greatly reduced from the natural condition. This opinion is supported by the statement in the DEIS that, “the quality of habitat for SGCN species is likely to remain degraded for some decades after Closure relative to pre-mining operations due to conversion of high-quality habitat to lower-quality habitat.”	WI4
106	With regard to wetlands in areas which would be impacted by the Project, the DEIS is unacceptably vague. It mentions a number of wildlife Species of Special Concern which might use the wetlands within the Project area, but, except for the marbled godwit and olive-sided flycatcher, Polymet did not survey or assess wildlife populations, asserting only that these species are unlikely to be present -- even though the DEIS itself states that 1,522 acres of wetlands would be impacted and that “these wetlands are generally considered to be of high quality and provide valuable habitat to a wide range of wildlife species.” It is unlikely that high quality wetland habitat would not be populated by a number of aquatic and riparian species. Conclusion: The responsible agencies should reevaluate the inadequate methodology used to predict the acreage of wetlands that will be indirectly impacted by the Project pit dewatering. Based on a revised methodology, reevaluate the indirect impact of the Project pit dewatering on area wetlands should then be reevaluated.	WI2,WE1,WE2

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<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
107	Conclusion: NMW considers the loss of mature forest a significant impact and notes that activities on the mine site will prevent more forest acreage from reaching this mature community state, representing a nearly permanent loss of habitat	WI2
108	Two wildlife corridors, identified as #11 and #12, are located close to the proposed Mine Site. Corridor 11 is identified by the DEIS as a poor-quality, partially obstructed corridor with limited wildlife movement and that the “moderate impact” mining activities would not be “complete barriers” to the movement of wildlife. Mining activities and construction would result in a more severe impact on Corridor 12 by increasing noise, limiting access to the corridor, and disturb wildlife with rail and vehicular traffic. As stated in the DEIS, “...mining operations could generate sufficient activity and noise to discourage wildlife use of this corridor...” Although Corridor 11 is of relatively poor quality, it has been proposed to restore it by revegetation, which would be precluded by mining activities. Corridor 12 will obviously be significantly impaired as a wildlife corridor by mining activities. Conclusion: It is the position of NMW that negative wildlife-corridor impacts disclosed in the DEIS should be considered significant.	WI5
109	Conclusion: These basically represent mine closure, not mitigation, efforts. NMW thus finds these efforts to be inadequate. A mere plan to remove the agents that will have degraded the area does not constitute rehabilitation, nor does it ensure restoration of the area to its former state. Any new impacts to existing wildlife migration corridors, (e.g., by mining) is by definition significant, and should require mitigation. Until the Section 106 consultation process between the USACOE and the tribes is complete, it is not possible to determine the potential impacts to treaty-protected wildlife.	WI3,WI5
110	Although the DEIS states that “There are no known occurrences of lake sturgeon and no likely habitat for lake sturgeon in the Project area,” the tribal cooperating agencies note that lake sturgeon were once prevalent in the area prior to dam construction, and that lake sturgeon have been caught in the area recently. The Fond du Lac Resource Management Division has a restocking program based on early accounts of this fish’s abundance. Thus, the current absence of this fish species in the area of the Project is not representative of the appropriateness of the aquatic resources to support lake sturgeon but is due to blockage of their migration routes by dams. Conclusion: Lake sturgeon fish could be restored in waters involved with the activities of the Project.	FM2
111	According to the DEIS, the northern brook lamprey is not present in the Project area, although there is probably suitable habitat in the Project area. No survey has been made, however, to ascertain the presence or absence of the fish or of suitable habitat in the Project area. Conclusion: Given the lack of data, no conclusions about the presence or absence of northern brook lamprey in the Project area can be made. It is suggestive, however, that this species has been found in the Dark River, only a few miles from the target area.	FM2
112	The DEIS asserts that “Unionid mussels ...constitute one of the most imperiled major taxa in the United States.” There are populations of the creek heelsplitter, one of the species identified by the State of Minnesota as a Species of Special Concern, in the St. Louis River basin. Further, according to the DEIS, suitable habitat for the creek heelsplitter does exist within the Project area itself (though the DEIS notes that the species has not been collected in the Project area). Conclusion: This conclusion was based on a superficial survey, as many other (more common) species of mussels known to live in the St. Louis River basin were not collected in the survey relied upon by the DEIS. As the creek heelsplitter is a rare species, a more intensive collection effort might locate this species. Populations of this species have been located not far from the Mining Site	FM2

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<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
113	NMW objects to the statement in the DEIS that the species-poor fish fauna in the Partridge River is due to a natural impoverished habitat present in these bodies of water -- rather than due at least partially to anthropogenic causes (e.g., pollution from LTVSMC tailings). (The DEIS does allow that the poverty of macroinvertebrate species in the river might be, at least partially, anthropogenic in origin.) This river has been sampled and has a relatively low fish and species richness as compared to other rivers with presumably ecologically-similar habitats. NMW does not agree, however, that previous mining activity has not affected the productivity of these waters. NWM asserts that the data presented to support the claim of poor habitat is based on an unsound methodology incapable of determining habitat quality reliably. Additionally, the sampling sites represent three to four different habitat conditions, and therefore one cannot extrapolate from one to another. Conclusion: This DEIS finding is inconsistent with the DEIS position that the physical environment is the cause of fish species impoverishment.	FM2
114	Colby Lake and Whitewater Reservoir are the two bodies of water which would be most directly affected by the proposed Polymet mine. Alterations in the water table and water levels by discharges and withdrawals by the mine could affect water quality and the population sizes of aquatic species in both. Although the fish assemblage has not been established for Colby Lake or Whitewater Reservoir by the Minnesota Department of Natural Resources, the DEIS states that the assemblage in Colby Lake “appears to be similar to what might be expected based on other lakes in the region with similar physical and water quality conditions.” Conclusion: This is not a valid evaluation of the fish populations present in Colby Lake because it is based on an assumption not verified by any data. If supporting data does exist, it should be cited in the DEIS. But no conclusions can be drawn from possibly fallacious comparisons. The same is true about the lack of data for the fish assemblage in Whitewater Reservoir: the DEIS finding is not valid because it is based on an assumption not supported by data. If supporting data does exist, it should be cited in the DEIS.	FM1,FM2
115	Given that there is so little data on either fish or invertebrate species in both Colby Lake and Whitewater Reservoir, it is curious that the DEIS suggests that these are species-poor waters, and that poverty of species (if it does, in fact, exist) is due to the inadequacy of the physical habitat. (The DEIS claims that “[t]his departure from richness expectations for the Mississippi and St. Croix River Basins is probably a manifestation of the species-poor nature of habitats encompassed by the Partridge River.”) The DEIS further claims that the presence of certain midge species indicate good water quality in these bodies of water -- supporting the position that the alleged species-poor status of the waters is not due to earlier episodes of water pollution. But NMW disputes the DEIS’s reliance on a proxy indicator, because midges are not on the sensitive end of the pollution-tolerance index. Conclusion: No current or recent water-quality data is cited to support the DEIS’s proposed finding. Reliance on the presence of midges in these waters as an indicator of good water quality is unjustified for the reasons given above.	FM2
116	Conclusion: The significant hydrologic alterations predicted will likely have significant adverse affects on the aquatic biota.	FM1
117	Conclusion: There is insufficient flow data and hydrologic modeling to support the conclusion that reductions in high-end flows would not have a significant effect on physical habitat for aquatic biota. Any alteration of flow at the magnitude predicted will definitely result in a decrease of stream power, leading in turn to a decrease in the size of particle able to be transported. Thus, increased sedimentation is likely to result.	FM1
118	The DEIS states that “aluminum appears to exceed the chronic water quality standard in the Embarrass River.” It seems that much of this contamination is due to the previous occupant of this property, LTVSMC. The DEIS goes on to state that “[t]here are several mitigation measures discussed [above] that could be used to treat the pit water before it is discharged and enable it to meet surface water standards.” Conclusion: NMW regards this statement as weak and non-binding, in that it does not adequately analyze or disclose what could be done to prevent further contamination of surface water in the area of the proposed mine. NMW’s position is that PolyMet must assume remedial liabilities of pollution from LTVSMC, and that mitigation measures relevant to this particular issue should be included and discussed in the DEIS to ensure that no new pollution exceeding aluminum standards for aquatic life will be released.	FM1,FM4

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<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
119	Conclusion: NMW holds that any increase of methylmercury bioavailability in the Partridge River watershed endangers a critical trust resource and should not be permitted. The fish resources from this area would potentially be impaired by waters highly contaminated with methylmercury. Further, any new discharges that would result in further degradation to waters already overloaded with mercury levels which would not be permissible under the Clean Water Act.	FM1,FM5
120	Conclusion: Additional analysis must be done concerning the reactivity of the waste rock dust. The environmental impact from the reactivity of the waste rock dust was overlooked in the current DEIS and needs to be included. This waste rock dust is reactive enough that the possibility exists that sulfates could form in wetlands and lead to an increase of methylation of mercury. Further, it has not been shown that the waste rock dust would not in and of itself create sulfuric acid.	AQ1
121	Conclusion: In addition to addressing the above concerns, a monitoring scheme should be required that will provide statistically reliable data on the autoclave mercury emissions, to ensure that the mercury capture systems on the autoclaves are functioning as designed.	AQ6A
122	Conclusion: Mitigation options should be aggressively pursued by the MPCA and the FLMs, as stated above. The Tribal cooperating agencies should be included in these discussions to every extent possible.	AQ5
123	Conclusion: Class II modeling did not adequately consider cumulative impacts. That analysis did not (1) take into account the effect of the full particulate emissions from the tailings basin, (2) factor in any emissions from the Keetac Expansion Project that plans to increase production by 61% by reopening another furnace line, or (3) include the planned Essar Steel Expansion project. The analysis is thus incomplete. The 24-hour PM2.5 modeling must account for emissions from the Keetac Expansion Project. Full cumulative effects may lead to violations of the PM2.5 NAAQS standard.	AQ4
124	Conclusion: The assessment that there is no significant impact cannot be considered correct, because that analysis did not take into effect the full particulate emissions from the tailings basin. That analysis did not factor in any emissions from the Keetac Expansion Project (that plans to increase production by 61% by reopening another furnace line), or the planned Essar Steel Expansion project.	AQ2,AQ4
125	Conclusion: The table is incomplete. There is no mention that the Keetac Expansion Project will be producing 64 lbs HG/yr controlled or 90 lbs uncontrolled. (Cumulative Impacts Analysis Local Mercury Deposition and Bioaccumulation in Fish, Keetac Expansion Project April.)	AQ6A
126	Conclusion: Noise-contour maps should be developed for inclusion in this DEIS. Noise-contour mapping would allow reviewers to assess the impacts of noise to all publicly accessible lands in the vicinity of the project which include large sections of the Superior National Forest immediately adjacent to the Mine Site (see Figure 4.9-1). An assessment of noise impacts to all public access lands is important information for assessing cultural impacts to tribes with hunting, fishing and gathering rights in the 1854 ceded territory. NMW concurs with the tribal cooperating agencies position that the Army Corps has not yet completed consultation with potentially affected tribes. Therefore, this document does not estimate the potential degree of disturbance to tribal members who may not be involved in traditional natural resource harvests on national forest lands.	N1
127	Conclusion: The DEIS does not present sufficient information to support the claim that “the continuous generation of noise at the Plant and Mine Sites would not have a significant effect on the noise environment during mine operations, Closure, and Post Closure.”	N1
128	Conclusion: An adequate cumulative impact of noise impacts analysis has not been done. Meeting ambient-noise standards is a different question than assessing impacts. Impacts should be fully characterized in this document. Contour maps that show overlapping noise pollution from different projects should be provided -- it is impossible for the public to review the cumulative impacts of noise without this information. Also, the cumulative impacts of mine related vibration have not been assessed	N3
129	Conclusion: The DEIS remains incomplete and compliance with federal law Section 106 cannot be determined at this time. The EIS must address the issues described above.	CR1,CR2

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<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
130	Comments concerning the Loss of Cultural Resources as a Result of Direct and Indirect Loss and Functional Impairment of Wetlands in the 1854 Ceded Territory were addressed in the earlier section, "Other Major Issues..." NMW hereby incorporates and repeats the conclusion offered in that section. Conclusion: The final EIS must include an evaluation of the Project's impacts on cultural resources and environmental justice, as well as defining the extent of violations of the 10 mg/L water quality standards pertaining to sulfates in waters designated for or producing wild rice.	G3,CR1,CR4
131	Continued current uses and activities at the Mine and Plant Sites under the No Action Alternative would be compatible and consistent with existing land management plans, regulations, and practices. Conclusion: This section of the DEIS should include a discussion of the remediation that would occur at the site under the no-action alternative, and its compatibility with the MFRC Landscape Management Plan.	CPLU1
132	Implementation of the above-referenced mitigation measure (e.g., a native seed mix) would allow the Project to comply with the long-term goals of the MFRC Landscape Management Plan. Therefore, there would be no long-term or cumulative effects during the life of the Project and Post-Closure relative to Compatibility with Plans and Land Use Regulations. Conclusion: Post-closure impacts have been insufficiently addressed. This section should discuss long-term and cumulative impacts from the Proposed Action, including a detailed native seed mitigation plan.	CPLU1
133	What impacts will the Polymet Project have on the socioeconomic conditions of these East Range Cities? In order to best weigh the positive and negative impacts of a project, economists usually perform a cost/benefit analysis. Only then can an informed decision be made about proceeding with a project. However, this was not produced for the Polymet DEIS, leaving a large information gap in the analysis. "This analysis did not identify any potentially significant adverse socioeconomic effects from the Project, therefore, no mitigation measures are proposed."	SE3
134	What has been provided is an accounting of the benefits: the direct effect of 448 new jobs and the indirect and induced multiplier effects on employment. Only 25% or 112 jobs would be filled by local residents. In 20 years these jobs are gone and 95% of working-age adults would be unemployed and either leave the area or seek alternative employment. The boom-bust cycle is repeated. An accounting is given of likely tax revenues to accrue from the Project. But no accounting is provide for the increased cost of building new infrastructure, renovating schools, hiring additional city staff, police, fire, ambulance, and medical providers-all at public expense. Adverse economic impacts to communities during temporary shutdowns and at closure are conspicuously absent from the study But these costs are real, and there is reason to believe that they will be high:	SE3
135	The negative impacts associated with the loss of natural resources and environmental degradation have also not been addressed. There is reason to think that these costs will be high, too:	SE4
136	The DEIS details the likely need to treat the waste streams from the Polymet Project for hundreds or thousands of years. But what is the present value of this cost to perpetually treat acid mine drainage? This cost has not been quantified or included in a cost/benefit analysis.	SE3
137	Impacts to natural resources will disproportionately affect the Tribes, due to their subsistence consumption of rice, fish and other wildlife within the 1854 Ceded Territory. This is an environmental-justice issue covered under Executive Order 12898, which specifically identifies issued to be addressed regarding Native American Populations. It is inappropriate to conduct anything less than complete analysis of this issue, given the history of the environmental-justice issues raised by mining projects:	SE2
138	The DEIS is thus deficient because it has not presented a full cost/benefit analysis of the Polymet Project.	SE3

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Comment ID	Comment Text	Theme Codes
139	<p>NMW hereby incorporates and repeats the conclusion offered earlier (“Other Major Issues ... Economic Aspects). Conclusion: The final EIS should include adverse economic and social impacts of the project and benefits of the no action alternative, considering the following: □ Information on Minnesota’s mining industry, including historical and reasonably predicted cyclical “boom and bust” cycles; □ Analysis of the regional economy’s reliance on perceived environmental amenities, including property values, tourism, recreation, and industries such as health and finance which may be located based on residential choices; □ Analysis of the adverse economic and social impacts of population and payroll loss when mining activities stall or cease, or resulting from mechanization, including impacts on unemployment, demand for social services, and tax revenues to fund social services; and □ Analysis of the price structure needed to support opening of the PolyMet mine and processing facility, sustaining operations, and supporting closure and post-closure treatment and reclamation, including the potential economic risk that unfunded pollution costs would become a burden on communities or taxpayers.</p>	SE3,SE4
140	<p>Because the nature and magnitude of construction and operation activities are different, the effects of these activities on the communities would differ. For instance, it is assumed that a greater percentage of local labor would be used during the operations phase than during construction. These differences are reflected in the IMPLAN calculated multiplier for the two phases of the Project. The impacts have been insufficiently addressed. PolyMet has failed to acknowledge or to account for the negative impacts associated with the loss of natural features that will occur as a result of the Project. In keeping with current ecological economic models, the indirect use values, option values, and nonuse values have not been addressed. NMW notes that the recent report by Dr. Thomas Powers entitled “The Economic Role of Metal Mining in Minnesota: Past, Present, and Future,” addresses some of the impacts that are inadequately covered in the present draft. Conclusion: Dr. Powers' discussion of impacts should be used in developing this section for the DEIS.</p>	EOO
141	<p>As discussed in Section 4.8.3, the Project area overlaps the 1854 Ceded Territory, where certain tribal communities retain rights to hunt, fish, and gather on public lands. Although 2.1% of the population in St. Louis County is Native American, few members of these tribal communities live in the immediate vicinity of the Project. Conclusion: NMW recognizes the issue of Environmental Justice between the Project and Tribal communities. Further discussion of tribal use of Project area resources is provided in Section 4.8. Executive Order 12898 specifically identifies issues to be addressed regarding Native American Populations. Tribal representatives view themselves as uniquely and disproportionately impacted by mining activities in the 1854 Ceded Territory and disagree on a number of conclusions within the DEIS</p>	SE2
142	<p>According to the DEIS, the nearest potential visual receptors to the Mine Site are located approximately six miles to the east along Lake County Road 2 within the incorporated limits of the City of Babbitt, with the City of Hoyt Lakes is approximately nine miles to the southwest of the Mine Site. Conclusion: The DEIS’s use of a few limited visual receptors to assess PolyMet-related visual impacts is not adequate. The DEIS fails to address visual impacts to any other publicly accessible area in the vicinity of the proposed project. A complete VIA has not been included in this iteration of the PDEIS. A complete VIA would allow the public to review the impacts of project features to all publicly accessible lands in the vicinity of the project which include large sections of the Superior National Forest immediately adjacent to the mine site. Further, a VIA of all public access lands is important information for assessing cultural impacts to tribes who have retained the right to hunt, fish and gather on national forest lands.</p>	VII
143	<p>The primary issues related to visual resources, and therefore the potential for impacts, would include: The ultimate appearance of the Project at full reclamation versus current and interim stages of active mining. In the absence of a full VIS, this document does not estimate the degree of disturbance to tribal members who may be involved in traditional natural resource harvests on national forest lands. The Project would increase the scale of disturbance in the region; however, mining activity is a long-established aspect of the Iron Range landscape and the addition of the proposed mining facilities would not introduce visual elements to surrounding viewpoints that are in stark contrast to the regional visual character. Conclusion: In the absence of a full VIA, this document does not present enough information to make the claims it does regarding visual impact criteria.</p>	VII

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Comment ID	Comment Text	Theme Codes
144	<p>According to the DEIS, the Project, as proposed, would be visually secluded from the surrounding area by the Giants Range formation and surrounding vegetation such that it would not influence the surrounding landscape. In addition, implementation of the above referenced mitigation measure (i.e., shielded lighting) would minimize impacts to the night sky. Therefore, there would be no long-term impacts during the Project life and Post-Closure relative to Visual Resources and no cumulative effects analysis would be warranted. Conclusion: The VIA is insufficient and does not fully address cumulative impacts. A cumulative impact of visual impacts analysis is needed. Moreover, a thorough VIA following past Army Corps practices has not been conducted for this project and tribal consultation regarding cultural impacts has not been completed.</p>	VII
145	<p>However, it appears that the potential stability of the tailings in cell 2W is not known: “Review of proposed Hydrometallurgical Residue Facility preliminary designs indicate it would have reasonable liner integrity and stability of embankments, however it is unknown if the slimes layer exists under the facility.” (DEIS, p. 4.13-2 (internal citations omitted)) If the slime layers are present under cell 2W, as would be expected, then this poses a risk to the integrity of the hydrometallurgical cells during an earthquake event. The long-term integrity of both the flotation and hydrometallurgical tailings storage facilities is necessary to protect water quality. But significant questions still need to be addressed regarding the long-term vulnerability of the waste storage facilities to seismic events. Further, in addition to the significant outstanding issues with the tailings storage facilities, there is similar concern for the waste rock piles. Analysis of a number of critical questions are not being conducted as a part of the DEIS. For example, while “[p]roposed heights and slope angles in the preliminary waste rock stockpile designs are within typical mine engineering practice, however a slope stability assessment has not been completed. Further design and analysis would occur during permitting to ensure that the proposed construction meets acceptable design standards.” (DEIS, p. 4.13-2) The DEIS makes this point explicitly, explaining that “[g]eotechnical stability will be further analyzed during permitting when final facility designs will be available.” (DEIS, p. 4.13-1) But geotechnical stability is too important an issue to leave for analysis until after the mine has been permitted. This is an issue that must be addressed in the DEIS, and is a major flaw of the DEIS. This concern has been echoed by the tribal cooperating agencies: “given the lack of confidence in the structural integrity of ... (liquefaction at the plan site, stockpile liner systems stability, stockpile heights and slope angles, tailings basin stability, dam break analysis) ... a risk assessment must be conducted prior to permitting and the results included in the DEIS so that the public can be fully informed about the risks associated with this project.” (DEIS, p. 4.13-2) NMW strongly concurs with the above conclusion of the tribal cooperating agencies. As discussed, these stability issues should be thoroughly investigated and the issues resolved as a part of the DEIS process. Conclusion: Geotechnical stability is too important an issue to leave for analysis after the mine has been permitted. These stability issues should be thoroughly investigated and the issues resolved as a part of the DEIS process.</p>	E00,GT1
146	<p>Conclusion: NMW contends that this approach is not consistent with the federal EIS process. The EIS must identify alternatives and mitigation methods that address potential problems with the project. Sufficient data must be collected so that a complete structural integrity analysis can be performed and included in the DEIS.</p>	GT1
147	<p>According to the DEIS, increased rock buttressing designs prepared for the northern outer embankment side slope of the existing LTVSMC Cell 2E tailings embankment would increase the geotechnical stability of the NorthMet Tailings Basin to within an acceptable margin of safety. Further investigations, design, and analysis would occur during permitting to ensure that construction meets acceptable design standards, including: criteria regarding material characteristics and properties, disposal systems and methods, investigation techniques, facility analysis and design, hydrologic/hydraulic procedures, construction objectives and inspection, performance evaluation and redesign considerations to insure geotechnical stability and satisfy the geochemical and other water quality objectives for the project. Conclusion: A complete geotechnical stability analysis must be conducted prior to permitting and must be included in the DEIS.</p>	GT1



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Comment ID	Comment Text	Theme Codes
148	According to the DEIS, if stockpile slope stability concerns are identified during permitting, then mitigation measures (e.g., reduced heights, bench widths to reduce side slope angles) would be analyzed and any increased impact on wetlands would be assessed. Conclusion: This recommendation is unacceptable and violates the intent of the EIS. The purpose of an EIS is to identify mitigation measures that address potential problems in the project. The analysis described in the previous paragraph must be conducted prior to permitting and included in the DEIS.	GT1
149	Should the Tailings Basin Alternative be the design evaluated in permitting, and the predicted stability is determined to be insufficient through further analysis, additional mitigation measures such as further increasing the rock buttress and dewatering of LTVSMC tailings slimes layer (e.g. using sand drains), would be evaluated. Conclusion: Due to the failure of the applicant to address any of the potential geostability impacts, it is the position of NMW that the applicant must address measures to assure the structural integrity of the tailings basin, provide a dam break analysis, and conduct a risk assessment prior to permitting. These results must be included in the DEIS so that the public can be fully informed about the risks associated with this project.	GT1
150	The methodologies recommended in the CEQ guidance document were used by the USEPA in their Protocol to Assess Expanded Cumulative Effects on Native Americans (2007). Therefore, the 1997 CEQ guidance document was used in this DEIS to assess the potential cumulative impacts of the proposed NorthMet Project in combination with other past, present, and reasonably foreseeable future actions. The geographic scope of analysis varies dependent upon the resource under discussion (e.g., water resources, air quality, and uniquely-affected communities). The specific geographic scope for each resource is further discussed within the appropriate subsection of this analysis. Conclusion: While the protocol is mentioned in this section, none of the expanded data collection or analysis that the protocol recommends was done. Therefore the cumulative impact section is incomplete and does not properly assess cumulative effects of the proposed project on natural and cultural resources.	G8C
151	Climate Change implications of the proposed project. The project would disturb extensive areas of peat. (Section 4.2) Peat is known to be an important carbon sink. Wetlands in general are recognized as important carbon sinks and areas where wildlife will seek refuge as the climate warms.	AQ3
152	Cumulative impacts to wild rice. Wild rice is a valuable tribal resource that has been declining throughout the 1854 ceded territory. Mine effluent is often associated with levels of sulfate that has impacted wild rice and hydrologic changes from pit dewatering and seepage from tailings basins can also impact wild rice, which is dependent upon a relatively stable hydrologic regime. The cumulative impacts to wild rice have not been assessed.	WR5A,G3,CR1,CR4
153	Cumulative impacts to plant and animal species that are not listed as threatened or endangered. The focus of the EIS on listed species is understandable but other species that are important to tribal and non-tribal members would likely be impacted by mining projects. Moose, for example, are likely to be impacted through disturbance along the few wildlife corridors remaining along the Mesabi range and through wetland impacts of this project. At a time when moose populations in Minnesota are declining, this analysis is particularly important and should be done as part of this EIS.	WI5
154	The Cumulative effects of noise and vibration. These issues have not been analyzed although they were raised by the public during scoping.	N3
155	The Cumulative risk analysis of transportation of hazardous materials. This issue has not been analyzed.	HM3
156	The cumulative effects on fish and macroinvertebrates. This discussion is limited to sulfate and mercury. Cumulative effects of habitat degradation on the fisheries of the region have not been discussed.	FM3
157	For those resource areas not identified in this section, no cumulative effects were identified. Conclusion: A number of significant cumulative effects were identified after the scoping period and must be made a part of the cumulative impacts analysis and incorporated into the DEIS. These impacts include cumulative effects to groundwater, vegetation (other than threatened and endangered species), visual and noise effects, hazardous materials, and cultural resources.	G8C

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<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
158	Conclusion: Some mine features (e.g., pit lakes) would become permanent features of the landscape. Therefore post-closure impacts should also be included in the analysis	VI1
159	The DEIS fails to adequately analyze cumulative impacts to either the Partridge or Embarrass Rivers. Further, in Colby Lake, the community water supply for the city of Hoyt Lakes, aluminum, iron, copper, and mercury concentrations already exceed Minnesota Water Quality Standards (“WQS”). The existing large number of water-quality exceedances and the suite of constituents, particularly trace metals that exceed WQS, indicate that the site has not been remediated from previous mining activities. Additionally, amphibole or asbestos-like mineral fibers, known to cause digestive tract cancers in high concentrations, have been identified as existing pollutants in the Hoyt Lakes community water supply and their presence should be identified in the DEIS. Conclusion: Related cumulative-impacts issues such as groundwater drawdown or mounding due to multiple mine projects, water quality in aquifers impacted by previous and existing other mine projects, and surface waters such as the Partridge and Embarrass Rivers and Second Creek that are impacted by multiple mines need further analysis.	WR5A
160	Conclusion: A complete, rewritten wetlands section is required. Cumulative impacts also need to be addressed once the wetlands section is complete.	EOO
161	Conclusion: NMW notes that the applicant has incorrectly estimated cumulative impacts on wildlife. NMW is concerned that the analysis in the resource section has not been carried forward to the cumulative impacts section.	WI5
162	According to the DEIS, the Project, when combined with past, present, and reasonably foreseeable future actions, would reduce flows in the Upper Partridge River and contribute to an increase in the frequency and duration of low flows in the Lower Partridge River, depending on the timing of other mine dewatering activities, but these effects are not expected to be significant. (Section 4.1) Conclusion: As detailed in section 4.1, the available data and analysis is insufficient to make this claim. This cumulative impact analysis is thus incomplete.	WR5A
163	According to the DEIS, the Project, when combined with present and reasonably foreseeable future actions, would degrade water quality in the Partridge River, but would still comply with all surface water standards. These activities are predicted to increase average sulfate concentrations in the Embarrass River, which would attenuate as it flows downstream through the Embarrass chain of lakes. The increased sulfate levels could increase mercury methylation in the wetlands north of the Tailings Basin and downstream in the Embarrass River, (if sulfate is still a limiting factor), and therefore have a cumulative effect on downstream lakes already on the 303(d) list. The Tailings Basin Alternative options would redirect the seepage away from the Embarrass River and not contribute to a cumulative effect on downstream lakes already on the 303(d) list. (Section 4.1) Cumulative effects on the Embarrass River could be perpetual. Conclusion: The applicant is also obligated to assure that wild rice harvesting remains viable in this area.	WR5A
164	All of these impacts would combine to impair wildlife accessibility, although it should be noted that some impairments would still allow wildlife passage, albeit through degraded habitat conditions until completion of habitat reclamation activities. Conclusion: The applicant has failed to provide a complete, empirical cumulative impact assessment in this section.	WI5
165	Conclusion: The applicant's assessment of uniquely affected communities is incorrect. Consultation with Tribal cooperating agencies indicates that the project lands do support wild rice and moose populations. Wild rice grows in the Partridge River and a substantial moose population has been identified in the mine site area by aerial and ground surveys. Therefore, cumulative effects to both wild rice and moose populations must be considered.	WR5C,WI5,G3,CR1,CR2,C
166	IN CONCLUSION, NMW urges that the PolyMet DEIS be withdrawn until the serious omissions and flaws identified above can be corrected. A revised DEIS can then be submitted for an appropriate period of public comment.	G14

**Sender Last Name:** Grymes

**Submission ID:** 2504

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
3047	I have spent years enjoying the waters of Northeastern Minnesota. The threat to them that this project poses are frightening at the least. Please do not allow these precious Minnesota resources to be ruined. Please accept these comments on the PolyMet Mining Corp. NorthMet mining project Draft Environmental Impact Statement. I have serious concerns about the safety of this project and its potential impacts on Minnesota's natural resources.	G7
<b>Sender Last Name:</b>	Grzybowski	<b>Submission ID:</b> 135
124	I am here because as a small business owner in Hibbing, Minnesota, I feel there's a real need for more jobs and I am strongly pushing to get jobs so that we can get more young people back on the Iron Range. I currently own a small business up there in Hibbing and I would love to have the opportunity to move more of my friends back to the Iron Range and promote business-to-business relationships. That's all I got.	EOO
<b>Sender Last Name:</b>	Guidinger	<b>Submission ID:</b> 3164
36	value" of this project is. The natural beauty of the area which brings jobs, gives quality of life and drives the economy here is SUSTAINABLE forever if treated with care. This project not only is finite, but will impact other economic sectors that are sustainable. This is copper mining and there is no example	SE4
3121	Mercury in Water - Relatively high sulfate concentrations in seepage from the Tailings Basin would be released to wetlands north of the Tailings Basin and lakes downstream on the Embarrass River that represent "high risk situations" for mercury methylation. There is some uncertainty as to whether the West Pit overflow would meet the Lake Superior mercury standard, but this impact could be mitigated if it would occur." "Could" be mitigated?! I live in and my family gets their water from this "high risk situation" that only "could" be mitigated! How dare you all. My children and my children's children having a	WR1E,WR4B,WR4C
<b>Sender Last Name:</b>	Gullickson	<b>Submission ID:</b> 13
12	Kimberly Gullickson, I'm from Deer River, Minnesota, and I'm a union boilermaker out of Local 647. I've been a union boilermaker for the last two and a half years and something I plan on making a career out of. And I feel that mining has been the backbone of Northern Minnesota for many, many years. I don't understand why we would put a stop to that now. I also feel that putting this project in order would put many families to work, benefit many families, not only families, but our community and the educational systems in the surrounding areas.	EOO
27	I'd just like to say I'd like to see it going because I've been on unemployment for the last two months, and this would really help me out. I just built a house, and I got three kids at home that I need to feed, so I'd really like to see this -- this go through. That's pretty much all I want to say.	EOO
<b>Sender Last Name:</b>	Gustafson	<b>Submission ID:</b> 2112
2499	I am a Minnesota citizen and taxpayer. I am totally opposed to the Polymet open pit mining project. We do not need this type of project risking quality of life and natural areas in Minnesota. Mine operators throughout history have taken the profits, provided jobs for a while, and then left the public and taxpayers holding the bag for later pollution and cleanup. This will be no different and we just need to say NO.	EOO,G4A
<b>Sender Last Name:</b>	Hackman	<b>Submission ID:</b> 2693

*Alphabetical by sender's first name*

**Comment ID    Comment Text** **Theme Codes**

3168 I am continuously amazed that our state, a state which used to to pride itself on being near or on the top of the lists for healthy places to live has allowed itself to drop and drop and drop down those lists. I like to think that we are a state that is concerned about the environment but when these kind of things are even being considered, I'm worried. Will money and greed win??? I hope not. Once the damage is done it will be too late. Here are some of my concerns.

G2

**Sender Last Name:**    Hagan

**Submission ID:** 2922

3257 Please accept these comments on the PolyMet Mining Corp. NorthMet mining project Draft Environmental Impact Statement. The profits and job creation resulting from the proposed mining could never match the expense of monitoring and remediation of water contamination for centuries to come. Nor could they ever justify the inevitable loss of the habitat, food, and recreational resources that your organization seeks to protect. In addition, this issue is as much about Polymet as it is about the mining projects that will likely follow. Please don't encourage such projects by setting a short-sighted precedent. The PolyMet DEIS describes significant environmental issues associated with this proposed mine. These issues should be resolved before this mine is approved by the Minnesota Department of Natural Resources and the U.S. Army Corps of Engineers.

G1,G2C,G11

3285 For 15 years, I've worked as an environmental scientist specializing in trace metals pollution in numerous matrices - primarily surface water. Most of my work has been on behalf the State of California. For decades, that State has spent an alarming amount of resources studying and remediating the effects of ongoing mining. Of particular importance is the fact that the majority of this mining occurred in the mid- to late-1800s. The profits resulting from the proposed mining could never match the expense of monitoring and remediation for centuries to come. Nor could they ever justify the inevitable loss of the habitat, food, and recreational resources that your organization seeks to protect. Finally, this issue is as much about Polymet as it is about the mining projects that will likely follow. Please don't encourage such projects by setting a short-sighted precedent.

G2C,G8C,G11

**Sender Last Name:**    Hagenah

**Submission ID:** 1531

1862 Please accept these comments on the PolyMet Mining Corp. NorthMet mining project Draft Environmental Impact Statement. It seems some people with some power are very shortsighted.I have serious concerns about the safety of this project and its potential impacts on Minnesota's natural resources.These people need to watch Avatar. It's the same thing!!

EOO

1863 The PolyMet DEIS describes significant environmental issues associated with this proposed mine. These issues WON'T be resolved BY THE MONEY HUNGRY MINING COMPANIES!this mine MUST NOT BE approved by the Minnesota Department of Natural Resources and the U.S. Army Corps of Engineers.

EOO

**Sender Last Name:**    Hager

**Submission ID:** 1201

1316 The Boundary Waters has been a major part of my life. I have grown up canoeing in the Boundary Waters and would like to continue to enjoy its beauty. I was very disturbed and concerned about the current situation with sulfide mining near the wilderness area. If this were to happen, it would be truly catastrophic for the environment, and those of us who enjoy. I ask that you stop this new mining proposal and keep the Boundary Waters clean.

EOO,G11

**Sender Last Name:**    Hairtson

**Submission ID:** 1160

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
1275	We cannot become another West Virginia! Mining interests have no concern when it comes to the environment. A mine on the steps of our most treasured parks in the state should not be allowed. The record of mining industries is riddled with broken promises and years of clean up and public dollars used to mend those broken promises. People come from across the world to visit our state & its natural resources and environmental treasures. This mine is a bad idea and should not be allowed.	EOO
<b>Sender Last Name:</b> Halas		<b>Submission ID:</b> 3439
40	Further, the PolyMet NorthMet project will result in total loss of 1,454 acres of federally designated critical habitat for two endangered species known to be in the vicinity of the mine site – the Canada lynx and the gray wolf. Finally, cumulative impacts must address the loss of revenue to the Boundary Waters Canoe Area Wilderness and Superior National Forest tourist industry as part of a sulfide mining district.	WI1,SE4
1314	PolyMet proposes to use an existing mine tailings basin for the disposal of its tailings and toxic materials – but that the basin already has stability issues making it unsafe. Any failure of this basin to hold its contents would result in long-lasting and serious contamination. PolyMet should complete a stability analysis of the basin and devise an acceptable design before being able to proceed with this project.	WR2D,GT2
1942	Water quality impacts are a top concern. I cannot understand how it could be considered acceptable to allow for up to 2,000 years of environmental impact for the short term gain of one company. Who will pay for the long term treatment required? PolyMet has few assets and little financial history. The DEIS fails to address where the funding will come from to pay for post-closure treatment, monitoring and maintenance. As a result, it seems likely that Minnesota taxpayers may have to pay millions of dollars to clean up after PolyMet has gone. It is grossly irresponsible to, in all likelihood, leave future generations with a massive cleanup debt in exchange for immediate benefit to a private company. In addition, the DEIS predicts that contaminated waters will be discharged from the mine site into the Partridge River after the mine's closure, as well as tailings basin discharges high in sulfate concentrations. High sulfates can turn mercury into forms that make fish dangerous to consume. It is unacceptable to proceed with a mine that already predicts these kinds of pollution outcomes.	EOO,WR3I,PD2,FM1,FM4
<b>Sender Last Name:</b> Halbach		<b>Submission ID:</b> 3306
1054	The NorthMet project will have contaminated discharge from waste rock piles, there will be contamination from the west pit, water discharge will be high in sulfate, there isn't a reliable wetland water treatment plan, there will be a loss of critical wildlife, and will have a negative affect on ecotourism. Please reconsider the project.	EOO,WI2,WE6,SE4
<b>Sender Last Name:</b> Hall		<b>Submission ID:</b> 3652

*Alphabetical by sender's first name*

<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
1	<p>I strongly support Polymet's proposed NorthMet project in St. Louis County. Given the extensive evaluation in the DEIS, it is clear the project can proceed in an environmentally safe and sound manner. Any environmental concerns have been, or will be addressed in the EIS, including public input. It is clear that the regulations governing non ferrous mining in Minnesota are some of the most stringent in the world, and will ensure the project proceeds in an environmentally sound fashion. Misleading concerns have been raised. One example is the proximity of the project to the BWCA even though it is miles away and in a separate water shed. Such concerns should be treated as not applicable. The country is in the midst of the most serious economic downturn since the Great Depression. Northern Minnesota has been hit hard. It seems out of state interests have little consideration for the economic well being of Minnesotans. An economic development such as NorthMet would have a strong positive impact on the region and the state. Development of the non ferrous resources in the Duluth Complex would provide an economic base in addition to iron mining, for perhaps more than the next 100 years. This would diversify and could help the regional economy during fluctuations in the ferrous industries. Other examples of the positive economic impact from development of the NorthMet Project are: . It would improve our trade deficit, with many countries. . The country would no longer be dependent on importing elements such as nickel for stainless steel, copper for transmitting power from wind turbines, platinum for catalytic converters etc. . It would provide greater employment, add to income tax revenues, and relieve some of Minnesota's burden from social programs such as un-employment benefits. . The project is expected to generate 400 jobs, including high paying technical jobs rather than minimum wage employment. . Increased tax revenues would help address the state's current budget deficit, and possibly present the opportunity to decrease income tax. . Royalty revenues to the Minnesota school system, would provide for better education without increasing the tax burden on Minnesotans. . The money generated would be new money, not just the recycling of existing dollars. . The spin off economic benefits would impact the entire region, including suppliers and services, not just the mining industry. Positive environmental impacts would be: . Fewer greenhouse gases would be created by not having to transport (import) materials from other parts of globe. . Mineral development done domestically would be done in a safe and environmentally responsible manner. Alternatively, the copper, nickel etc. that we consume, would be mined in other jurisdictions, without the same environmental checks and balances, then transported here. The result may well be the un-checked release of pollutants into the atmosphere only to be deposited back here in the USA. . The project as proposed would ensure the rehabilitation of the site to an environmentally suitable condition. . The location is largely within an already disturbed mine site, minimizing the impact on existing forests. The EIS exercise demonstrates the NorthMet project can be done in an environmentally sound manner. The country needs the metals and materials this development would produce. The country would be better off if we did not need to import these materials. In addition, Minnesota needs the highly skilled, well paying jobs the project would provide, and the tax and royalty revenues. That being the case, the project should proceed without unnecessary delay.</p>	EOO
<b>Sender Last Name:</b>	Halvorson	<b>Submission ID:</b> 1556
1909	<p>My name is Charles Halvorson and I am a long-time visitor to the BWCA. I am concerned about the PolyMet project because I do not believe that this corporation is principally concerned with protecting and maintaining the wonderful natural resource that we have in the Boundary Waters. PolyMet has made statements to the effect of protecting against environmental degradation but they are a profitdriven corporation and inevitably there will come a conflict between the bottom line and environmental preservation. The Friends of the Boundary Waters assessment indicates the risks of the PolyMet mine will be present for 2,000 years. There will be degradation in that time period - surely sooner rather than later. If you vote to approve this process, you are permitting this degradation. There is no other way to construct your culpability. Hiding behind the rhetoric of the PolyMet corporation, placing blind faith in that corporation's claims, is an act of willful ignorance, you are underestimating your own intelligence and you are doing it to serve the interests of the few.</p>	EOO,G8B,G11
<b>Sender Last Name:</b>	Hammer	<b>Submission ID:</b> 3653

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
1	I grew up in Minnesota (although I now live in Montana) and am a property owner in Lake County. I am also an environmental scientist. I do not oppose the mine and I recognize the desire for jobs in this economy. However, I urge you to review my comments and also to pay special attention to the very pertinent comments submitted by the Cooperating Tribes. I would like to highlight two of these concerns: 1) Liners; and 2) Financial assurances.	G15
2	1) Lack of Required Liners The proposed action is located near the Partridge River and in a wetland area. These are sensitive ecosystems. I am concerned about the potential impacts of this mine on the river and wetland ecology. I am particularly concerned that the Minnesota Department of Natural Resources and the US Army Corps of Engineers would consider allowing a project of this magnitude to proceed without requiring that the tailings basin, ore pads, or pits be lined. This is a reasonable and prudent best management practice.	WE3
3	2) Need to require financial assurances from the Company The proposed project is large and potentially very profitable. It is standard practice to require financial assurances before an undertaking like this is permitted. Minnesota should protect its resources --- and its taxpayers -- by requiring financial assurances from the Company. Otherwise, if something does go wrong, Minnesota, and possibly US taxpayers will be left footing the bill as has happened at so many other abandoned mine land cleanups across the	PD4

**Sender Last Name:** Hancock

**Submission ID:** 1268

1445 I am writing you to request your help in a matter urgent to our environmental safety as Minnesotans. The Boundary Waters, the largest wilderness area east of the Rocky Mountains (over 2 million acres), is under threat from a foreign mining company. PolyMet, a Canadian mining company, intends to commence exploratory sulfide mining for precious minerals in the bedrock underneath a crucial section of the Boundary Waters where the contaminated waste water would actually cycle back into the Boundary Waters miles from the source of contamination. The Kawishiwi River forms Birch Lake near the site of the proposed sulfide mine, then flows back into the wilderness area affecting large portions of the rest of the wilderness area. In a sense, the contamination at this single point could contaminate vast stretches of the Boundary Waters Wilderness Area. The process of sulfide mining produces acids and heavy metal runoff that are unlikely to be contained in any sufficient manner. These toxins threaten to affect all forms of life that seek refuge in the pristine wilderness, including sport fish, birds of prey, loons, aquatic plants and invertebrates, and even higher mammals, including humans. Sulfide mining is NOT just another form of mining. Unlike iron, which can be extracted from the earth with very little toxic by product, the mining of ores like copper require some nasty compounds that will continue to leech into the watershed long after the copper is no longer "profitably extractable." The Boundary Waters are our State's pride and we cannot afford the catastrophe that is unfolding. There will be no going back, we cannot dismantle the damage that will be done. We will be left to explain to future generations why we allowed a single company to destroy the land that has remained pure for thousands of years. The Boundary Waters are the homeland of the Ojibwe, they are the biggest canoe destination in the world, and the Boundary Waters are the pristine home to an entire, unique ecosystem. We would be destroying the most pure and beautiful thing in our state for the shortsighted profit on a non-renewable resource. I have a personal tie to the Boundary Waters as well. I work for Outward Bound, teaching students life skills like leadership, selfsufficiency, and communication. The Boundary Waters are my classroom. If fear we will no longer be able to drink from many of the lakes within the Boundary Waters and therefore I will no longer be able to teach in the BWCA giving these students life changing experiences. Please use your voice to speak out against this proposed PolyMet mine. This is a decision whose affects (either way) will be felt for generations to come. I just hope that 150 years from now people will be remarking on the foresight we had to protect such a gem, not heartbrokenly observing a toxic wasteland.

**Sender Last Name:** Hannah

**Submission ID:** 3202

3538 I believe that PolyMet should not be allowed to develop this land. There work could potently harm the environment and cause pollution and damage.

*Alphabetical by sender's first name*

**Comment ID    Comment Text** **Theme Codes**

**Sender Last Name:**    Hannig

**Submission ID:** 1173

1288 I am writing this comment to express my disapproval for the sulfite mining propositions in Northeastern Minnesota. The boundary waters preservation area presents an incredible opportunity for education, relaxation, personal growth & sustainability in the local economy. There is overwhelming evidence that the introduction of a sulfite mine would cause disastrous consequences on the pristine environment that past generations have worked so hard to maintain; dismissing their efforts to allow for temporary gain from sulfite mining would be a disgrace not only to our past but to our future as well.

EOO,G11

**Sender Last Name:**    Hansen

**Submission ID:** 2182

1808 Water and air quality monitoring—The MPCA and USEPA have been understaffed and underfunded in recent years. A project of this scope with untested and unproven processes would require substantial, consistent monitoring to ensure the watersheds are not being polluted. The DEIS enumerates several anticipated water quality concerns for the immediate area surface water, groundwater, wetlands and the greater St. Louis River Watershed (which empties in to Lake Superior) both during the mine operation and after closure. In addition to monitoring there needs to be public access to monitoring data.

WR1A,AQ5

2002 Long-term financial guarantees—Mining projects similar in scope to this project have left enormous economic burdens on the surrounding communities resulting from environmental degradation and social impacts, especially after closure of active mining. Polymet talks of long-term jobs being for 20-years. In the life of a community that is very short-term. Our communities are suffering enormous financial burdens that are peaking now due in part to the closing of iron mines over 20 years ago and the resulting loss of families raising children in our area. The mining companies involved must be required to put sufficient funds into escrow for both environmental and social impacts. These companies who have no local ties must be held accountable for their impact as they reap what must surely be enormous financial gains to warrant the level of investment shown in just the exploratory phase of the project.

PD4,G1

2587 I have lived in Ely, Minnesota for over 20 years and would like to express my concern about the proposed Polymet mining project in northern Minnesota. As a parent of two school aged children, I understand the need for jobs in the area and thus more children in our schools. However, I also understand the costs to our environment and lifestyle if the permitting process goes through quickly without high environmental standards. I will take small schools and fewer jobs over long term environmental concerns. I ask you to take your time with your decision and consider looking more closely at how to effectively Minnesota can maintain high environmental standards for the Polymet project and future mining proposals. There are several critical concerns not addressed by the Draft Environmental Impact Statement. If this project is allowed to go forward, my primary concerns are as follows:

G1,G8

2588 History of environmental degradation resulting from similar mining—several states have a moratorium in place on this type of mining because it has resulted in such horrendous environmental degradation everywhere it has been tried. Wet environments are far more impacted by the release of sulfur and mercury than dry environments. Polymet claims they have a new procedure that will limit the environmental impact. Is one of the last great freshwater systems in the world the best place to test this new science? The reality is we use the products made from these ores and we should ensure the mining is done safely. The DEIS indicates more needs to be required of Polymet to ensure that the mining will be done safely for the people, plants, animals and environment both during the active mining period and well in to the future.

G2,G12

3169 Please do everything you can to keep our beautiful boundary waters area free of anything that will pollute the soil, air or water. Take no action that will damage that area in ANY way!

G2,G7



*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
3916	As a sportsman in NE Minnesota, I am naturally concerned about the environment and how its air, land and waters are being affected by the industry in this area. As a resident of NE Minnesota, I am also concerned about our economic conditions and the creation of new jobs. I welcome Polymet Mining's NorthMet Project to our area. The jobs it will create and the economic benefit created by these new jobs will have a positive effect on Minnesota's and the Arrowhead region's economy. I have faith that the environmental guidelines put into effect by the US and state governments will be met by Polymet. I believe that the impact to the air and waters will be minimal if any at all. And I believe that Polymet has shown that it will follow Minnesota's environmental guidelines. Polymet will provide us with a local supply of raw materials used by 'green' manufacturing for electric cars, catalytic converters, the medical industry and more. Some foreign suppliers do not necessarily follow the environmental practices followed in the United States. I support Polymet Mining's NorthMet Project and welcome their presence in NE Minnesota. Sincerely, Eric	EOO
<b>Sender Last Name:</b> Hanson		<b>Submission ID:</b> 152
143	And I support the PolyMet Project. And I'm glad to see that they have spent a lot of time and money to do their environmental review. We definitely need good paying jobs up north. And I like to see that we are doing these jobs locally, you know. We're not going overseas where they don't have the environmental controls that we have here. That's about it. Thank you.	EOO,G6
2616	Pension Benefits. And I have seen the effects of no jobs in northern Minnesota for these guys and for people struggling to keep healthcare for their kids because there is no work out there and I would just love to see some jobs in that area, absolutely love to see it. Actually, my husband has been following PolyMet since I think day one. I wasn't really interested in the first part but now he has got me going on it, too. It just sounds like they are doing everything right. I just can't imagine why we shouldn't have it there. It sounds like a great company. It sounds like they have done their research and we need the jobs and I think it is time we go with it.	EOO
3242	I am concerned about the impact on fish and wildlife of the proposed PolyMet Mine in Superior National Forest and urge you to better analyze the proposed mine. I own a 40 acre historic Finnish immigrant homestead in the Superior National Forest on Little Creek Road in Brimson, Minnesota. My property is included in PolyNet's mine site. I do own the mineral rights to my 40 acres which puts me in a very precarious position.	G2C
3258	River. This is a positive benefit. However, we cannot forget that the root worry is the relatively high sulfate concentrations in the seepage. We MUST avoid the end result of a "Cumulative increase in sulfate loadings to the Partridge, Embarrass and St. Louis River." It is well known that the sulfate in mine seepage is essentially the cause of the Acid Mine Drainage (AMD) that we must avoid at all costs. So, discharging this sulfate laden seepage water into the Partridge River raises a critical concern: this discharge could cause AMD in that watershed. Water with relatively high sulfate concentrations should NOT be discharged into any of our natural rivers due to the real risk of AMD. The Partridge River (if it is healthy) contains oxygen, which would react with the sulfate seepage to produce acidic conditions in the river. It would be disastrous to avoid one problem (the creation of methyl-mercury) by creating another (sulfuric acid in the Partridge River). The suggested demonstration testing of a PRB or a constructed wetland at a location north of the Tailings Basin is good, but not good enough. A commitment should be made to treat nearly all of the seepage flow with a passive PRB, bioreactor with SBR and/or constructed wetland. The testing could determine which is the best alternative and location for treatment. But these relatively high sulfate concentrations in the seepage water must be treated to avoid AMD. The same treatment could also be used for the West Mine Pit outflow thereby eliminating the uncertainty of AMD resulting from this outflow. Polymet must be required to avoid both methyl mercury and AMD contamination from their operation in all of the related watersheds. Otherwise, the mining should not be done.	WR4F,WR5A,WE8

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
3588	precious natural landscape and water resources--and potentially expensive for the state. The type of pollution created from this type of mining (acid mine drainage) has disastrous consequences. Other states have learned the consequences the hard way. Let's learn from their mistakes. Upon review of the Draft Environmental Impact Statement for this project, I find Polymet's pollution prevention and reclamation plans dismal. This project needs to be looked at with great concern and diligence. More separation is needed between the stockpiles and overburden areas and the surrounding water resources. This area is also vulnerable to invasion by non-native plant species, which occur within miles of the project. This area of the state is one of the few that is not completely overrun with invasives. More provisions for the use of native plants and the prevention of colonization by invasives is needed in the EIS. More project alternatives need to be explored. Polymet, which by the way, is a foreign company who will likely bring in many of their own labor instead of creating jobs in the state, will not be able to stop all of the pollution as a result of this project. I urge you to help put financial assurances in place to ensure that Polymet will pay (UP FRONT) for any negative environmental consequences of this project and for increased monitoring many years after the project is proposed to end. The cost of monitoring and cleaning up after a project like this ranges in the tens of millions and is not something that the state can --or should-- pay for. I urge you, please to not let this project compromise our state's unique natural treasures and deprive the state's citizens of the healthy natural	EOO,WR1E,WR3A,PD3,PD
<b>Sender Last Name:</b> Hanson, Hanson		<b>Submission ID:</b> 3702
1	I did not find within the summary any indication of what process and standards are being used by the MnDNR and the ACE to prepare this DEIS. They do discuss the areas considered but it is difficult to know who they consulted on what area. Further, use of technical terms such as beneficiation plant, hydrometallurgical plant. Class 1 areas PM 10 increment are technical terms which make specific responses from the population difficult. The use of such terms makes the document appear so technical that it discourages people from making comments on the document and decision. This is in conflict with the purpose of solicitation of comments from the public.	EOO,PRO1,PRO6,G10
1	I also find that to be poor utilization of tax dollars and staff time to have 2 DEIS prepared. On other actions I have been involved with, I am aware of the MnDNR has not been forthcoming with what standards they are using for the preparation of Environmental Impact Statements. They have appeared to rush through the process in order to effect the result they wish to occur. In those other actions, one branch of the MnDNR, has not consulted with other branches of the MnDNR that have knowledge that would be important to consider. I see no evidence that other branches of the MDNR have been consulted on such issues as water quality, contamination of aquifers, amount of water use, reuse of water, air pollution, etc.	G10
2	The importance of evaluating the impact of additional sulfate on these down stream aquatic systems is underscored by the acceptance for peer review by the Minnesota Legislative Commission Minnesota Resources (LCMR), of a research proposal to study sulfates and mercury methylation in the estuary in the summer of 2010. This proposal, 028- A3, Mineland Sulfate Release in Saint Louis River basin has been accepted for peer review. The expected Result: "A series of recommendations and supporting documents that state agencies, decision makers and other stake holders can rely on to help manage sulfate releases to the St. Louis river". The DEIS and any permits relating to sulfates will be completely inadequate until that study is complete. (10)Will permits be issued before that study is completed?	RFI

*Alphabetical by sender's first name*

<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
3	<p>When we leave the area of influence of the Iron Range mines, from river mile 100 on down, the sulfate concentration gradually diminishes, due to bacterial reduction and dilution and probably other factors. At the mouth of the river in the St Louis River Estuary, it has been diminished enough so that a few remnant stands of wild rice appear after a 150 mile absence. According to Jerome Blazevec, a life long trapper in the estuary, the wild rice stands have gone from being the best in the whole area to just surviving in some bays and completely gone in others. The estuary wild rice crop is failing and the Fond du Lac Band, along with the Wisconsin and Minnesota DNR, have been trying for the last decade to restore it to its original vigor. So far they have had limited success. The sulfate standard for Class 4A water bodies of 10mg/L is sometimes exceeded in the estuary in modern times but is not exceeded in Pokegama Bay which is isolated from St Louis River water. Pokegama Bay has the only highly productive wild rice bed left in the estuary. The Schedule of Compliance, dated November 2007, between United States Steel Corporation and the Minnesota Pollution Control Agency, suggests appropriate boundaries for a detailed investigation and analysis in the PolyMet environmental review process. That Schedule stipulates that U.S. Steel shall model sulfate concentrations in the St Louis River and that "Modeling shall be done to the St Louis Bay." (21) Since the St Louis Bay is the site of well-documented decline in wild rice production, it only makes sense that PolyMet, the biggest sulfate generator proposed for this watershed, must be required to model cumulative sulfate impacts all the way to the Bay. Will that be done in the EIS?</p>	WR5A,WR5C
4	<p>The remnant stands of wild rice in the Partridge, Embarrass and St Louis Rivers must be protected with enforcement of the Minnesota Wild Rice Standard. Detailed investigation correlating wild rice conditions with sulfate concentrations and modeling impacts of the PolyMet project on wild rice throughout the entire chain to Lake Superior must be included in the draft EIS. Anything less would be a betrayal of the rights of Minnesota citizens and tribes who harvest and eat this valued wild grain and the waterfowl that depend on it. Minnesota Rules, part 7050.0224 subpart 2, addresses water quality as it relates to wild rice as follows: Sulfates 10 mg/L, applicable to water used for production of wild rice during periods when the rice may be susceptible to damage by high sulfates. The Lands and Minerals Division of the MnDNR, along with PolyMet, appear to have used a "boogey man" known as perpetual treatment to dissuade themselves from meeting the State Wild Rice Sulfate Standard. Instead of living up to State Standards, as you and I always have to do, they have developed a convenient but illegal strategy to try to bypass the standard. One of several examples will illustrate this strategy. On page 3-61 of the DEIS we read in table 32-3 Screening of NorthMet Individual Mitigation Measure Combinations, that combination C-1, which includes Water Treatment(long term), meets the purpose, is technologically feasible, and economically feasible but is judged regulatorily not feasible. No other rationale was given to reject the only viable option for reducing sulfate sufficiently to meet the Wild Rice Standard, except that it "would require long-term treatment." This is basically perpetual treatment. There is no defining of the statutory basis for the supposed lack of regulatory feasibility. What we have instead is a vague Minnesota goal of maintenance free closure, which is, of course, a recipe for disaster in a project this large, this dirty and this wet. This vague goal trumps good science and the State Wild Rice Water Quality Standard. (22) The EIS must address this dichotomy straight up with clear definition of "Regulatorily feasible" and the goal of maintenance free closure, and how they intend to get around the problem of meeting the Wild Rice Standard of 10 mg/L without long term Waste Water Treatment.</p>	WR4C,WR4F

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5	<p>The Wild Rice Standard has gone through the proper public Rule Making process and is a Minnesota Water Quality Standard that would require a Use Attainability Analysis or a Rule Change process to avoid compliance. No mention of either process has been mentioned to date. Therefore, the EIS must outline mitigation strategies wherever there is the likelihood of violating the 10 mg/L Standard in the Partridge, Embarrass or St Louis Rivers. The MPCA has used the sulfate standard in past permitting activities (MINNTAC Schedule of Compliance, 2008) and therefore, anew, untested startup company should be held to the same standard. This EIS has a huge sulfate problem. The contaminated leachate at closure from the PolyMet tailings basin alone is 7,000,000 g/d. If you do the math, you get 3,756,000 pounds of sulfate per year pouring out into our aquatic systems. Whether it is directed to the Embarrass or to the Partridge River, the conclusion is the same. To protect wild rice and avoid unnecessary methylation of mercury, that leachate must be and can be collected and treated.(refer to table 3.2-3 C-1) There are several options for treating leachate from basins and mines sites that must be addressed in more detail. First, is the use of a Permeable Reactive Barrier. Because this is an unproven technology, it needs to be tested immediately on the present leachate. That hasn't been done and the EIS must give some guidance on a timeframe for this testing. Second, is the use of ultrafiltration, as is being done at Minntac. Third, let me quote from page 8 of Environment and Natural Resources Trust Fund, Research Addendum for Peer Review, Michael E. Berndt, Project number 028-A3: "one relatively new method that is receiving recent attention elsewhere (e.g., Park, 2008), but which has not been used on the Iron Range, involves in situ treatment of sulfate in mine pits. This method involves addition of organic carbon and iron to promote biological reduction of sulfate to sulfide and subsequent precipitation as iron-sulfide." This deserves a discussion in the EIS. Finally, as mentioned in the first paragraph of page 4-1-148 of the DEIS, "If determined to be necessary based on actual seepage water quality, the treatment plant would be required." It also mentioned that this provision was not "included in the water quality modeling that was conducted." (23)Why not? That admission alone should be grounds to reject the adequacy of the DEIS. How can the permiters evaluate what would trigger this option without the necessary water quality modeling?</p>	WR4C,WR4F
5	<p>The following question may not please the foreign corporation or the DNR Lands and Minerals Division that are pushing this project. With regards to toxic leachate that exceeds state water quality standards for manganese, aluminum, mercury, arsenic, sulfates and others, it appears we have two choices: 1. Long term treatment, (it could be hundreds or thousands of years, therefore, perpetual treatment) or 2. perpetual pollution. (24)Which will it be?</p>	G7B
6	<p>State, county, township and tribal governments spend millions of dollars each year to control beaver problems. They are not very successful because they will have to do it again next year. This relates to the PolyMet proposal in that they also will have to maintain a complex system of water management. Even though every rural citizen of Northern Minnesota understands the complexities of living with beaver colonies, the writers of the DEIS didn't get it. In this wet environment, the DNR, Army Corp and PolyMet have to explicitly outline what practices will be implemented to kill beavers that dam up flowages and build bank lodges in dikes and ditch banks. Also, the EIS should mention that control of beaver colonies will have to be done in perpetuity. Another beaver problem that was not discussed is the impact the beaver ponds have on mercury methylation and how we can legally control these beaver colonies. On page 424 of the DEIS it says, "There are many beaver dams along the entire length of the Partridge River". I am only familiar with the large dams on the lower Partridge River but I don't doubt they extend all the way to the headwaters and on any small sub-watersheds along the way. If the dams are left intact, the ponds will be methylation hotspots with organic carbon, low oxygen, mercury in sediments, sulfate reducing bacteria and in this river, a surplus of sulfate from mines and tailings basins. In other words, everything that is needed for methylation is present. However, if you decide to blow those dams you will get a rinsing of methylmercury as appeared to have happen on Second Creek. (24) Again, this problem will be around for the next hundred years and needs to be addressed in the EIS.</p>	WR1E,WI2,FM1

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**Theme Codes**

- 7 Finally, the beaver impact on wetland treatment operations needs to be addressed. Beaver can find and obstruct even very subtle flows and could turn wetland treatment facilities into a methylation hotspot. At this point, I would like to address the adequacy of the models used in the DEIS, from the perspective of the data that is used as input. I will just address a few inputs in which I have expertise as a biologist. Others will have to judge the validity of the mathematical processes involved. With regard to input there seems to be a consistent weakness that reflects lack of rigor in actual field generated data. It appears that the consultants ran into some sort of shortage of hip boots or maybe mosquito dope. Generating numbers on a map with a computer is easy, field work is hard. My first example will be the black sandshell, *Ligumia recta*. It's preferred substrate is gravel or firm sand in riffles or raceways. Mussel sampling was done by Heath(2004) and showed only one species, *Pyganodon giardis*, found in the Partridge River. However, in October of 2009, four of us put on our boots and went out to sample on the Partridge River and found *Ligumina recta* at 47 degrees 29.611' North Latitude and 92 degrees 13.736' West Longitude. That is about 100 meters upstream from the mouth of the Partridge River and on the right side. Why were able to find *Ligumia recta* in the Partridge River and PolyMet couldn't? We looked in this species natural habitat and they didn't. They should have because *Ligumia recta* is found in the St Louis River Basin (table 4.5-1 of the DEIS) is a Species of Special Concern in Minnesota. In section 4.5.1.1 of the DEIS we read that the Minnesota Comprehensive Wildlife Conservation Strategy identified *Ligumia recta* as a Species of Greatest Conservation Need. It is also listed as Nearly Threatened on the IUCN (International Union for Conservation of Natural Resources) Red List. The two Partridge River sampling sites identified in Table 4.5-2 of the DEIS show the only places mussels were sampled. The substrate is primarily silt and boulders. It would be a good place to go if you didn't want to find *Ligumia recta*. I am not saying that they deliberately sampled the two areas that were most unlikely to produce threatened species, but obviously, the sampling design was inadequate and any conclusions drawn were inadequate. The fault may be twofold. First, is just the simple lack of enough samples. Second, in the context of setting up the design of sampling we read in the RS26 document under 2.1 Method, that Partridge River Rosgen "Level 1 classification was performed based primarily on 2003 aerial photography. That is not adequate to set up the sampling regime for mussels. Two poorly chosen sampling sites missed an important indicator species that could be threatened by this proposal and the alternative proposal. Mussels are sensitive to sulfate levels. Copper sulfate is widely used to kill mussels. When that doesn't work, calcium arsenate does. (25)With all the calcium and arsenic and copper and sulfate leaching out to this mine site, the EIS must address the impacts on *Ligumina recta* in the Partridge River, or it will be inadequate.
- WI2,WI2,FM1,FM2

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Comment ID	Comment Text	Theme Codes
8	<p>I have been a science teacher in Cloquet, Minnesota for 40 years. I was able to take my students on hundreds of field trips. We visited, on a regular basis, the plant and animal communities of three North American Biomes, as defined by the National Hierarchical Framework of Ecological Units. (ECOMAP 1993) They are the Eastern Broadleaf Forest, Northern Conifer Forest and only 60 miles to the west, an Oak Savannah Prairie Grassland. The transition zone, which includes all of the Iron Range, is called the Laurentian Mixed Forest. To the south and east stretches the Eastern Broadleaf Forest all the way to the Atlantic Ocean. To the north lies the Boreal or Northern Conifer Forest and to the west lies the Prairie Parkland. Biomes are climate dependant. As climatic zones move, biomes move. The climatic underpinnings of our present biomes are shifting to the north. How does climate change relate to the PolyMet proposal? According to a Nancy Schuldt email of 5-8-2008 to tribal, state, federal staff with attachments, the "Federal Court Requires Wildlife Service to Analyze Climate Change Effects during ESA consultations" and "Ninth Circuit Court Requires Climate Change Analysis during NEPA". I fail to find any reference in the DEIS of the interaction of global climate change and movements of biomes, and especially how this proposal impacts wildlife corridors that are necessary for that movement. Let me show you what that analysis should include. Last year Frelich and Reich, from the University of Minnesota, published a paper in Natural Areas Journal. They listed tree species that are likely to disappear from Northern Minnesota because of climate change. These trees were: balsam fir, black spruce, white spruce, jack pine and red pine. The southern edge of the black spruce range could shift 300 miles to the north. What will replace it? In prehistoric times, the Eastern Broadleaf Forest moved north as the Boreal Forest withdrew. We should expect that to happen again. That brings us to the analysis of corridors through which all the thousands of species associated with the Eastern Broadleaf Forest must move if it is going to replace the receding Boreal Forest. Like the popular press, the DEIS addresses corridor impacts for large mammalian species. I don't worry so much about corridors for them. Moose, wolves, cougars and even animals like the opossum have shown that they can move quickly into new habitats and, in fact, can be found in several different biomes. Most of the emphasis in the DEIS corridor impact analysis is on these mobile species. The Emmons and Oliver report commissioned by the Minnesota DNR in 2006 concludes that there may be significant cumulative effects to the mammals they studied. I will show that the DEIS must address the cumulative effects on corridors for organisms that are much less mobile and there many of them. To understand the importance of corridors we need a continental perspective. The bulk of the land in North America east of the Mississippi is the Eastern Broadleaf Forest. To the north of most of that forest lies the Great Lakes. If you measure the width of the Eastern Broadleaf Forest at its northern boundary, you find that about 75% of that boundary is the Great Lakes, which effectively blocks movement of most plants and animals. There only two significant corridors through which most of the plants and animals must migrate if they are to move north. The widest corridor to the north is from Watertown, New York, at the east end of Lake Ontario, to the Atlantic Ocean. That corridor is tremendously impacted and restricted by human activities. The corridor around the west end of the Great Lakes is much smaller but, fortunately, the forest ecosystems are more intact. It extends to the west from Lake Superior for about 200 miles and we call it the Laurentian Mixed Forest. For over 100 miles this important corridor is almost completely obstructed by the Mesabi Range and associated human activities. Therefore, any re</p>	WI2,WI5,AQ3,AQ4B
9	<p>I just happen to know the ecology of the wood turtle from a life time of watching them when I am on those waterways. Also, as a member of the St Louis River Board's Citizen Advisory Committee, I worked with many others, including DNR non-game wildlife personnel, to devise a Management Plan that would protect the wood turtle. It is instructive to look at what the St. Louis River Management Plan has to say. On page 46 under Threatened and endangered species and critical habitat, it says, "Where these species are known to occur, management activities should be evaluated and if necessary, the area placed into a Unique Protection Area. There are some habitat components which provide critical food and cover for wildlife in the watershed. These habitats should be maintained or increased, if possible. They include: 7) Wood turtle habitat." Under Wood turtle Management we read, "Specific management guidelines for the wood turtle include: 2. route roads at least 330 feet (100 meters) from stream channels. Road beds should be vegetated and paved at stream crossings to reduce their attractiveness to nesting females. Protect cutbanks, which are prime nesting areas for wood turtles, by making sure that all stream bank restoration programs and erosion control projects with reaches along the river likely to contain wood turtle nesting habitat are reviewed by DNR Non-game Wildlife Program". (27) These reasonable management strategies must be addressed in the EIS.</p>	WI2

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10	In Section of I.A., the transportation of ore was cited but there was no indication of how and the rock waste would be transported from the mine to the processing facilities until later in the summary. Since mining is a dusty business at best, it is foreseen that there could be a lot of dust that could be distributed on the trip from the mine to the processing plant regardless of transportation method. It is assumed that the dust would settle on vegetation which would be killed by the sulfuric acid formed when the air and water hit the dust. This spreads the area of contamination over more of the site than spoken of in the DEIS.	PD7
11	In section I.C., it is stated that the MnDNR is the Responsible Governmental Unit (RGU). This is hard to follow since the Forest Service is the holder of surface land. Apparently the State of Minnesota auctioned off the mineral leases at some point. None of this is explained so it is not an easy leap to see how the MnDNR is the RGU. It would have been helpful if (Minnesota Rules, part 4410.4400, subpart 8) had been quoted here. Most citizens do not have ready access to such state rules nor they do they have easy access to the portion of the full document to sort through for the rule. It is unknown if it is cited in the full DEIS. Again this makes the document very difficult to make comments on.	PD1
12	In Section I.D. the Minnesota Pollution Control Agency and the Minnesota Department of Health are not formal players other than reviewing documents apparently. Since the potential for contamination is so great to both surface and groundwater, it is puzzling to me that they are not more involved in both the DEIS and in monitoring the contamination that will result.	G10
13	In II.C. There is some discussion of air quality. For years, the lakes and rivers have received heavy concentrations of acid rain that have been changing the quality of these resources. We need good monitoring of the effects by some one. It does not really address this oversight and who will be responsible for this monitoring of environmental effects.	AQ4D,AQ5
14	In Section III.A. some of the questions that I had noted previously are partially answered but we are left with new questions. On the 5th bullet point Construction and Operate a Tailings Basin. Perhaps some will remember the failure of the Tailings Basin at Lax Lake which allowed many hundreds of tons of tailings to wash out of the Basin and covered thousands of acres of property in addition to covering Highway 61 many feet deep in tailings. The tailings went all the way to Lake Superior. Those tailings, while full of asbestos, were not as destructive as these mine wastes will be to the environment. These mine wastes will need special recovery techniques and the question remains, who will be responsible? This section does not state who will be in charge of seeing that the closure and its monitoring is done. Again in bullet point 7 a lot of technical jargon is used so that it is difficult to tell what is being talked about.	PD3,PD4
15	In Section III.B.1 Proposed Action Description-Mine Site Discussion is held about holding Category 1 and 2 Waste Rock subaqueously. I did not see where the possible contamination of ground water was addressed. The dikes and ditches would capture some of the runoff which would be taken to the WWTF by the CPS. Once again there is a lot of mining jargon so that one cannot make reasoned comments on this action. In the Plant Site section in the last paragraph on page S-8 this area was not noted on Figure S-2. Also in the continuation of the Plant Site section, the second paragraph on page S-9 is full of mining jargon that is difficult to interpret.	PD2,PD5
16	Aside from direct impacts on native plants and plant communities, impacts on water resources need to be addressed further. Hydrologic conditions form the basis of entire ecosystems, and hydrologic forces and characteristics shape entire landscapes. As such, impacts to water resources have a much broader and longer-lasting environmental impact. NorthMet Project Draft EIS does not recommend commensurate actions and/or alternatives to mitigate such serious impacts. The type of mining proposed would leave behind sulfide-containing waste rock and may result in acid mine drainage. Stockpiled material also poses a significant threat to surface water and groundwater, beginning with the Partridge River and the entire St. Louis River Basin. The project would involve direct and indirect impacts to ,...,1,522 acres of wetlands, most of them ranked as high quality. This would be one of the largest wetland impacts in Minnesota history.	WR1E

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16	While peatlands cover only 3 percent of the Earth's surface, they store 550 gross tons of carbon, which is equivalent to 30 percent of all global soil carbon. The amount of wetlands projected to be impacted by PolyMet does not currently accurately represent the total amount of wetland impacts that would occur. This is due to the fact that no initial area of influence (AOI) on the wetlands was made. This means that wetland impacts to communities such as cedar swamps, northern wet ash swamps, forested rich peatlands, northern alder swamps, and poor fens have not been accurately accounted for. These communities rely on a steady influx of groundwater flow for nutrients and soil moisture. If the hydrology around them is changed, they too will be affected. The Army Corps is developing a work plan to assess impacts to these additional wetlands, but this work plan has not been finalized or implemented. As the PolyMet project currently stands, there would be both direct and indirect impacts to over 1,500 acres of wetland. The destruction of just 1,000 acres of peatland correlates into a 2 percent increase in the total output of carbon dioxide emissions in Minnesota.	WE1,WE2
17	Please do not compromise Minnesota's natural heritage by allowing PolyMet to circumvent their responsibility by minimizing the negative environmental impacts of this project.	G2
17	This project is focused on short-term economic gains and does not adequately address the long-term negative impacts, for which the state and the USFS will ultimately be responsible. Furthermore, the job benefits of this project are unsustainable and short sighted. The natural communities in the project area also providing habitat for native plants and animals and promote long-term economic tourism benefits, including tourism-related jobs. Minnesotans, as well as people from all over the country, have long been attracted to and enjoyed the relatively unspoiled beauty of northeastern Minnesota, and they will continue to value the integrity of their natural landscapes.	SE3,SE4
18	Polymet's proposal to mine copper, nickel, and platinum group metals in northern Minnesota has global benefits. The 'not in my back yard' mentality does not promote worldwide environmental protection; instead it encourages archaic mining methods in third world countries that don't have the resources to update their methods and government regulations to the high standards the United States demands. Refusing to let mining of essential materials in the United States does not resolve the problem because these materials are needed and used everyday and therefore will be mined regardless of environmental concerns. Mining in the United States ensures that the processes are done in accordance with stringent environmental regulations. A domestic supply offers American companies the opportunity to buy locally, reducing costs and greenhouse gas emissions associated with extensive transport of these materials. These environmental benefits not only affect the United States, but help further worldwide environmental protection. This will also provide jobs in Minnesota. It would be in Minnesota's and the Worlds best interests to suppli the Polynlet project.	EOO,G1



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19	<p>The DEIS uses muddled modeling. The consultants have used reaches of the Partridge and Embarrass Rivers that are already badly polluted by excess sulfate, to evaluate the potential for methylation to occur. If a water body is above about 8 mg/L that is sometimes called the sulfide Max (Technical Memo concerning NorthMet project by Barr Engineering, Dated April 25, 2008) and additional sulfate will have little impact on the rate of methylation. The average concentration of sulfates in the Partridge River at SW-114 has been 10 mg/L for the last 4 years. After closure of PolyMet, it is predicted to go as high as 31.7 mg/L. The average concentration in the Embarrass over the last 4 years at location PM-13 is 36.1 mg/L and could climb to 63.4 mg/L at closure. All of those numbers are above the sulfur Max of 8 mg/L so we would not expect proportional increases in methylation. What they should have modeled would have been impacts of all that sulfate on downstream wetland methylation where the sulfate concentration is below 8 mg/L. Such a place would be the Scanlon Dam in Cloquet at river mile 35, according to the DNR research by Lindgren and Shuldt, published in 2007. The reservoirs and estuary are immediately below the Scanlon Dam and would be water bodies where sulfate is a limiting factor on methylation. (Gilmour et al. 1992; Krabbenhoft et al. 1998). It would not matter whether the excess sulfates came from the Embarrass or the Partridge River; it could stimulate methylation from the Scanlon Dam on down to Lake Superior. These are waters that are listed by the Minnesota Department of Health for fish consumption advisories for fish tissue mercury. These waterbodies were excluded from the statewide mercury TMDL because the fish tissue mercury was above the level considered achievable by the TMDL. These waterbodies must be subject to a separate mercury TMDL which according to EPA guidelines should be completed in the next few years. Further degradation of these waters would not be legal under the Clean Water Act. (see Friends of Pinto Creek v. EPA (9 Cir.) (9)Will there be any modeling of mercury methylation in these waters in the final EIS?</p>	WR1E,WR4B
20	<p>Most of our watersheds have a riparian flood plain that typically is inundated each spring and then the water slowly recedes. These lowland swamps and forests are naturally sulfate poor as is typical of surface and ground water in Northeastern Minnesota. All of the other prerequisites are present for mercury methylation. With the usual spring expansion of water into these floodplains, an increase in sulfate loading is added to the mix of organic matter, sulfate-reducing bacteria, deposited mercury and low oxygen concentrations. In other words any sulfate added to this system has the potential to enhance mercury methylation in the floodplain of over 100 miles of river. This issue must be addressed as indicated by the MPCA in "MPCA Strategy to Address Indirect Effects of Elevated Sulfate on Methylmercury Production and Phosphorus Availability" adopted 10-19-06. That MPCA Strategy document defines "high risk" for mercury methylation as: 1. Discharge of elevated sulfate concentrations into low-sulfate waters &lt;40 ppm or so) where sulfate may be a limiting factor in the activity of sulfate-reducing bacteria (SRB); 2. Discharge of elevated sulfate into streams with fluctuating water levels and bordering wetlands. Rising water levels would introduce sulfate into the high-organic wetland matrix, followed by falling water levels that hydraulically deliver elevated MeHg and/or phosphate into the stream. The important sentence "Rising water levels would introduce sulfate into the high-organic wetland matrix, followed by falling water levels that hydraulically deliver elevated MeHg and/or phosphate to the stream," is the perfect statement of modeling that must be done for the floodplains and multiple backwaters and bays of the entire watershed. It has not been done in this DEIS. (11)Will that modeling be included in the final EIS?</p>	WR4A

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21	<p>When we leave the area of influence for the Iron Range mines, from river mile 100 on down, the sulfate concentration gradually diminishes due to bacterial reduction and dilution and probably other factors. At the mouth of the river in the St Louis River Estuary, it has diminished enough so a few remnant stands of wild rice appear after a 150 mile absence. According to Jerome Blazevic, a life long trapper in the estuary, the wild rice stands have gone from being the best in the whole area to being barely alive in some of the best bays and completely gone in others. We have limited hard data to show the sulfate levels in the estuary, but if we look at the good data we have from the Scanlon dam on upstream and extrapolate down to the lower reservoirs and the estuary we would expect numbers in the 8 to 10 mg/L range. That is a critical range for both mercury methylation and wild rice. The St. Louis River estuary is such a significant resource that it has been chosen as the 28th National Estuarine Research Reserve. It is only the second such reserve in the Great Lakes. This is an important nursery for Lake Superior walleye. Research on mercury in fisheries (Trevor M. Selch, 2008) showed that for walleye "fertilization success declined with increased waterborne MeHg". Also Howard McCormick, doing research for the EPA in Wisconsin, showed that mercury negatively impacted the over- wintering survival of young of the year for several species of game fish. Obviously, the St Louis River and estuary are such an exceptional sustainable resource that we have to make a better effort to protect it from this new even more dangerous form of mining. The DEIS needs data and modeling to show the risks to this resource. The question then arises, would it ever be possible to complete a mercury TMDL that would get the St Louis River delisted for fish tissue mercury if a "no action" decision were made and the PolyMet project was rejected? The answer is yes, because the science is showing us that what is unique about the St Louis is the significance of anthropomorphic impacts. They are controllable. The taconite industry has agreed, in the last year, to support the state wide mercury TMDL implementation plan with big cuts in emitted mercury. Secondly, we now know that this watershed can manage draw downs in a fashion that will reduce methylation. But most importantly, we have to do what Minntac is doing to reduce its' release of sulfates to the West Two River. In a presentation to the 70th Annual University of Minnesota Mining Symposium, titled "Membrane Treatment of Taconite Process Water for Sulfate Removal and Commercial Implementation Potential" Tom Moe of U.S. Steel reported that it can be done. Ultra filtration through special membranes can reduce their high volume, high concentration sulfate water to acceptable levels at an economically feasible cost. (12)The IES also should discuss the possibility of "in pit" sulfate treatment. If they can do it, a new permittee must be required to do it also.</p>	WR4B,WR4C,FM2
22	<p>I want to point out how sulfate impacts on mercury methylation relates to the National Environmental Policy Act and the Council on Environmental Quality Regulations for Implementing NEPA. Section 1502.16 of those regulations requires a discussion of the environmental consequences of a project: 1. Section 1508.8 requires a discussion of indirect effects and their significance. I find no discussion in their documents of indirect impacts from the project on mercury methylation below river mile 139, even though impacts will occur well below river mile 139. 2. Section 1506.2(d) requires a discussion of possible conflicts between the proposed action and objectives of State, Federal and local plans. With regards to State and Federal plans, an EIS must discuss the cumulative synergistic impacts of this and other project releases of mercury and sulfates on the required future mercury TMDL for each listed watershed. (Section 303(d) of the Clean Water Act) Cumulative impacts are the impacts on the environment that result from the incremental impact of the action when added to other past, present and future impacts. (Section 1508.7 of CEQ Regulations) In other words, the mercury and sulfates produced by the PolyMet proposal and possible future mining proposals, must be considered in light of the cumulative impacts of mercury and sulfates of all the Iron Range tributaries to a watershed. That has not yet been done. (14)When will that be completed?</p>	WR4B,PRO3

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**Theme Codes**

23 Fortunately, we have good data on the sulfate concentration of this river. Moyle found in DNR Fisheries Report no 69, April 2, 1944, sulfate concentrations of only .3 mg/L in the Partridge River. That has changed. In 2008, Berndt and Bavin, working for Minnesota DNR, reported sulfate as high as 90 mg/L. So what has clearly happened here is: the recent impact of mining has raised the sulfate levels to the point that natural wild rice beds are no longer productive, but are still alive. Actual in field observations clearly show the validity of the State Wild Rice Standard, with tall productive rice teeming with waterfowl where sulfates were normal, and stunted unproductive rice in water contaminated with sulfates. Wild rice can survive above 10 mg/L, but not thrive. The legacy of sulfate contamination of these water bodies should warn us about the will of the agencies to enforce the Wild Rice Standard after a proposal is permitted. One rice stand on the lower Partridge River, which was completely missed by the recent company sampling, was about 70 meters long by 10 meters wide. This is not some recent stand. It has been struggling to survive there for years while our government agencies continue to allow industry to try to kill it. What happens in wild rice stands that are inundated with high sulfate waters like this is: during cell growth and differentiation, suberisation and cell wall thickening can reduce the ability to take up oxygen, water and iron (Armstrong and Armstrong, 2005), which can stunt growth and reduce yields. (Gao et al., 2004). Not all stands respond the same. It depends upon the amount of oxygen in the water that flows through a stand. Therefore, in the same river we expect to find some stunted stands and some that are surviving the sulfate overload much better. The only safe conclusion is that exceeding the Wild Rice Sulfate Standard will negatively impact the quality of some of the rice beds along any given river. After noting the abundance of productive rice above river mile 161 and the stunted condition of wild rice in the lower Partridge River, we paddled down the St Louis River to the take out at the Highway 100 bridge. This is down stream from the Partridge River. The wild rice at this location in the St Louis River, had the same stunted and reddish and thin appearance of the rice in the lower Partridge River. The DEIS does not even acknowledge the presence of these stands. (18)Will that be corrected in the EIS final draft?

WR1E,WR4F,WR5A

23 To address deficiencies in the CPDEIS and supporting documents that claimed there was no wild rice in the lower Partridge River, and in the St Louis River below their confluence, four of us paddled those reaches on 9-16-09. Above the junction with the Partridge River at river mile 161, the St Louis River was full of high quality rice with several hundred waterfowl feeding and resting in the rice. The rice immediately above the junction is tall and healthy with viable rice kernels all the way to the top of the heads. This is to be expected in this sulfate poor region of the world. According to the DNR Study of the St Louis River (John Lindgren and Nancy Schuldt) released on August 29,2006, at river mile 171, which is above the junction with the Partridge, the St Louis River has a sulfate concentration of only 2 mg/L and "Wild rice dominates this reach". Next, we entered the lower Partridge River and searched for wild rice. There were stands there, but they were in such poor health that even though we were there to harvest wild rice, the plants were so stunted that you could not bend the stalks over the side of a canoe to harvest the grain. The plants averaged about 10 inches in height and the color was more reddish than green. Most plants had no viable seed, and not surprising, we saw no waterfowl there. This was in complete agreement with the report "Effects of Sulfate on the Biomass and Seed Production of Wild Rice" by Bradley Dewey and John Pastor, University of Duluth, December 20, 2009 where the authors state under Results: "The mean weights of roots, shoot and viable seeds and the total number of seeds produced all consistently decreased with sulfate concentrations (table 2)." (17)I know that this study supporting the state wild rice criteria, was released after the DEIS was released, but will it be incorporated into the final EIS?

RF1,WR1E

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
23	<p>If the sulfate and mercury released by this proposal are managed as described in this DEIS, we will have fish tissue consumption advisories in perpetuity. The adequacy of this DEIS with regards to mercury and sulfate should be decided by the EPA and MPCA working with the already established St Louis River Mercury TMDL Partnership not the Lands and Minerals Division of the Minnesota DNR. Those of us that have served on that Partnership have known for several years that for this river it is all about sulfate. Adequate modeling of sulfate impacts on the lower St Louis River will be impossible until we have the data from LCMR proposal #028-A3. At the present it appears that we have a choice, either perpetual water treatment for sulfate at the Partridge River or perpetual fish tissue consumption advisories for the St Louis River. Thank you for your honest consideration of those two choices. I have harvested wild rice alongside tribal enrollees from the Fond du Lac Band of Lake Superior Chippewa since 1954. I have hunted waterfowl in wild rice waters just as long. I have trapped muskrats in wild rice stands going back to 1948. The incredible productivity of healthy wild rice stands is very important to all cultures of Northern Minnesota. The superior quality of hand picked, locally parched wild rice, is a signature product of this part of the world. Good stands provide food, cover and nesting materials for dozens of vertebrate and invertebrate animals including waterfowl, muskrats, loons, grebes, blackbirds, rails and, of course, billions of rice worms. John B. Moyle established the relationship between wild rice and sulfates back in the 1940' s. In 1944 he wrote in the Journal of Wildlife Management, Volume 8, page 177-184, "No large stands of rice occur in waters having a sulfate content greater than 10 p.p.m., and rice generally is absent from water with more than 50 p.p.m." Based on this research, Minnesota has established by Rule, a Wild Rice Standard limiting sulfates to 10 mg/L to permit wild rice to thrive. (Minn.R. 7050.0224 sets a standard for sulfates of 10 mg/L, applicable to water used for production of wild rice during periods when the rice may be susceptible to damage by high sulfate levels. (16)Will the state apply the 10 mg/L sulfate criterion to any new discharges to the Partridge River?</p>	WR4A,WR4B,WR4F
23	<p>The 1997 CEQ document, "Considering Cumulative Effects Under the National Environmental Policy Act" delineates the process to determine geographic areas that will be appropriate boundaries for a cumulative effects analysis. This is referred to as "area of interest." It states "One way to evaluate geographic boundaries is to consider the distance an effect can travel." The current documents consider the area of interest to be limited to the Partridge and Embarrass River sub-watersheds. The area of interest for direct, indirect and cumulative impacts of sulfates on the aquatic resources in this watershed should be the St Louis River from river mile 179, and downstream to its mouth. That has not yet been done. Finally, in considering the only project that has released documents on water quality, (about 100 pounds of paper printed on both sides) PolyMet has done an inadequate analysis of the impacts of the PolyMet project on mercury releases, mercury methylation, delisting of water bodies, wild rice and aquatic species. It has artificially limited its analysis of sulfate impacts to portions of the watershed that are already at excessive sulfate levels. (15) Given the requirements of the Clean Water Act for mercury delisting and the cumulative impacts of sulfates on wild rice and game fish, is it not likely that permitting the PolyMet project would violate water quality laws as well as irreversibly harm watersheds?</p>	WR5A
24	<p>Now I will correlate the quality of the stands we observed with sulfate concentrations of those same reaches of the rivers. In personal communications with Mike Berndt and Travis Bavin (MnDNR), they reported sulfate concentrations of 2.2 mg/L on 7-7-08 for the St Louis River above the Partridge River, and we found luxurious growth of wild rice there. They found 90.0 mg/L in the Partridge River on 10-1-8 and we found thin and stunted rice there. They found 66.9 mg/L in the St Louis River below the Partridge River and we found thin stunted rice. In my judgment, as a professional biologist, the water velocity, sunlight and substrate were similar at all three sites. The big difference was sulfate and that made all the difference. How valid is the Wild Rice Standard of 10 mg/L? Put your hip boots on and walk and observe those three miles and you will know. According to all the supporting documents from PolyMet and Mesabi Nugget, this was never done. (19)Will this deficiency in the DEIS be corrected in the EIS?</p>	WR4F

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
25	First, I would like to discuss the effect of the PolyMet project on mercury sequestration in peat bogs. The hundreds of acres of peat bogs that will be destroyed in this watershed by the proposed mine, means that hundreds of acres of Hg(mercury) sequestering surface will be permanently lost to the Lake Superior watershed. Research done by the MPCA and others has shown that any disruption of peat bogs is known to release mercury. A watershed cannot be managed for Hg this way and expect it to ever be delisted for Hg contamination. Therefore bog mitigation must be brought back to this watershed. The PolyMet proposal to replace this loss of wetlands with artificially constructed wetlands in Aitkin and Pine counties having disproportionately less peat bog surface and located in other watersheds, will result in substantial mercury impacts to the Lake Superior watershed. (1)Therefore their wetland mitigation proposal should be rejected or modified through the Section 404 permit process with USACE.	WR1E,WR4E
25	I have used the St Louis River from top to bottom and have been troubled by the big void of wild rice from river mile 161 all the way down to the St Louis River Estuary. We now know that the entire river from the Embarrass River down to the Fond du Lac dam is devoid of wild rice and is also consistently above 10 mg/L for sulfates. I can take you to many places on the river where the physical conditions are prime for productive wild rice stands but are devoid of any wild rice. From LTV to Minntac, we have been pouring sulfate into this section of the river for half a century. In contrast, compare the flourishing rice stands on comparable reaches of the Mississippi, Rum, Vermillion and Big Fork Rivers, where they do not have mining generated sulfates. In Sources and Fate of Sulfate in NE Minnesota Watersheds, May 16, 2008, Travis Bavin and Mike Berndt say on page 13, "however, increased sulfate loading from mining could potentially have a negative impact on many wild rice beds in the area." According to NEPA, the area of concern for this project should extend down the estuary, where important stands still survive but could be even more threatened by the PolyMet releases. Adequate data, collecting and modeling have to be completed before this DEIS can be called complete. The lead agencies working on the PolyMet EIS have been asked to do a cumulative analysis of the impact of sulfates on wild rice. That has not been done. Instead, the DEIS has done individual sulfate analysis on the Partridge River by itself and the Embarrass River by itself. That is hardly cumulative. Based on the observations I have made, as well as guidance from the National CEQ, cumulative analysis must involve the St Louis River as well. The CEQ document, "Considering Cumulative Effects under the National Environmental Act" delineates the process to determine geographic areas that will be appropriate boundaries for a cumulative effects analysis. This is referred to as "area of interest." CEQ states, "One way to evaluate geographic boundaries is to consider the distance an effect can travel." With concentrations of sulfate projected to be as high as 31.7 mg/L in the Partridge and 63.4 mg/L in the Embarrass River at closure of the PolyMet operation, the area of influence will definitely extend a considerable distance down the St Louis River. In fact, because of the many other sources of anthropogenic sulfates along the St. Louis River, the "area of interest" for sulfates must go all the way down to Lake Superior. (20)Will this cumulative impact analysis be done before permits are issued?	WR5A
<b>Sender Last Name:</b> Harig		<b>Submission ID:</b> 2527
1127	It is my understanding that PolyMet proposes to use an existing mine tailings basin for the disposal of its tailings and toxic materials – but that the basin already has stability issues making it unsafe. Any failure of this basin to hold its contents would result in longlasting and serious contamination. PolyMet should complete a stability analysis of the basin and devise an acceptable design before being able to proceed with this project.	GT2
3093	I am not a Minnesota resident but this issue greatly affects me. Living on the shores of Lake Superior and having this same situation occurring in my area. I would strongly oppose this type of mine. The water quality from leaching is a major issue.	EOO
<b>Sender Last Name:</b> Harju		<b>Submission ID:</b> 3544

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
3807	I strongly oppose the development of sulfide mining in Minnesota (or anywhere for that matter). This is a short term opportunity for economic gain that will not effect northern minnesotans in a positive way. This is a Canadian company that will exploit our natural resources and effect the environment in a way that cannot be reversed. I work in the tourism industry in northern minnesota, and I feel that the tourism industry, which is a pretty low impact-sustainable-way of enjoying our environment, will be adversely effected. Our national forests allow people to recreate, and even profit from the natural resources they hold. The difference between logging our renewable resources and mining minerals that will never be replaced (and many of us would argue that we don't even need) is astronomical. Please protect our waters from the influx of supheric acid that will leach into our water sources, please stop the pillage of our national forests. Do not put us at risk, do not allow this project to proceede.	EOO,G2A,G7A,G11
<b>Sender Last Name:</b> Harkins		<b>Submission ID:</b> 2580
449	need for better information on existing pollution, the nature of wetlands, endangered species, and other resources that would be affected by the project.	WR1E,FM1,AQ4
689	Analysis of all of the impacts (air and water) of increased mercury in fish from the PolyMet project and other nearby pollution sources.	WI5,WE8
1146	The existing inadequate showing by PolyMet Company that their waste rock and tailings piles will not collapse and dump uncontrolled pollution into nearby waters, causing potentially catostrophic water pollution.	GT2
2217	The unacceptable prediction in the existing DEIS that water pollution from the proposed mine could possibly last 2,000 years.	WR1A
2218	inadequate information in the DEIS regarding the scope and extent of potential pollution, including detailed information regarding water flow from the affected areas.	WR2E
2413	As the U.S. EPA suggested, making sure that financial assurances for the public are included in the EIS long before any permitting process gets underway.	PD4
2414	The absence of a detailed reclamation plan which is tied to the required financial assurances	PD4
2415	The failure to analyze the land that is going to be exchanged for Superior National Forest land to make this project possible.	PD1
3138	I am writing to you as a citizen of Minnesota concerned about the PolyMet sulfide mining project proposed on 6,700 acres of public land in the Superior National Forest. Sulfide mining would be new to Minnesota. In other locations, sulfide mining has resulted in acid mine drainage causing extensive and expensive damage to water quality and the environment. Often, taxpayers have been stuck with the costs. The PolyMet project in Minnesota could degrade water quality, increase mercury in fish, destroy wetlands and peat bogs, fragment the habitat of endangered species, increase air pollution that results in regional haze and create a risk of perpetual pollution without adequate financial assurance that the public won't end up paying the costs.	G2C,G4A,G7A
<b>Sender Last Name:</b> Harris		<b>Submission ID:</b> 366
406	I support Polymet Mining's NorthMet Project. Being a long time Iron Ranger I feel it is absolutely necessary for this project to go through. The economic benefit to our area and Minnesota is huge. We need our young people to be able to stay and make a living here which Polymet can provide. I honestly feel Polymet will be great stewards of our environment here in Northern Minnesota. They will protect our lakes and air. In closing I feel this project is necessary and in total support of it.	EOO
<b>Sender Last Name:</b> Hartman		<b>Submission ID:</b> 3462

*Alphabetical by sender's first name*

**Comment ID    Comment Text** **Theme Codes**

3741 February 1, 2010 Stuart Arkley, EIS Project Manager Minnesota Department of Natural Resources Division of Ecological Resources Environmental Review Unit 500 Lafayette Road, Box 25 St Paul, MN 55155-4025 Re: Polymet Draft EIS Dear Mr. Arkley: Among the many positive effects the Polymet project would bring to Minnesota and the United States, the most impressive benefits are those pertaining to economic impacts. With the potential to create 400 full time positions, hundreds of spinoff jobs and millions of dollars in local and state taxes, Minnesota can hardly afford to pass up this opportunity to rejuvenate the iron range. These significant impacts would greatly benefit all local parties, including school children, members of the work force, land owners, small business owners and large manufacturers. Environmental concerns weigh heavily on everyone’s mind; as they should. However, Polymet has taken great care to ensure their methods are environmentally friendly; Waste rock storage will be lined, with drains leading directly to water treatment facilities. Polymet’s ore processing methods not only use sulfur as a fuel source, but also use limestone to neutralize acids and create a practical byproduct of gypsum, which can then be used to make sheetrock, concrete, and fertilizer. In addition, Polymet will use high tech air emissions controls to further ensure minimal sulfur dioxide emissions. Polymet also plans to utilize a brown field site and existing infrastructure, which will minimize disturbance of wetlands and surrounding greenfields. The combination of Polymet’s extremely conservative approach to environmental concerns and the State of Minnesota’s stringent environmental guidelines and regulations leaves little opportunity for environmental impacts. With all these positive benefits available, it would be in Minnesota’s best interests to support the Polymet project. Sincerely, Marcella Hartman

EOO

**Sender Last Name:**    Hartness

**Submission ID:** 191

- 15 The EIS should be clearer; PolyMet is not in the Boundary Waters watershed. WR3B
- 184 I support PolyMet Mining’s NorthMet Project. PolyMet will significantly contribute to the state and local economy at a time when we really need the jobs and economic benefit. PolyMet’s 400 employees and the hundreds of spinoff jobs will provide a huge economic benefit to Minnesota and the Arrowhead region/my local business. PolyMet will provide millions of dollars in local and state taxes to support our communities and educational system. We should move forward with permitting this mine. We need and want jobs. PolyMet can produce these metals in an environmentally sound manner and create hundreds of stable jobs that can support families. PolyMet has demonstrated it can produce these critical metals while following Minnesota’s strict environmental requirements to protect air, water and land. The metals that Polymet will mine are essential to green technology such as wind turbines and hybrid cars and are necessary for pollution prevention devices such as catalytic converters. Based on the extensive documentation as outlined in the DEIS, I am confident that impacts to the air and water will be minimal, if any. EOO,G5
- 185 I understand the need to balance use of resources like minerals and preservation of resources such as water and air. I feel this EIS lays the proper groundwork for developing an environmentally and economically sustainable project and I wholeheartedly support it. PolyMet project has been designed to minimize environmental impacts; reusing a brown field site, reusing existing infrastructure, minimizing disturbance of wetlands and utilizing multiple safeguards to protect the environment. PolyMet will be a domestic supply of critical metals needed in medical applications, electric cars, catalytic converters, cell phones, computers and other essential products. I understand the importance of buying locally. PolyMet will mine and produce several metals not currently mined anywhere in the United States. I use these metals every day. PolyMet will be a domestic source of the metals we all use every day. Mining these metals in one country, processing them in another and then transporting them to the U.S. creates unnecessary greenhouse gas emissions. Foreign suppliers of these metals don’t necessarily follow sound environmental practices, creating a greater global environmental impact. EOO,G5

**Sender Last Name:**    Hauser

**Submission ID:** 2321

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
2774	Good grief! Do not jeopardize the wonderful waters of our precious Lake Superior or of the Boundary Waters! Please accept these comments on the PolyMet Mining Corp. NorthMet mining project Draft Environmental Impact Statement. I have serious concerns about the safety of this project and its potential impacts on Minnesota's natural resources.	EOO
<b>Sender Last Name:</b> Hauser and Magliulo		<b>Submission ID:</b> 3667
1	1. The unfinished land exchange between the U.S. Forest Service and PolyMet is a major issue which has not been addressed in the DEIS. This land exchange may have significant environmental impacts which could therefore effect other aspects of the Project. The DEIS should not have been released until this land exchange was finalized. Without this completed land exchange the DEIS is incomplete and unacceptable.	PRO4
2	2. The St. Louis River drainage and possibly the Birch Lake system will risk major contamination. This is obviously an untenable situation, environmentally and financially. Mercury and sulfates do not enhance water quality! The DEIS (4.1 - 113) predict high sulfate concentration which will transform mercury causing fish to be inedible. Additionally, the DEIS (4.1 -113) predicts that arsenic, cobalt, and selenium will exceed water standards. Our public waters must be protected from heavy metals. The current DEIS design allocated for the prevention of contaminated overflow into adjacent water bodies is unacceptable. Until another design has been proven to prevent such pollution this DEIS is	WR3I,WR5A
3	3. Wildlife will suffer from the Project as PolyMet would be located in critical habitat for both the protected species Canada lynx and Gray wolf. The effects of noise, vehicle strikes and habitat destruction are totally unacceptable in that they diminish the habit of these species. The DEIS (4.4.3.1.) notes "...the effect on statewide lynx populations would be insignificant since no individual lynx or pair of lynx would be significantly affected by the habitat loss." The demolition of food resources, denning sites, and forest shielding coverings for these protected species may ultimately cause breeding problems thus impeding population growth. The DEIS is unacceptable until further analysis of the loss of critical habit regarding the Canada Lynx and the Gray Wolf is further examined.	WI1
4	4. There are serious issues related to the destruction of over 1500 acres of wetlands (read "peatlands") and as such would hardly represent Minnesota's commitment to reduce greenhouse gases and enhance carbon sequestration. Peatlands sequester carbon and the destruction of approximately 1,000 acres of peatlands by the Project would result in a two percent increase in Minnesota's carbon emissions. The DEIS (S-10) acknowledges that "project facilities and operations would result in additional greenhouse gas (GHG) emissions in the Arrowhead region." The DEIS is unacceptable since these high quality peatlands in Minnesota need to be protected rather than their loss contributing to additional greenhouse gases in our region and ultimately contributing to global warming.	AQ3



*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
5	<p>5. Native American gathering and hunting rights have long been guaranteed by law (their status under the 1854 Treaty) in the Project area, and they would be abridged by the Project's activities. According to the DEIS (4.3), "Several plant species have been identified as being of significant tribal concern including wild rice, cedar, and sage. These species are relatively common to northeastern Minnesota; therefore, loss of access to these areas is not anticipated to have a significant impact on tribal use of these plant species. There is no documented tribal use of the Plant and Mine Sites for harvesting these resources." It is not Tribal custom to record the harvesting of wild rice, cedar and sage. Therefore no data can be examined. The quantity of these types of harvested resources can vary from year to year due to any number of variables leading to their destruction and, or, decline. This DEIS is inaccurate and unacceptable since it fails to show the data needed to evaluate the tribal utilization of these resources in the Plant and Mine Sites. ( 4.14.1.3) Uniquely Affected Communities DEIS(4.14-11) states...this area compared to other portions of the 1854 Ceded Territory and ongoing and future mining activities would be unlikely to encourage an increase in moose densities relative to the rest of northern Minnesota. It is imperative that northern Minnesota preserve its wetlands to protect the decline of our moose population. The MN Wildlife Advisory Committee notes these wetlands are required to prevent heat stress to moose. PolyMet is proposing the largest direct wetland fill in northeastern MN. Adjacent to the Project's wetland fill are two major wildlife corridors that moose have historically used. These wildlife corridors will be negatively impacted by the Project thus resulting in the decline of Tribal hunting. The DEIS' current evaluation of Tribal harvesting and hunting is inadequate and needs to be fully reconsidered since the availability of current tribal resources would be in danger of decline which by law should be protected. Until such time we find this DEIS unacceptable.</p>	G3,CR1,CR4
5	<p>5. Native American gathering and hunting rights have long been guaranteed by law (their status under the 1854 Treaty) in the Project area, and they would be abridged by the Project's activities. According to the DEIS (4.3), "Several plant species have been identified as being of significant tribal concern including wild rice, cedar, and sage. These species are relatively common to northeastern Minnesota; therefore, loss of access to these areas is not anticipated to have a significant impact on tribal use of these plant species. There is no documented tribal use of the Plant and Mine Sites for harvesting these resources." It is not Tribal custom to record the harvesting of wild rice, cedar and sage. Therefore no data can be examined. The quantity of these types of harvested resources can vary from year to year due to any number of variables leading to their destruction and, or, decline. This DEIS is inaccurate and unacceptable since it fails to show the data needed to evaluate the tribal utilization of these resources in the Plant and Mine Sites. ( 4.14.1.3) Uniquely Affected Communities DEIS(4.14-11) states...this area compared to other portions of the 1854 Ceded Territory and ongoing and future mining activities would be unlikely to encourage an increase in moose densities relative to the rest of northern Minnesota. It is imperative that northern Minnesota preserve its wetlands to protect the decline of our moose population. The MN Wildlife Advisory Committee notes these wetlands are required to prevent heat stress to moose. PolyMet is proposing the largest direct wetland fill in northeastern MN. Adjacent to the Project's wetland fill are two major wildlife corridors that moose have historically used. These wildlife corridors will be negatively impacted by the Project thus resulting in the decline of Tribal hunting. The DEIS' current evaluation of Tribal harvesting and hunting is inadequate and needs to be fully reconsidered since the availability of current tribal resources would be in danger of decline which by law should be protected. Until such time we find this DEIS unacceptable.</p>	WI2,WI3,WI5,WE2
6	<p>6. Waste rock sequestration in perpetuity is impossible – just plain impossible, no matter what kind of ponds or liners are employed. When they start leaking their toxic slew (and they will – sooner or later) the local economy will suffer a terrible blow as fewer visitors mean declining lifestyle levels for our community. Four hundred "high-paying jobs" which might last a decade or two are not worth the loss of this unique landscape. The DEIS (Table 4.1 -45) notes water from waste rock piles will be polluted for up to 2,000 years. Future generations should not be responsible for our poor decisions now. The DEIS (S-10) recognizes the potential for basin structural failure: "The NorthMet Tailings Basin and hydrometallurgical facility embankments would have a low margin of safety due to fines and underlying soils in the existing LTVSMC Tailings Basin". Any potential for basin failure, causing environment contamination in perpetuity, is unacceptable.</p>	WR1E,PD2,GT2

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
7	7. The DEIS is incomplete without addressing the requirements for financial assurance. It is necessary for the public to be protected against "footing the bill" in perpetuity or adverse environmental impacts which PolyMet will surely incur. The EPA is establishing new rules supporting the necessity of financial assurance with hard rock mining by requiring it in future EIS evaluations, see (InsideEPA.com, Tuesday, August 25, 2009). The following is a list of Project parts requiring financial assurance and must be addressed in the DEIS. a. Post closure treatments such as waste water at the mine. b. Underground mine alternative which has not been examined sufficiently. c. Structural failures at the tailings facility with the needed information for the proposed stockpiles. d. The need for perpetual water treatment. e. Existing environmental problems at the LTVSMC Tailings Basin	PD4
<b>Sender Last Name:</b> Haverkamp		<b>Submission ID:</b> 3185
726	The availability of this EIS has newly come to my attention and, given the risks of sulfide contamination to waters of Lake Superior and, if mining is extended into the BWCA watershed, to the waters and wilderness amenities of that region, I believe an extended comment period and opportunities for further public input are needed. At minimum, an additional 30-45 days are needed for review of the EIS and more public meetings at locations around Minnesota are necessary to inform and get the input of the many Minnesotans who use and have personal and commercial interests in the waters and wilderness amenities at risk. Moreover, in order to more fully educate and engage the public regarding their interests in this matter, making opportunity for public comment at those meetings is necessary.	PRO6
<b>Sender Last Name:</b> Haycock		<b>Submission ID:</b> 2253
2661	I very much oppose allowing sulfide mining (PolyMet) in Minnesota. Superior National Forest must be preserved in its natural state as much as possible. The minerals will be gone in a rather short time; pollution of water, peace & quiet of the area will last almost forever.	EOO,G2A
<b>Sender Last Name:</b> Hazen		<b>Submission ID:</b> 2682
3164	The PolyMet proposal is basically a private sector "taking": A foreign company seeks to procure sub-surface minerals from public lands at great environmental and economic cost to the American people, put them on the international market, and retain the financial profit from it outside of our borders. The American people will suffer the health, environmental and financial costs of this result, in cases into perpetuity. Here are some of the details:	G1,G2,G4A,G9
<b>Sender Last Name:</b> Heath		<b>Submission ID:</b> 3732
20685	b. At the scale (small size) of the modeled area being considered, the DEIS presented an inappropriate assumption, that the rock properties of the modeled hydrostratigraphic bedrock aquifers in the mine site area are uniform in all directions. I saw little effort to characterize the probable distributions of fractures in the bedrock by analogy in the Iron Range, or by direct measurement. I recommend that DNR explore the orientation and occurrence of fractures in the Iron Range to get a better sense of where groundwater in the bedrock at the mine site and proximate moves. Without this characterization, no conclusion can be clearly made as to where potentially contaminated water might move in bedrock after the mine closes, or even if this movement of potentially contaminated water might be an environmental problem.	WR2A
<b>Sender Last Name:</b> Heck		<b>Submission ID:</b> 3477

*Alphabetical by sender's first name*

<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
46	proposing to do so in should not be approved. Economic Impacts This project is focused on short-term economic gains and does not adequately address the long-term negative impacts. Minnesotans, as well as people from all over the country, have long been attracted to and supported the beauty of northeastern Minnesota. This project will negatively affect the local economy that is based on the tourism industry. Tourism is a sustainable source of income whereas mining, as has been proven in this area, is not a long-term, sustainable way of	SE3,SE4
3680	Many other jobs could be created which would be less polluting and support the community over the long run. Additionally, this project could leave taxpayers responsible for the costs of reclamation and cleanup after mine closure. The responsible agencies should require financial assurance from PolyMet should the project move forward. Pollution and financial assurance issues should be resolved before this mine is approved by the Minnesota Department of Natural Resources and the U.S. Army Corps of Engineers.	ALT8,PD4
3751	directly or indirectly impact roughly 1,500 acres of high quality wetlands. The DEIS indicates that these polluting discharges and necessary water treatment would continue on for many years. This type and amount of pollution to Minnesota waters is unacceptable and any mine	G7C
<b>Sender Last Name:</b> Hedlund		<b>Submission ID:</b> 3464
3743	Please consider our impact on our fragile environment. I know in these economic times, there is a temptation to take short cuts. Jobs today or environmental problems for generations. Hmm what should we choose?	EOO,G2
<b>Sender Last Name:</b> Hedren		<b>Submission ID:</b> 1613
953	PolyMet proposes to use an existing mine tailings basin for the disposal of its tailings and toxic materials – but that the basin already has stability issues making it unsafe. Any failure of this basin to hold its contents would result in long-lasting and serious contamination. PolyMet should complete a stability analysis of the basin and devise an acceptable design before being able to proceed with this project.	G9
954	Future generations of Minnesotans will inevitably be left to pay for these operations. Additionally, it will be all but impossible to calculate sufficient financial assurance for a mining operation that is going to require such long-term care.	PD4
994	The DEIS predicts contaminated waters will be discharged from the mine site into the Partridge River after the mine’s closure, as well as tailing’s basin discharges high in sulfate concentrations. I understand that the water leaching from waste rock piles at the site is expected to exceed water quality standards for hundred of years. It is unreasonable to expect that mining companies will be able to maintain water treatment facilities for that amount of time. It is unacceptable to me to allow PolyMet to proceed with a mine that already predicts these kinds of pollution outcomes.	EOO,WR3I
2017	Please accept my comments on the PolyMet Mining Corp. NorthMet mining project Draft Environmental Impact Statement. I have serious concerns about the safety of this project and its potential harmful impacts on not only Minnesota, but on the entire great lakes region of the USA and Canada	G10
2018	The PolyMet DEIS describes significant environmental issues associated with this proposed mine. It is my feeling these issues must be totally resolved before the Minnesota Department of Natural Resources and the U.S. Army Corps of Engineers approve this mine.	G10
<b>Sender Last Name:</b> Heep		<b>Submission ID:</b> 2239
604	The mine site disrupts natural corridors for the movement of wildlife. Specifically the Canadian Lynx which is an endangered species that requires large territories and moves through undisturbed forest corridors. No provision is made for mitigating this loss of habitat in the DEIS.	WI5
1150	Sulfates are a problem that are not being dealt with rigorously in the DEIS. Sulfates in surface water demonstrably impact aquatic vegetation, specifically wild rice. In addition there is the likely potential for mercury methylation in surface waters as a result of mining. What process has been identified to detect and mitigate methyl mercury in the environment and how will community health be dealt with and paid for?	WR4B,WR4C,WR4F,FM1,F

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
1824	There was little or no field sampling done on the movement of ground water through the bedrock. Since the mine and it's waste storage site sits nearly on the continental divide it should have been determined if there is any chance that acid polluted mine drainage could move in the rock over time to the north and into the Boundary Waters watershed. This was not done and should be before permitting.	WR2A
2017	The DEIS does not outline any specific plan for reclamation after the mine site is closed. In the same vein there is no specific mention of the method or amount of financial assurance that the mining company will need to set aside for the potential disasters after closing. Because acid mitigation is difficult to predict and long term treatment after closing is a necessary, there needs to be a large sum of cash held in escrow as a damage deposit and that amount should be specific and included in the final EIS.	PD3
2018	The DEIS does not approach the most important question of cumulative impacts of this mine and the others that are proposed in the district. Polymet cannot be looked at as a single, onetime event in N.E. Minnesota. With permitting of Polymet will come at least 2, perhaps 4 or more new applications for permitting from other mining companies. What will be the total impact on the environment by all these potential mines and how will the EIS deal with mitigation of all these in concert? Specifically the Boundary Waters which is downwind of allthese projects will be negatively impacted in terms of atmospheric haze from dust particles blown into the air. Tell us how this cumulative effect on air quality must be dealt with for Polymet and all future applications. In addition how is global warming affected by this mining operation and the combinations of all potential mines in the future?	G9
2019	Where is the plan for constant monitoring of the mining operation by the DNR? Waste rock needs to be sorted by sulfide content, tailings basins need to be inspected for leaks, and waste piles need to be sampled for pH in runoff water regularly. Do we just depend on the mining company to do its own monitoring? There should be a program set up in the EIS for constant monitoring of operations by an independent environmental concern or the DNR.	PD8
2645	As a residents of Ely and people whose livelihood is directly connected to the Tourism industry of our area we are very concerned about the long term effects and implications of the any prospective mining in our area. We are very concerned about the ultimate potential impact it may have on our water, our air, and the Boundary Waters Canoe Area Wilderness. We are concerned about the impact it has on our global environment. These concerns outweigh any short term benefit to be derived in jobs.	G8C,G11
<b>Sender Last Name:</b> Heeter		<b>Submission ID:</b> 2332
2793	Please accept these comments on the PolyMet Mining Corp. NorthMet mining project Draft Environmental Impact Statement. I have serious concerns about the safety of this project and its potential impacts on Minnesota's natural resources. I have been canoeing and camping in the bwcaw since my daughter was 10. She is now 46, and a resident of Minnesota. WE go back to the BWCA every summer. There is no place in the world like this set aside wilderness area. Once the waters become contaminated it will be lost forever. The value of this land and water is beyond any price tag.	G7,G11
<b>Sender Last Name:</b> Heino		<b>Submission ID:</b> 372
413	There needs to be an evaluation of the potential for mercury demethylation and/or methylation in flooded mine pits.	WR4B
413	The DEIS should incorporate new results from ongoing monitoring of area rivers and lakes, especially those receiving sulfate leakage from legacy mining operations.	WR1A
<b>Sender Last Name:</b> Hellerstein		<b>Submission ID:</b> 3305

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
3599	I believe that the Boundary Waters Wilderness Area is an irreplaceable natural treasure that contributes a large portion of what makes Minnesota special. I encourage you to deny approval to sulfide mining projects that could negatively affect the environmental integrity of the Boundary Waters or Lake Superior.	EOO
3660	especially in the absence of any financial guarantee to clean up the mess that these mines are likely to create.	PD4
<b>Sender Last Name:</b> Heltunen		<b>Submission ID:</b> 249
262	RGGS Land & Minerals, LTD., L.P. submits this letter in support of the PolyMet Draft EIS and the PolyMet-NorthMet Project. As the owner of the majority of the mineral resource to be utilized in this project, RGGS has complete confidence that the project will be developed in a sustainable, environmentally sound manner and provide a much-needed economic boost to this region and its' residents. RGGS has worked with PolyMet staff and has consistently observed their professionalism and their insistence upon producing a superior grade product while maximizing environmental protections. Efforts to minimize environmental disturbance by utilizing the former-LTV Steel Mining Company facility and transportation infrastructure while employing state-of-the-art technology represent PolyMet's commitment to produce a domestic supply of critical metals in an environmentally conscious manner. While confident in the environmentally-sound technology to be employed by PolyMet, the effect that this project will have on this area's economy, tax base, and employment cannot be overestimated. This region has been severely impacted by the recent downturn in the taconite mining industry and the development of the NorthMet project will be a major step in this region's effort in diversifying its' economic base. There are a high number of people trained, qualified and available to be employed by this project. RGGS provides its' total support to the PolyMet-NorthMet project and requests that the Minnesota Department of Natural Resources and U.S. Army Corps of Engineers find this Draft EIS to be complete and thorough in order to issue the required permits in a timely manner after this review	EOO
<b>Sender Last Name:</b> Henderson		<b>Submission ID:</b> 3581
3849	Clean water is probably our most valuable thing on Earth. Please help protect our lands and water in northern Minnesota from the results of sulfide mining. Water and land pollution will effect those living now and those coming in the future, including humans, trees, fish, animals, birds, our/your great grandchildren... If we cannot stop the mining, please do your part to enforce all laws, written and moral, which keep the mining companies within the guidelines. There is only one Superior National Forest, let's keep it as natural as possible. Do we really have to trade ANY of it??	G2A,G2C
<b>Sender Last Name:</b> Hendrickson		<b>Submission ID:</b> 236
245	I am writing this email to show my support for the Polymet Project. Polymet is a much needed project not only for the jobs it will produce, but for more independence from foreign countries in buying their precious metals and the tactics they use to extract these minerals. The draft EIS is more than adequate to reassure people that this project will be safe to the environment not only in water run-off, but in green house gas emissions also. I firmly believe Polymet, along with yourselves have done all the necessary research to make this a safe and viable project. Hopefully after the public comment period the Final Permits can be issued quickly to start construction before all hope is lost, along with the quality paying construction jobs and much needed permanent jobs tied in with this project.	EOO
1178	This Job would help my area 10 fold I live in iron mn and I know lots off people In union trades that are laid off from the slow movement of work when if this job would start it could help my entire family and friends I am a union boilermakers local 647 my mother works for union trades as a book keeper my close friend is in.the local laborers union with 2 kids one born a year ago and one born a week ago we need to keep are jobs and this is a close job for us we need this	EOO

*Alphabetical by sender's first name*

<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
3726	Once this happens, the damage is virtually irreversible. Also, evaluate the land to be exchanged for Superior National Forest land to insure that the land swap would protect wetlands, hydrology and taxpayers' interests.	PD1
3727	Make sure, as the U.S. EPA has suggested, that financial assurances for the public are included in the EIS before permitting gets underway. Additionally, please require Polymet to show that their waste rock piles won't create water pollution problems after they have taken what they want and leave the rest of us with the waste.	PD4
3851	We are writing to you regarding the PolyMet sulfide mining project as concerned residents of Northeastern Minnesota. Our concern centers on the sulfide mining process and the great potential for acid mine drainage. We have heard about the "new" mining technologies that will prevent this from occurring, but other than stating that all necessary precautions will be taken, we have no idea what the "new" technology is and whether it has been proven. We are aware of past failures of sulfide mining operations to carry through on their promises to protect the environment. That is why Wisconsin now has a moratorium on sulfide mining operations. In this economy we know how powerful the promise of a few jobs can be, even if it means only short-term employment, and the mining companies are proficient at selling their projects based on the promise of these jobs. As long-term residents of Northeastern Minnesota, we see the results everyday of what the extraction of natural resources has done for the region and what happens once the resource is gone. The scars left from the wholesale harvesting of the white pine are still visible in the form of slowly rotting stumps. These will disappear in another generation, but the huge mine dumps and holes will be ruining our view until the next ice age. Now we understand that PolyMet and other companies wish to exploit this area once again for some minerals that, due to their current high value, are now considered worth mining even though they are present in low concentrations. Like the lumber companies and the iron mines before them, what assurances are there that they will not take what they want and leave us with the bill for clean up. A scarred landscape and, the very high probability of acid mine drainage, with the associated heavy metals, into the watersheds for generations to come could be what the State is left with. This will have a detrimental effect on one of the few sustainable industries in this region, tourism. Before sulfide mining is permitted, please insure that the mining process will not lead to the leaching of acid mine runoff into the watersheds.	G2C,G11
<b>Sender Last Name:</b> Henjum		<b>Submission ID:</b> 3165
710	I am requesting an extension of the comment period. A minimum of 180 days are needed to comment on what would be Minnesota's first ever metallic sulfide mine. Permitting agencies need to hear from those opposed to the PolyMet project. If permitted, PolyMet would pave the way for a new sulfide mining district in Minnesota's beloved Lakes region.	PRO6
711	The Polymet proposed mine raises many concerns. The BWCA and the Superior National Forest lands are precious State resources. Any proposal that might impact them deserves very careful consideration. The DEIS is about 1800 pages, please allow for a 60 day extension for comments.	PRO6

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
3122	If a comment extension is not allowed then absolutely I would argue for a rejection of permits for Polymet. Some concerns listed below. Thank you. * Acid mine drainage and toxic heavy metal leaching are byproducts of mining sulfide ores, requiring water treatment for centuries. PolyMet admits the mine would pollute ground water, but claims that any pollution would meet water quality drinking standards. Mining pollution also adds sulfates to watersheds, triggering the chemical reaction by which mercury becomes methylated, and bio-accumulates in fish tissues. * Since PolyMet's open pit would be within 20 miles of the BWCAW, haze and noise pollution would impact the wilderness. * Disruption of the landscape would impact wildlife, bird, and plant habitat, while vegetation used in reclamation would introduce non-native species. * PolyMet is a Canadian company, so this mining project will not provide a domestic source of copper, nickel, cobalt, platinum, palladium, and gold. The metals will be further processed in Canada and sold on the global market. * The mineralization of northeast Minnesota is very low grade, containing approximately 8 pounds of copper and .01 ounces of precious metals per ton of waste rock. This will require energy and electricity to create enormous amounts of waste, making this a marginal mining venture on the global market, rather than providing a steady supply of jobs. * PolyMet purchased the former LTV taconite crushing plant and tailings basin for its plant site, but the open pit strip mine would be located within 6,700 acres of public Superior National Forest land which is designated to be sold to PolyMet without environmental review. 470 acres of imperiled or rare/uncommon black spruce (bog) and jack pine forest would be impacted. * Excess capacity at the PolyMet processing facility would open the door for a sulfide mining district between the PolyMet site and the Boundary Waters Canoe Area Wilderness (BWCAW).	WR1A,WI2,WI4,WI5,VI4,P
<b>Sender Last Name:</b> Hess		<b>Submission ID:</b> 145
136	Well, I think this project is important to northern Minnesota in a lot of ways besides just diversify industry. I think it's important for the greater Minnesota to understand that. Hibbing and the surrounding area, the Iron Range, is not just a playground or an area for recreation; there are people that live and have their lives there and it's important for those people to have jobs so their lives can be sustained for the long term and last for posterity. I think that bringing copper mining and precious metal mining to the range will help us to off-set some of the economical swings that iron mining has. I think that these jobs will help backfill a lot of the cutbacks in the existing iron mining industry, which will complement the existing economy. That's it.	EOO
1603	This letter will serve as official notification of our support of PolyMet Mining. Our organization consists of veterans, most of who reside with their families within the surrounding area. Obviously, these people are all very interested in maintaining a healthy environment, not only for their own enjoyment, but for the enjoyment of future generations. PolyMet has invested tens of millions of dollars in studies to inform the EIS and permitting process, and we believe that the PolyMet EIS has evaluated, in detail, all the elements of potential environmental concerns for a new mine. PolyMet has demonstrated it can produce these critical metals while following Minnesota's strict environmental requirements to protect air, water and land. PolyMet and its vendors will provide our young people with multiple opportunities for challenging and exciting careers, thus keeping our young people in the area. PolyMet will contribute to the local and state economy at a time when we really need the jobs and generate significant economic activity in our area.	EOO,G10
2001	c. The DEIS did not adequately characterize the potentiometric surfaces of bedrock aquifers by measuring water levels, the potential for surface-water and groundwater interaction with respect to the Partridge and Embarrass Rivers, and the degree to which ground water naturally moves vertically and under the influence of drainage through the bedrock to the mine pit. I recommend that DNR install several piezometer nests south of the proposed mine and adjacent to the Embarrass and Partridge Rivers to better characterize this aspect of the subsurface flow system.	WR2A
<b>Sender Last Name:</b> Hesterberg		<b>Submission ID:</b> 1193
158	Also, please extend the comment period on this project to 180 days to allow for thorough and accurate evaluation of this issue.	PRO6

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
1308	The DEIS says that water from waste rock piles will be polluted for up to 2000 years (Table 4.1-45). This is a bad idea – we can't expect mining companies to be responsible of the operations for that long. The DEIS says that the destruction of 1,000 acres of peatlands would result in a two percent increase in Minnesota's overall carbon dioxide emissions. Minnesota needs to halt the destruction of these valuable habitats.	EOO,G2B,G7A
<b>Sender Last Name:</b>	Hietalati	<b>Submission ID:</b> 1055
1159	I am Yiriting you in support of the PolyMet Mining's. NorthMet Project. I feel there has been plenty of studing and testing done to ensure the safetyof this project. I feeinorhem Minnesota needs the jobs this project would create; both in the construction and in,the running of the plant. I also feel it will make good use of and old mining area.	EOO
<b>Sender Last Name:</b>	Hildenbrand	<b>Submission ID:</b> 3583
3852	The PolyMet Mining Company proposal to develop precious metals mining at the old LTV Mining Company site near Hoyt Lakes needs the full support of our state and state agencies. From the sidelines, it appears that the PolyMet Mining Company has been run through the hoops with very little support from Minnesota. This mining will provide much needed jobs and much needed diversification to our region and will have financial impact for our region and state. This mining for our region is a new future. The environment should be protected within reason and it appears that the EIS answered all the elements of potential environmental concern. Stuart, let's support PolyMet and help them move forward with mining in an environmentally responsible way.	EOO
<b>Sender Last Name:</b>	Hill	<b>Submission ID:</b> 156
2	Now I didn't read the whole Environmental Impact Statement. I read the 27-page summary. I have just a couple comments about the scope of the Draft Environmental Impact Statement. There are some species listed in there that are endangered; but -- and this may be more a political boundary issue more than an endangered specie issue. The species of the bladderwort, the buttercup, or marsh marigold, the Canadian Lynx and the wolf -- there's only a narrow, small portion of that ecotype in the state of Minnesota. There's another 300 miles of that ecotype across the Rainy River in Canada. So while there may seem to be acarcity of these species in and around the mine site, there's several hundred more -- there's thousands of square miles more of this ecotype in Canada that didn't get counted which these species exist in. And I realize that the mandate of the Environmental Protection Agency is just to do stuff in the United States; but because of the political boundary, these species seem more scarce because of the scoping of the Impact Statement than they really are, because they do exist north of our border. So I think that's it. Thank you very much	WI2
147	Okay I support the adequacy of the Draft Environmental Statement and I would like to encourage the agencies to support the permit for PolyMet -- or the required permits for PolyMet. I think we need the jobs in Minnesota. And from what I've read of the Environmental Impact Statement, it looks like they've adequately gone over what the hazards are.	EOO,G6
<b>Sender Last Name:</b>	Hilshorst	<b>Submission ID:</b> 1018



*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
1118	I am an engineer and have been in the mining industry for over 35 years. I have worked in four of the iron mines in Minnesota and two copper mines in other states. I have experienced good mining and environmental practices in both iron and copper, and know what it takes: a good and diligent attitude and acceptance of responsibility. I know the PolyMet management team and hold them in very high regard. They have always had the focus and direction to create a value for Northern Minnesota and their shareholders and of being a good environmental steward. Having spent in excess of \$24 million for the Draft Environmental Impact Statement, PolyMet will neither squander the investment nor the opportunity to become good neighbors and good corporate citizens. I believe that they will follow through, with full responsibility and diligence, with all of the requirements that the state of Minnesota will have in the permits. Their integrity and honesty is above reproach. The state and the economy need this project, not only for the employment and revenues it will bring to the local and state economy, but also for the overall business stimulation that it will drive throughout the northern region. As important to the region as iron mining is and has been to the region, the environmentally responsible development of the Duluth Complex by PolyMet will bring social and economic benefits to us for several generations. I ask that this draft EIS be completed, and the final EIS issued for the issuance of permits. This is a great opportunity.	EOO
<b>Sender Last Name:</b>	Hilty	<b>Submission ID:</b> 2575
3133	Allow me to be one more voice in opposition to the current proposal. I would briefly like to state just a couple points. There are many scientists and geologists who believe that we have already extracted, by far, most of the rare earth elements and strategic minerals available worldwide, which is evidenced in part by the prices for them going up exponentially. It is also increasingly becoming recognized that there are more of these minerals already out of the ground, that are available for recycling and re-use, than there are left in the ground. And there are untold amounts available for extraction from landfills and waste sites at far less cost and with far fewer potential adverse consequences. (For example, imagine how much copper can be retrieved when we finally determined that it's become unconscionable to waste electricity lighting billboards everywhere.) There is NO way to ensure that damage won't occur to our -- soon to be recognized worldwide as one of earth's most valuable resources -- safe and clean water. And there is no way to ensure that damage once done to the watersheds of northeastern Minnesota can ever be repaired, or even satisfactorily mitigated. Stewardship demands that we respect sound reasons for restraint. The potential long term costs don't justify what can already be seen as questionable short term gains. We must find better ways to conduct our human enterprises on our earth if it is going to continue to be life-sustaining. The time for us to be good ancestors is now.	EOO,G2
<b>Sender Last Name:</b>	Hines	<b>Submission ID:</b> 144
135	Ready for my statement? No, I've been following this project for a couple years and I'm all for it. I think it's pretty good for the State: Create jobs, taxes, be good for the area, lot of spin-off jobs. As long as they do it in an environmentally safe way, and I believe they've got that covered, I say, go ahead, they should do it. And that's all I got to say.	EOO
3148	Based on what I have heard about PolyMet's proposal and the history of this industry, it does not appear wise to make Minnesota's natural resources the guinea pig for unproven processes when the cost of failure will be so high and so long-term in nature. The resources will not disappear if you say no to this proposal at this time. If the processes prove viable elsewhere, this proposal will undoubtedly be made again in the future with the benefit of actual data instead of hypothetical projections. If the processes fail to prove viable elsewhere, the resources of Minnesota will not have suffered the long term negative consequences of gambling on the new processes. I have heard ongoing concerns that PolyMet's analyses have not adequately assured that the environmental history of the industry will not be repeated, and my understanding is that PolyMet does not have the financial resources to mitigate problems if the projected superior environmental results of their experimental processes fail to materialize. Please do not make me, as a taxpayer, responsible for the fallout if their gamble fails. Please don't let this company experiment on my state's resources.	G4A

*Alphabetical by sender's first name*

**Comment ID    Comment Text**

**Theme Codes**

**Sender Last Name:**    Hintsala

**Submission ID:** 309

323 This letter is to advise of my support for the PolyMet-NorthMet Project near Hoyt Lakes, Minnesota. During my career I have provided and managed the engineering design of numerous mineral processing facilities throughout the United States and in eight (8) foreign countries. In 2006 I had the privilege of participating in the preliminary engineering study of the PolyMet -North Met project and I am of the sincere opinion that this project has addressed its impact on our environment with more detail than any other project I have personally witnessed. The economy of Northeastern Minnesota is founded on mining of minerals and Minnesota needs diversification within its mineral industry. Minnesotans managing and working at the PolyMet facility will responsibly produce value added base metals while generating significant economic assistance to our state and local communities, and regional educational districts. Again, I strongly recommend issuance of permits for PolyMet Mining Company-NorthMet Project.

EOO

**Sender Last Name:**    Hinz

**Submission ID:** 3214

3590 proposal. Tax payers would continue to foot the bill for needed clean up from the mine and the EIS does not account for mitigation action items that would need to be employed if there were an issue. Further, there is a lack of detail regarding content in dealing with toxic tailing which would be produced by the mine. Minnesota needs to get up to speed on current mining issues or be taken advantage of by mining interests. I am not against mines and understand

WR3A,PD3,PD4

**Sender Last Name:**    Hobbie

**Submission ID:** 3528

3257 While the Polymet project is not directly in the BWCA, the proposed mine site and the affected area are very close to the BWCA. We know where the surface water flows, but we do not know where the groundwater flows, so this could have a serious impact within the BWCA.  
3805 I have been reading the Draft EIS. I share the concerns of the Native Americans as stated in footnotes. I believe their concerns have not been adequately addressed, and they are sufficient to block the project. They are too important to be relegated to footnotes. The proposed new mitigation techniques are not, and cannot be, adequately tested. The unleashing of harm is an irreversible process.

WR1E

G15

**Sender Last Name:**    Hobday

**Submission ID:** 1666

2117 Please **\*\*do not allow\*\*** the NorthMet mining project Draft Environmental Impact Statement. The "promise" of 400 jobs is just not worth the environmental catastrophe that would ensue.

EOO

**Sender Last Name:**    Hoch

**Submission ID:** 3243

3566 this type of mining should not be allowed in mn.

EOO

**Sender Last Name:**    Hocklin

**Submission ID:** 345

*Alphabetical by sender's first name*

<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
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373	<p>As a resident of Hoyt Lakes I have watched Polymet employees work very hard to meet regularity requirements so the project can go forward. I have attended meetings and asked questions. As a 55 year resident of Hoyt Lakes I am very aware of our clean environment and tourist potential but the need for real work in this part of Minnesota requires development of our natural resoures. I trust that our state will classily observe the project's process and its effect on our resources. Our local residents and their children as they mature, deserve the opportunity for jobs that can support families and communities. Comparison of this project's process to old methods is not fair and the material to be mined is totally different. Let give this privately funded project the opportunity to enrich the lives of our communities.</p>	EOO
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<b>Sender Last Name:</b> Hodnik		<b>Submission ID:</b> 25
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23	<p>Thank you. My name is Alan Hodnik. I'm here to speak as president of Allete on behalf of Minnesota Power, its electrical utility division serving Northeastern Minnesota. I'm also here to speak as someone with lifelong and deeply personal ties to this immediate area and region as this city's former mayor. Minnesota Power supports the PolyMet NorthMet project and this very public process for reviewing the NorthMet EIS. This process is designed to be an open, thorough, and factual examination of the environmental protection framework proposed for NorthMet. There are three major public benefits that can stem from NorthMet in this EIS process. One benefit lies in the metals NorthMet could produce, many of which are currently sourced outside this country, and all of which are needed for many things that support our daily lives, from medical applications to computers to wind turbines. Secondly, another public benefit connected to NorthMet are the estimated 400 direct jobs it would create. These jobs are solid, bread-and-butter employment opportunities for residents of this region and state. No one can argue that these jobs are not desperately needed now or that they aren't needed longer term. This employment would occur through sensibly utilizing natural economic advantages of local mineral resources and existing mining industry infrastructure. There is a logical, thoughtful plan behind the NorthMet project and a foundation for lasting success. It isn't a pipe dream with no realistic prospects or a venture easily whisked away to another location on a whim by its owner. The NorthMet project requires substantial investment and commitment by PolyMet. I can tell you from personal experience this is not the kind of investment made lightly without due economic and environmental diligence. The third major public benefit connected to the NorthMet project and its EIS is the conscious experience this is not the kind of investment made lightly without due economic and environmental diligence. The third major public benefit connected to the NorthMet project and its EIS is the conscious and documented protection of the natural environment surrounding the project. The standards the state will use to protect the land, air, and water involved with NorthMet will be established through the EIS process. Some people say that Minnesota is incapable of properly developing or regulating the NorthMet project in a way that protects the environment. They argue that we must choose between having NorthMet's benefits and having a healthy environment. Often these arguments are based on experiences in eras and locations far removed from today's technology, today's permitting standards, and Minnesota's very stringent regulatory supervision. As an officer of Minnesota Power and president of Allete with responsibility for environmental integrity of our operations, I know firsthand how very stringently state regulations and regulatory affairs govern our industrial facilities. There is no reason to believe Minnesota is unable to properly permit and regulate the NorthMet project. The EIS for NorthMet contains extensive documentation of PolyMet's plans, thorough plans to protect the environment. There is no need to drive the mining of these metals to other parts of the world with lower environmental standards. There is no need to forego good jobs for residents and our communities and, instead, create subsistence jobs in other parts of the world. There is especially no need to do this on the basis of a false choice between environmental and jobs. There is absolutely a need, however, to allow a rigorous, open EIS process to proceed to its conclusion, setting the regulatory framework for PolyMet and its needs to develop and operate NorthMet. I represent a company with extensive firsthand knowledge of the state's strong environmental regulation, and I am here to attest to Minnesota's ability to properly permit this project. Minnesota Power supports the NorthMet project, the</p>	EOO,G6
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<b>Sender Last Name:</b> Hoechst		<b>Submission ID:</b> 196
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*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
193	I have been following the proposed Poly Met project near Hoyt Lakes since the beginning. I feel this project would be a true asset to the area and that this company is sincere about it's environmental impact on the property. I am in favor of this project.	EOO
<b>Sender Last Name:</b>	Hoelt	<b>Submission ID:</b> 1399
1632	I am writing to you as a citizen of Minnesota concerned about the PolyMet sulfide mining project proposed on 6,700 acres of public land in the Superior National Forest. Please support this bill as we are in need of any new job openings no matter what the lunatic tree hugger fringe groups say. Thanks	EOO
<b>Sender Last Name:</b>	Hoffman	<b>Submission ID:</b> 2681
3163	We must not let these companies pollute and destroy our valuable resources. We must protect the Boundary Waters Canoe Area and the wonderful lakes and rivers in this area. This pollution may last for 2,000 years or more. The real treasures are above ground. People come to Minnesota to vacation, hunt, and fish. They will not come and spend their tourist dollars if we have allowed these companies to destroy these waterways.	EOO,G7,G11
<b>Sender Last Name:</b>	Holets	<b>Submission ID:</b> 1102
1207	As a resident of Minnesota for the past 67 years, I wish to support the Poly Met development in the Hoyt Lakes area. I have been following this proposed development for the past 2 or so years and feel that it will bring about positive economic development in a way that is compatible with what already exists in the area. I have read the E.I.S. and believe that environmental concerns and damage will be minimal. It appears that this is a well-conceived project that will benefit our state and all of our communities in the area. I urge your favorable support of the Poly Met project so that it may move forward soon. Thank you for your consideration of this request.	EOO
<b>Sender Last Name:</b>	Holland	<b>Submission ID:</b> 2045
2488	We cannot let our waters to get any more poluted. Wisconsin banned until safe. i believe we should do the same.	G14
3665	I think it'll be a shame to see such pristine areas as the Boundary Waters be so negatively impacted if this project goes through. There is no way to mine in a "clean" way, even if the technology has supposedly improved. Also, once damage has been done to the environment monetary solutions could never fully put the environment in to the same place as it was before. I think the benefits of both sides need to be evaluated. The outcome that results from mining would be such a short-term one if there was one at all.	G2
<b>Sender Last Name:</b>	Hollander	<b>Submission ID:</b> 2634
3150	I also own property in St. Louis County, on Pequaywan Lake. Please do not approve the mine. We have precious little clean water left in our county. Jobs can be created in many ways, but clean water is a limited resource. Once polluted by mercury and other contaminants, there is precious little that can be done to restore the water. Pollution lasts alot longer than the jobs that will be created. Once the minerals in the mine have been depleted, the pollution remains for all our grandchildren and their children.	EOO,G7B
<b>Sender Last Name:</b>	Holmen	<b>Submission ID:</b> 2930

*Alphabetical by sender's first name*

**Comment ID    Comment Text** **Theme Codes**

3273 The PolyMet DEIS describes significant environmental issues associated with this proposed mine. These issues should be resolved before this mine is approved by the Minnesota Department of Natural Resources and the U.S. Army Corps of Engineers. Furthermore, the PolyMet mine would change the symbolism of the area that the tourist industry relies on. Consequently, tourist businesses along the North Shore and Ely area would all bear the external costs of possible future mining, while all economic benefits would be contained to the community of the mine's location.

G1,G11

**Sender Last Name:**    Holzman **Submission ID:** 2978

3356 Please accept these comments on the PolyMet Mining Corp. NorthMet mining project Draft Environmental Impact Statement. I have serious concerns about the safety of this project and its potential impacts on Minnesota's natural resources. I have three young children, and while I sympathize with Minnesotans desperate for jobs, I can't support trading away clean water for short-term economic gain. Nor can I support creating what amounts to an enormous clean-up debt for the next generation.

G1,G4,G7B

**Sender Last Name:**    Honkanen **Submission ID:** 3459

3738 Dear Commissioner, I would like to write in support of the Polymet Mining project that is being considered for implementation. To understand why I support the project, it is necessary to know some information about me. I have lived on the Iron Range since the age of eight. From the age of twelve, I knew that I wanted to be an attorney. Seventeen years later, I have my own solo practice in Virginia, MN, but while in law school at the University of St. Thomas, I received my MBA as well. Prior to opening my practice, I looked at a number of factors in consideration of opening a firm. One primary reason that weighed in favor of making an affirmative decision to start my practice here was Polymet. People on the Iron Range have become accustomed to the boom and bust cycle of the mining industry and that will not change. Polymet raises the economic floor of the entire region so that the economic busts are not quite as bad. In addition, more young people, like myself, will be more inclined to begin opening businesses and venture into the entrepreneurship waters. Mining is the way of life here and that cannot and will not change. Outdoor activities are also a way of life here, but that pales in comparison to the need for clean drinking water, fresh air, and uncontaminated soil. No one wants pollution; however, we live an area where some pollution is required in order to sustain the rest of the world. If people want pristine areas, such as the Boundary Water Canoe Area, then they must alternatively have places like the Iron Range. The goal, then, is to have the safest and cleanest form of mining possible. Polymet has achieved that standard by pursuing the policy of having the cleanest copper mine in the world. I know this because of the various statements made by its president and legal counsel, but also because of the EIS itself. The EIS is like a contract and Polymet is the bound party. That policy will be continued as the DNR, MPCA, and other various governmental and private agencies monitor Polymet's continued activities, assuming the plan is adopted. Therefore, not only is Polymet starting at an extraordinarily high standard, but it is seeking to sustain that standard into the future. Therefore, the Iron Range achieves the best of both worlds: continued economic growth and development and doing so in a responsible and clean manner. Please approve the Polymet mining project so that we can all get to work. Thank you. Sincerely, Erik J. Honkanen Law Office of Erik J. Honkanen

EOO,G1,G2

20687 f. The DEIS reported recharge rates of precipitation and snowmelt through till from calibration of mathematical models, but these values for recharge seem many factors less than probable as determined by the USGS. I recommend that DNR determine recharge rates directly from hydrograph analysis in monitoring wells installed in glacial till at the mine site. Without doing this, there are no assurances of the validity of any of the model calibrations.

WR2A

**Sender Last Name:**    Horneff **Submission ID:** 3753

1 Please Please extend public commenting period to spring 2010! PRO6

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
2	In leu of groundwater extraction wells along the northern perimeter of the tailings basin, consider the emplacement of a permeable reactive barrier (or wall) to treat leachate. A PRB of GAC & ZUI would treat leachate impacted groundwater for 30+ years. Also this would alleviate flow increase to Embarrass River and increase stabilization of the [illegible] N. Wall.	WR3A
3	Allowing the PolyMet Project to proceed without foolproof environmental safeguards and full financial assurance would be the height of irresponsibility; which means that allowing the Project to proceed would be the height of irresponsibility. The wetlands, waters, and long-term welfare of Northeastern Minnesota will be ill-served by sulfide ore mining. The short-term gain for a few workers is not worth the irreparable damage to the ecosystem and the long-term clean-up costs to our children and grandchildren. This project should not proceed.	EOO,G2
3	Im a 20 yr old Boilermaker. I support PolyMet! It creates jobs not only for Boilermakers but other Union Crafts as well. With the economy so low I dont see why people wouldnt support Polymet. It would give hundreds of people jobs not only in the area but for hundreds of miles around. Thanks for the consideration and for all the jobs possible.	EOO
4	Environmental concerns – this type of mining project has never been able to prevent seepage. Why is this one suppose to be different?	EOO
5	I support this project. It seems to me by all of the support that the economic impacts would out way the enviromental impacts. I understand there are criteria that has to be met but all the impacts shared were potential risks not proven facts lets get this project going it is already 2 years to late. Boilermaker local 647	EOO,G1
6	I would like to see this done right, and that means some changes then so be it. As long as it is for the better of everyone involved.	EOO
7	This project has been long awaited. I would like to see it prosper, and that it would be a good advantage for the people of Hoyt Lakes and the surrounding area. I think that Polymet has met all of its requirements. So please get the project going	EOO
8	My name is Thomas Sturgis. I live in Biwabik, Minnesota, and I would just like to say that I would really like to see this PolyMet go. I believe Minnesota has some pretty stringent pollution control regulations, and I don't think we need to add more to this. I would like to see it go. I would like to see my kids not have to leave the area when they grow up and be able to have the opportunity to have a good-paying job here, I would like the grandkids to have the opportunity, and I just think it would be a big burden if this doesn't go through, and it is going to start a precedent where all of these opportunities for really good employment are going to not be available to the area. That's all I've got.	EOO,G5
9	I am pro polymet because it will do good for community's schools and jobs in Northern MN. People are starving loosing there houses and giving what they shouldn't have to give away because of poor economy and not having jobs like this will bring to MN. I would like to live + play in a State that is known to provide work and people live comfortably not in a State that is falling apart cause there is no work. Polymet has made the right steps to make this happen go let them build and provide the food on the tables these people + I need.	EOO
10	This project would put many people to work, which would boost the economy and help everyone. From what I have been told it is safe. I am all for the project.	EOO
11	This project means jobs for Minnesota. It can and will be done in the most prudent environmentally sound way as possible.	EOO
12	This is a well planned – thought out project that will create jobs, produce local copper and will help the local economy. Please move this project forward.	EOO
14	This is great. Let's get going with it. We need jobs.	EOO
15	I support this project because I believe it will create much needed jobs in Minnesota. I believe that, with modern practices, the construction and operation of this facility will maintain a safe and healthy environment. I have personally visited the site and I look forward to seeing it operation again.	EOO

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
16	I am attending tonight in support of the Polymet project. I live in NE Minnesota and have raised my family there in the midst of many projects operating similar to Polymet. One environment is of a concern to me. If I thought the MPCA permitting process was deficient I would say so. If Polymet can meet their requirements I feel comfortable that we are doing what we can to protect the environment and shore up the economic vitality of the region.	EOO
17	My name's Darrell Godbout, I'm with the Ironworkers. I'm an Ironworker Business Agent. I represent about 1800 union ironworkers and we are in support of the PolyMet project. This is an existing mine site already. The property can't be developed for anything else. We all have families, friends, relatives living in the Aurora-Hoyt Lakes area who enjoy clean air and water. PolyMet has taken its steps to assure these areas stay that way. We import about 80 percent of our copper into this country from overseas; companies that work with no environmental restrictions. PolyMet has addressed all the environmental concerns to make sure that they are a good community member and a company to have in our community. A lot of the people in charge of PolyMet are from the area. You see them in our supermarkets, our kids' ball games, around town; they want to be good community people. Knowing that the project is environmentally safe, they can walk around town with their heads high. PolyMet will increase -- will create about 400 full-time jobs and hundreds of spinoff jobs, which is good for our community, our schools, our local businesses. Things to remember about PolyMet: They've addressed all the environmental concerns; PolyMet will provide millions of dollars in local, state taxes, support the community, and, again, our schools. The last is the job creations in the area which -- which are well-needed. And local people growing up in the community, having their kids graduate and having an opportunity to live at home is a big thing for the Ironworkers. That's it.	EOO
18	pro jobs, taxes, and deficit reduction. Get this up + running.	EOO
19	This is an excellent opportunity to provide jobs to the state of MN. I am concerned also about environmental issues but, I am confident that closely monitored, which of course it will be, we have very little to worry about.	EOO,G2
20	Secondly, consider a SRB Cell to treat eventual overflow of the pit discharge, and allow natural drainage to the lower Partridge River thus not effecting flow volume or quality. Constructed SRB Cells for acid mine drainage can be effective for 50+ years, and the matrix can be easily and effectively replaced. Enjoyed the meeting!!	WR3C
21	I believe that this project is good for Northern Minnesota. It is good for the Economy providing much needed jobs which in turn helps people keep their homes, stimulate our local and State businesses as well as a solid tax base for Minnesota.	EOO
21	I am in total support for the PolyMet Project. As an ironworker from Northern Minnesota we could all use the work that comes from this project, and all of the spinoff it would create for families in the area. I believe that it would produce jobs for all walks of life including building trades, vendors and environmentalist. From building, maintenance, and pollution control.	EOO
22	The PolyMet mine will be a positive impact to our region providing jobs to construction, jobs for mining, jobs for the spin [illegible] bay taxes. It is important for our area to have a strong economy. PolyMet mining will provide diversity to our current mining within the area. This mining is providing necessary metals for our society. The metals are necessary and will [illegible] [illegible] here if not here more than likely for our country which will [illegible] with [illegible] not as stringent as we have have in the USA and Minnesota. The mine will not be operated in a random will nilly [illegible] but will be managed, operated [illegible] [illegible] [illegible] professionals with consensus toward the environment as if its protection will be regulated and controled by our States Regulatory Agencies.	EOO
22	This is Minnesota's own economic stimulus program -without tax dollars. Five years of work – over 20 million dollars to date just for the draft Eis. Private dollars no tax dollars. The jobs this project brings to N. Mn is well over 1,000 in full production to say nothing of the ancillary jobs! Tax revenue to State is [illegible] \$40, million. Let's rule this Eis "adequate" – all on the issuance of permits. Do not put these folks through any more "hoops". Move forward – Jobs – State revenue. What more can be said.	EOO

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
23	I would like to see this project moved forward. I was the Investment Banker for this company to help my fellow Minnesotan in the area of jobs. Most of the Shares were bought here in Minnesota. this company has demonstrated very Ethical Standards in quality of their work on the EIS Draft which should be view as adequate. The State needs the Revenues for employment, Company Taxes and hopefully alot of Capital gains Taxes. from my understanding the Company will be paying in the neighborhood of 50mil in St taxes. give these people Hope! They need it with Housing Collapse	EOO
24	I support All Projects that create Minnesota jobs Please Count on Me	EOO
25	I support the PolyMet Project for the following reasons: • The minerals that will be mined are critical for “Green Projects” that are being developed in the US such as electric cars, computers and emission control devices. • We Live in a Progressive State that will enforce environmental permits that will be used to monitor/regulate the mining operations. • We have the responsibility to use our own natural resources when-ever possible and not relay on resources from 3rd woold countries. • The Project will provide Jobs and promote the economic developo of Minnesota.	EOO
26	So I came here, we are the mill lining manufacturer from Canada, and we supply liners here at U.S. Steel and all the other Iron Range, and this is a very important project. The metal price is going up, the economy is picking up, so it is a good project to be in here, and that's why I'm here. And I understand there are some issues about the environment which is being discussed today, but, you know, I started from India, then I worked in Sweden, I was in the UK, and worked in Africa in gold mines, and now I'm in Canada. You know, these plants are everywhere in the world, and these are being -- this technology is not new or the first time Minnesota will be using it, so it is a proven technology. And you can have all types of precautions and arrangements to check the environmental control, and that can be done. It is not the first time somebody is inventing a wheel. So that's all I would like to say. This is a good project to go, and the metallurgy is good, and you can do good economically here.	G5
26	I am all for the Polymet if they adhere to the EIS. Minnesota needs the revenue from non-ferrous mining. It should have started long ago. The ore contains less than 1% SO4. Therefore emissions from Polymet are miniscule compared to other industries. Polymet has the wastewater treatment plant proposed. It seems to me that Polymet is being held to a higher standard. This is a good thing. I drove my car here. It has copper wiring. The catalytic converter has platinum in it. As long as Polymet follows the recommendations of the EIS, there should be no reason to not build the mine. Lets get through this. If we have to make changes to speed up the process, Let’s do it now. But let’s get this State some more revenue. The metal is just sitting there waiting to be mined. I have a cabin on the north shore. Polymet would affect me if it were done in an unfriendly way. I have no reservations to Polymet being built.	EOO
27	We Need This!!!	EOO
28	I would say that I love the out doors and I am for the Polymet project it will be safe for the out door and great for jobs and tax base they have meet every thing that need to be these metals could be take out in any part of the globe with no reg that would be very bad for the globe. Let do it here were it will be done right!!! We need this it is time to get it moving.	EOO,G1
29	I’m a 23 year old Boilermake Apprentice. I have an 11 month old son and with the economy work is slow. Last year when we had our son I was out of work for 4 months. I would love to see this pass therefore giving us more work. I have 3 mouths to feed and with this work it wouldn’t be as hard. I would greatly appreciate the work and so would the economy.	EOO
30	28 year old boilermaker. Second year apprentice. Need work like this to help pay bills, feed children, keep a roof over our heads.	EOO
31	I’am 2nd year apprentice. family of 4. We need this job. Boilermaker local 647 Ramsey MN.	EOO
32	I feel that PolyMet is doing a great thing for trying to build this mine here in Minn. I will create alot of jobs especially in this slow economy it would really help if u ask me!!!	EOO
32	We have to keep jobs here! I am tired of seeing made in China! Made in U.S.A. Union Made!	EOO



*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
33	I support Polymet because it will create lots of jobs for many workers in Minnesota and surrounding areas. Work is slow right now and it would really help the economy to pass Polymet.	EOO
34	My name is Pat Tammen. I'm from Soudan, Minnesota. I taught for 30 years in Ely, and so I'm a retired teacher from there. I have lakeshore property on Birch Lake very close to where the proposed copper mining is going to be, which is four portages away from the beautiful Boundary Waters, and I'm very, very concerned about the copper mining that might be taking place if the permits are granted; that for less than one percent copper, I'm not sure that ruining -- or what I see as ruining our water is worth it. Raping our land is the way I'm kind of looking at it, because we are talking about 6700 acres of our beautiful Superior National Forest, which about one-third of that is wetlands, and how they can replace that or mitigate for that, I'm not convinced of that either. I really think that this is a poor way to go for 400 jobs; that I think that we can think of other ways for people to get jobs, and my idea with that is figure out how we can get some manufacturing plants up on the Iron Range or any place in Minnesota, for that matter, but right now the Iron Range is hurting. As we all know, it is pretty high unemployment. So instead of building windmills in Mongolia, maybe we could do that up on the Iron Range, or Duluth, or the Twin Cities, or wherever. But I would like to take and save our water and our land. That's all. Thank you.	G2A,G7C
35	I need work to support my family on this type of work. Boilermaker USA Eric Wudtke	EOO
36	I am currently a business agent for Pipefitters local 539 and we are suffering an unemployment rate above 30%! My members need jobs, jobs, jobs As well as all the different trades in the construction industry. This project would put 1000's of people to work, It would also create 100s of permadent job for the area!	EOO
37	I believe it is time to stop the cumulative loss of Minnesota jobs and time to start rebuilding our great state and put people back to work. I am a proud member of Boilermakers Local 647.	EOO
38	first off I want to say I am a UNION Boilermaker and am very proud of my job and UNION work. I believe that doing the PolyMet project would be nothing but good for this state and all its residents not to mention the rest of the country that will benefit from it. this project will creat many jobs for people and will be nothing but good in my eyes. this is exactly what we need in this economic times.	EOO
39	It looks like a good project I think it should be built.	EOO
40	What monitoring safeguards will be in place to protect the surrounding lakes?	WR1A
40	I am in full support of this project that PolyMet and Minnesotans are ready to do. I myself am a union electrician, and have not worked in Minnesota for almost 3 years. I am not alone in this, there are thousands of union construction workers laid off (out of work) in Minnesota. And tens of thousands out of work in Minnesota. We need projects/ jobs like this in MN. As well as in the U.S. To many jobs have been shipped overseas. To me the jobs, tax revenue and stimulas of the economy this project would creat is a no-brainer. This project can be done and continued to operate with the enviroment standards held at the level they need to be at. Lets give Minnesotans jobs so they can feed their family. Lets build, create & save jobs in America.	EOO,G1
<b>Sender Last Name:</b> Houdek		<b>Submission ID:</b> 1248
1405	This project will have detrimental effects on the natural resources of the region and its watershed. It is impossible for PolyMet to control the leaching from waste for thousands of years. Minnesota's children and grandchildren should not be burdened with cleaning up a long-term waste site from PolyMet's quick resource extraction scheme.	G7A
<b>Sender Last Name:</b> Howard		<b>Submission ID:</b> 22

*Alphabetical by sender's first name*

<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
20	Ray Howard, I am from West Duluth, and I support PolyMet where it will help our economy, bring in jobs and employ a lot of the people up on the Range. And I just hope they do everything environmentally safe, and that's it.	EOO
<b>Sender Last Name:</b> Howd		<b>Submission ID:</b> 1496
519	Will the sulfide bearing materials exposed and removed from the bottom of the pit be piled on the top of the overburden piles where the leached sulfuric acid can be taken to the watershed and then to Lake Superior?	RFI,WR3D
1793	Please accept these comments on the PolyMet Mining Corp. NorthMet mining project Draft Environmental Impact Statement. I have serious concerns about the safety of this project and its potential impacts on Minnesota's natural resources. I am a property owner in Itasca County and regularly see the environment created by open pit mining I also appreciate the value to the United States in providing iron for steel for our use. Minnesota was a pioneer in protecting the environment through the efforts to protect Lake Superior from taconite tailings which contain asbestos. This took great courage and effort by Minnesotan's who are willing to fight for a healthy environment. Now the PolyMet sulfide mine is again threatening our environment and most politicians and all bussiness leaders chose to ignore the concerns and allow this potentialy dangerous action to proceed.	EOO
1794	At a meeting a few weeks ago for people concerned about the environment the director of the Minnesota Mining organization said "This is only the beginning". The BWCA is a very special place on our planet and God has given us the responsibility to protect it. The current recession is no excuse to compromise the health of Minnesota. It is the responsibility of an elected representative government to look after the safety and health of our people. Our founding Fathers did not give the business owners the right to do what ever they want irespective of the consequences. The PolyMet DEIS describes significant environmental issues associated with this proposed mine. These issues should be resolved before this mine is approved by the Minnesota Department of Natural Resources and the U.S. Army Corps of Engineers.	G2
<b>Sender Last Name:</b> Howick		<b>Submission ID:</b> 3600
3871	To whom it may concern: The potential mining by the PolyMet Mining, Inc. in Northern Minnesota poses as a great risk to our natural resources. When considering this project you must take into account the long term effects on the water quality, the biodiversity, and the tourism industry of the BWCA area. As a scientist and a lover of the outdoors I think these effects are not justified by the creation of unsustainable jobs.	EOO
<b>Sender Last Name:</b> Hughes		<b>Submission ID:</b> 3
3	My name is Dave Hughes. I'm in favor of the PolyMet project. I think it's environmentally sound and socially responsible.	EOO
4	I'm Brenda Hughes and I'm in support of the PolyMet project. I think it's good for the economy, and I believe they'll do everything they can to make it environmentally responsible.	EOO
<b>Sender Last Name:</b> Hund		<b>Submission ID:</b> 2931
3274	Some of my favorite memories growin up and in College was spent in the north of Minnesota, which is a gift we North Dakotan's and Minnesotans get to charish. I do not want this precious area that I feel so proud of, to be destroyed. Please say no to the Poly Met mines.	EOO
<b>Sender Last Name:</b> Huskins		<b>Submission ID:</b> 3654

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
1	The costs of any long term damage to the environment will likely exceed by many times the value of the copper, nickel, platinum and other minerals extracted. Your decisions and those of other agencies involved must make sure that long term damage to the environment does not occur and that the corporation proposing the mine bears all costs of damage prevention and mitigation and restoration of all resources. The long term advantages must outweigh the long term risks in order for this proposal to be approvable, and there must be strong scientific and factual evidence substantiating the analysis. The DEIS does not provide sufficient evidence to conclude that the long term advantages outweigh the long term risks	G2
2	The sulfide ore that will be brought to the surface will interact with air or moisture to produce sulfuric acid. ANY escape of that acid into the groundwater, surface water, or air will damage the environment.	WR1E,AQ4
3	In general, the technologies proposed to contain, treat, and neutralize contaminants must be proven, tested, and supported with evidence demonstrating that water quality, habitat, human health, and the environment in general will not be impaired. Projections and computer-based models, without real-life demonstration of effectiveness, are insufficient for this purpose, given the risks. Remediation techniques in the proposal are not sufficient to remediate increased acidification, once released into surface water and groundwater. Once the damage is done, it can't be repaired.	WR1E
4	unreliable technologies provide the assurance this proposal surely requires. Consequently, responsibility for monitoring quality of surface water and groundwater must be assigned and must NOT be left to taxpayers and local inhabitants. No loopholes in this responsibility should be allowed. If variances will be allowed, the responsible agencies must be required to provide full public disclosure of variance applications, with adequate time for public comment and filing of objections before agency decisions are made.	WR1A,PD4
5	This brings to light the sight and noise pollution. Can you imagine living with the constant noise of the mining operation and then having the beauty of the pristine forests and lakes disappear forever to be overtaken by ugly huge piles of rock?	EOO,N2
5	Any increase in the acidity of surface waters will increase mercury methylation, leading to increased accumulation of mercury in fish. There are already significant concerns about the amounts of mercury in fish in the lakes and rivers in the area; the Minnesota Department of Health publishes annual consumption advisories restricting the numbers and types of fish that can safely be consumed. Mercury can cause brain damage, especially in the unborn, infants and children. All possible measures must be taken to avoid exacerbating this existing problem. All impacts of increased mercury in the fish usually consumed by local residents and by visitors should be analyzed.	WR4B,FM1
6	The argument that the amount of sulfide is low in the ore proposed to be mined is not sufficient protection—even sulfide content of less than 1% can produce sulfuric acid, which can produce the damages described above.	PD2
7	The DEIS recognizes that the tailings basin would have high sulfate concentrations which will seep into the wetlands nearby and ultimately into lakes and streams. This is unacceptable. Moreover, there are grave concerns about the stability of the tailings basin. A breach of the basin could have catastrophic results from uncontrolled spillage of contaminated liquids. The tailings basin alternative still would result in seepage into the Partridge River, either directly or indirectly, so it, too, is inadequate. The technologies proposed to treat contaminated water and to prevent release of contaminants are insufficient.	EOO,WE6,WE8
8	The project proposes storage of waste rock subaqueously in pits, with permanent liners and cover systems to prevent leaching to the surrounding landscape. Yet liners and cover systems will not last into perpetuity; they will eventually fail and the contaminated water will leach into groundwater and surface water. How long are the linings projected to last? For the entire life of the operation? Is that 20 years? That's certainly not long enough. Dikes and ditches will be built to capture surface run-off, but what about run-off that seeps into groundwater via breaks, fissures, etc? Will these systems—the tailings basin, liners, dikes and ditches be sufficiently strong and stable enough to guarantee against breaks, leaks, overflows, and other damage for centuries? Treatment of contaminated water before discharge is proposed, to minimize adverse effects; this treatment, too, should be required until the risk eliminated, which likely is long after the mine would be closed. Financial guarantee of payment for the costs should be in hand before any work begins.	WR2D,WR31,PD2

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
9	Increased acidification of groundwater and aquifers will leach mercury and other minerals into the drinking water used by municipalities and families and individuals, which are likely to produce adverse health effects to people and animals, whether or not they eat fish.	WR4B,AQ4
10	The DEIS predicts that the West Pit will begin leaking/overflowing contaminated water beginning at about year 65—again, long after mine closure. Full analysis is needed of the potential increase in concentrations of cobalt, copper, nickel, arsenic, cobalt, and selenium as well as sulfate, is needed, and adequate protection against leakage and/or overflow must be required. The DEIS states that the overflow “could be mitigated if it would occur.” How can mitigation be effective once the contaminated liquid is flowing through wetlands, streams, rivers and lakes?	WR3A,PD2
11	The project would directly or indirectly affect over 1,500 acres of wetlands, including peatlands. Peatlands are known to be effective in carbon sequestration; impairment of these peatlands would	AQ3
12	Financial assurance needed Post-closure water quality monitoring, treatment, and remediation may be needed for centuries. In some other states, mining companies have gone bankrupt, abandoned mines, or sold out to other companies with the result that the taxpayers are left shouldering the costs of cleanup. If acid mine drainage finds its way into the streams, rivers, lakes, and aquifers, cleanup may be impossible, and at least will take decades or longer. The DEIS must ensure that monitoring, treatment, and remediation/cleanup measures will be taken regardless of any default, bankruptcy, transfer of ownership, or other change in responsible party— and will be the responsibility of the mining company/companies. Financial protection for taxpayers must be fully in place at the outset of permitting so that the mining companies are financially responsible for these measures and to guarantee that none of these costs will fall to the taxpayers.	PD3,PD4
13	Inadequate assessment of land exchange The DEIS presumes that the land exchange with Superior National Forest to consolidate ownership will be successfully completed. It does not adequately evaluate the effect of the land exchange on wetlands, forests, other ecosystems in the area, endangered species, hydrology, and taxpayer interests. This should be done before considering the effects of a project dependent on the land exchange.	PD1
14	Inadequate assessment of socioeconomic considerations The predicted increase in employment, economic benefits to the local economy, and income to state and local government and schools is not sufficiently analyzed. The analysis should include the “boom-andbust” cycle of mining: what will be the effects when the mine closes (its predicted life is 20 years or less)? What mitigation measures should be put into place to clean up the effects of job loss when the mine closes? The economic impacts should be evaluated well beyond the closure of the mine. It is important to consider in this analysis the viability of eco-tourism as an economic engine in the region if environmental damage has occurred. Impacts in areas downstream, including the St. Louis River area and Lake Superior, should be evaluated.	SE3
15	Inadequate assessment of effect on Tribal lands and resources and economic, social, and cultural effects The loss of Tribal access to lands and resources should be fully analyzed, as well as the impact of reduced water quality on Tribal and wild rice harvesting. Cultural impacts as well as economic impacts should be considered. It is not satisfactory that it was “not possible to reach agreement”.	G3,CR1,CR4
16	Inadequate assessment of the "No Action" alternative The alternative of closure and reclamation of the current sites would avoid the environmental and social impacts of the proposed project. The DEIS states that, with this alternative, the economic benefits would not occur. This conclusion takes at most a 20-year view. The economic benefits of No Action should also be evaluated --including the economic benefits of avoiding the environmental damage long past the expected 20-year life of the mine. The comparison should include a comparison of the economic conditions that can be predicted, say, 40 years from now if the Polymet proposal does not go forward with the economic conditions at that same time if the proposal does go forward, the mine closes, the highpaying jobs go away, and the environment has sustained even noticeable long-term damage.	ALT8
17	Cumulative effects are not sufficiently analyzed What are the cumulative effects of the biological consequences of the proposed mine and the remaining closure, remediation and reclamation efforts, and the need for ongoing monitoring and “fixing” of additional problems that emerge in the future? The contamination currently occurring on these sites must be considered in determining cumulative effects. More information is needed on the legacy responsibilities and longer-term mitigation needs.	CR1

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
18	Other matters Concerns registered by the Environmental Protection Agency and the Bois Forte and Fond du Lac Tribes must be given full consideration and detailed responses.	G15
19	Request for notice of final EIS We request e-mail and postal service mail notice of the final EIS in this matter, according to Minn. Rules 4410.2700, Subpart 3.	RFI
22	The quest of PolyMet sulfide mining is said to bring 400 new jobs for 20 years. What temporary assurance is that in comparison to the economic stability and continual attractiveness as a natural prime wilderness that draws visitors here annually by the thousands?	SE4
1162	PolyMet's sulfide mining seepage will pollute the rivers, streams, lakes, wetlands, eventually Lake Superior, with not only Sulfuric Acid produced when the sulfide rock is exposed to air and water, but also with increased levels of Mercury. Tribal Treaty rights would be imposed upon by the increased mercury, sulfates, and heavy metals levels in their wild rice and other vegetation areas. All wildlife, fish, birds, forests, and yes - human beings - would be subject to the poisoning of water and air. To date, PolyMet has admitted they have no proven proof that present technology exists in terms of safety. Wisconsin has banned sulfite mining for this very reason.	WR1E,WR4A,WR4B,WR4F
2043	Furthermore, PolyMet has offered no financial data to prevent taxpayers from having to pick up costs of failures or pollution caused by sulfide mining.	PD4
2663	For over 60 years, three generations of our family have chosen canoeing/camping summer vacations in the Boundary Waters Area. The groundwater, upon which the permanent residents in NE Minnesota as well as annual tourists are dependent, is now seriously and forever threatened by the sulfide mining industry.	G7
2664	Although the PolyMet mining at Hoyt Lakes would not directly affect the Boundary Waters at present, the result of the EIS could directly determine actions of other mining companies pursuing interests in the Kawishiwi Watershed including the Boundary Waters.	G8C
2665	Minnesota citizens have the right to know all the negative facts which sulfide mining would bring to our state, and these are not sufficiently addressed in the present Draft Environmental Impact Statement.	G8
3869	1. EPA reports sulfide mining is the single largest source of toxic pollution in the U.S. 2. PolyMet mining seepage would pollute all waters flowing into Lake Superior, largest freshwater lake in the world. 3. All waters would poison wildlife, fish, birds, forests, and human life forever. 4. The lake-based economy of NE Minn. would become extinct. Noise and sight pollution from mining operations and large water treatment facilities would be deafening. 5. Vacation Land has put NE Minn. on the map. Sulfide mining would destroy this. 6. Other states have been left with their taxpayers cleaning up the residue after mining has pulled out. A warning to the U.S. and the World. 7. The DEIS has many shortcomings.	G2A,G7A,G11
<b>Sender Last Name:</b> Husman <b>Submission ID:</b> 2153		
2558	I am writing to express my support of the proposed action to construct a mine, build stockpiles, and crush and concentrate ore on the former LTV Steel Mining Company property. Minnesota has a long and rich mining heritage in this part of the state and I would like to see additional mining in the region. As Americans, I feel it is also our responsibility to produce the metals that we consume and Minnesotans would benefit from new mining through jobs and taxes. I believe that mining can be conducted in environmentally friendly ways and that an additional mine in northern Minnesota will not cause significant damage to the environment of the area. I am in favor of the proposed action as listed on page S-8 of the Draft EIS summary paper.	EOO
<b>Sender Last Name:</b> Hutchins <b>Submission ID:</b> 3343		

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
3636	-The Environment is ALOT MORE important than getting metal from sulfide mining. □-That isn't fair that because of the sulfide mining, a local resort on Birch Lake will lose customers. □-Boundary Waters Area was meant to be on reserve, meant to be there for a place to relax and bring peace to all visitors. We don't want sulfide mining to ruin that! □-If mining is one of the biggest polluters, nation-wide, the why do we want Minnesota to be apart of that reason for pollution? □-Instead of giving jobs to sulfide miners, lets give jobs to these people that will benefit them & the environment.	EOO,G11
<b>Sender Last Name:</b> Hyduke		<b>Submission ID:</b> 3584
3853	As a lifelong resident of Northeastern Minnesota and business owner in Duluth, I am writing to express my support for PolyMet Mining's North Met Project. PolyMet's draft environmental impact statement provides a thorough review of the project and its impact. I believe the EIS lays the proper groundwork for developing an environmentally and economically sustainable project, and I support the project one hundred percent. The North Met Project will provide vital metals that we all use every day, using environmentally sound methods. Our air, water and natural resources will be safe. This project will provide thousands of direct and spinoff jobs that will be a major boost to our struggling economy, not to mention the millions in tax dollars that will be generated. The homework has been done; the proof has been provided. This is a project that looks good from every angle. I urge you to move it forward.	EOO
<b>Sender Last Name:</b> Hylton		<b>Submission ID:</b> 3626
3908	This letter is in regards to the proposed open-pit mine in northeastern MN. It is time that everyone realizes our most precious resources are the life sustaining plant communities on the surface of our planet. These complex systems can never be replaced yet we continue to destroy them in the name of progress. We can't afford to lose another acre of forest land. As stated in the Jan/Feb 2010 issue of the MN Volunteer Magazine "It is widely recognized that people have become a geological force in changing while ecosystems" "we must take responsibility for that and realize that our choices in the next decade will determine the forest of the future" Each acre of Mn forest holds an average of 99 metric tons of carbon, protecting forest from development keeps stored carbon from being released into the atmosphere. An open pit mine is going to destroy a large area of forest land and will also end up polluting our waters. Please deny the permits required for this mine MN's environment cannot afford it.	EOO
<b>Sender Last Name:</b> Ibele		<b>Submission ID:</b> 1744
747	PolyMet's plan to use existing mine tailing basins for disposal of its tailings raises a red flag. As demonstrated by the failure of the coal ash slurry retaining basins at Oak Ridge Tenn., such retention structures develop instabilities over time and fail, with disastrous	EOO
1077	environmental damage to air, earth, or waters: 2) be required to post bond of such size that unforeseen health and safety impacts on mine workers will be fully covered. The experience with taconite dust and tailings is a warning that in projects of such size and complexity always contains unpleasant surprises.	PD4
1117	I have these comments on the PolyMet Mining Corp North Met mining project DEIS. There are serious concerns with this proposal. The first is the negative impact on water quality. The proposed project anticipates the use of large volumes of water which, together with leachate from waste rock, form a serious environmental problem. There must be a clear,explicit description of the treatment process which will restore all used water to safe quality standards before release into the natural water system. The anticipated presence of high sulphate concentrations is of particular concern.	WR2G
1118	consequences. Before granting approval for this proposal to proceed PolyMet should 1) be required to demonstrate on a small scale,in the field. under actual conditions,whether it is possible to recover the specified metals without	EOO,WR1E,AQ4

*Alphabetical by sender's first name*

**Comment ID    Comment Text**

**Theme Codes**

**Sender Last Name:**    Iverson

**Submission ID:** 3655

- 1 Franconia Mine. It literally breaks my heart to realize that if this project is approved, it is likely that I will not be able to teach my son to fish in these same beautiful lakes, because as we know, past sulfide mining elsewhere has resulted in acid mine drainage causing extensive and expensive damage to water quality and the environment. Given the rarity of protected forest and lake country in America, and the undeniable preciousness of Minnesota's Superior National Forest and the nearby BWCA, I cannot understand why we would risk potentially catastrophic pollution in exchange for the short-term profits that could be earned from exploiting these lands for their limited mineral resources. I am strongly against this project, and I fear greatly that it will be approved in the end. I ask that every one of the 5 steps cited below be taken to limit to the as much as possible the environmental damage I believe to be unavoidable, and attain every possible assurance that Polynet will pay for the cleanup necessary, and for the economic losses the region's outdoor tourism industry will suffer.
- 2 1) Analyze the land that is going to be exchanged for Superior National Forest land to make this project possible. Make sure that the land swap would protect wetlands, endangered species, hydrology, tribal rights and taxpayers' interests.
- 3 2) As the U.S. EPA suggested, make sure that financial assurances for the public are included in the EIS long before any permitting process gets underway.
- 4 3) Analyze all of the impacts (air and water) of increased mercury in fish from the PolyMet project and other nearby pollution sources. Mercury in fish causes brain damage to children and to the fetus.
- 5 4) Get better information on existing pollution, the nature of wetlands, endangered species, wild rice stands and other resources that would be affected by the project.
- 6 5) Require the PolyMet Company to show that their waste rock and tailings piles won't collapse and dump uncontrolled pollution into nearby waters and that they will not create water pollution that lasts for hundreds or thousands of years.

G4A,G11

PD1

PD4

WR4B,FM1,AQ6A

WR1E,WI5,WE2

GT2

**Sender Last Name:**    Jackola

**Submission ID:** 257

- 270 As a resident of Chisholm, Minnesota, I am writing to express my support for the Polymet Mining Corporation project. I am a proud member of my community, have built my career here and have raised my family in this area that has been hit so hard economically in the past 18 months. This Polymet project is vitally important to our region. As a part of an area that has survived the rise and fall of the steel industry many times, I strive to support my local community whenever possible. With that in mind, I have invested my own dollars in the Polymet Mining Corporation, and have encouraged my family, friends and neighbors to do the same. It is my understanding that Polymet will produce the copper, nickel, platinum, gold and cobalt in an environmentally sound manner and generate significant economic activity in this depressed part of Minnesota. In addition, it will provide millions of dollars in local and state taxes that will, in turn, give a boost to our communities and educational systems, while providing employment opportunities to our young adults so they do not have to leave the area. It is my request that you make every effort to see the Polymet Mining Corporation project through to completion.

EOO

**Sender Last Name:**    Jackson

**Submission ID:** 1124

- 1232 As a concerned carer for our earth, I must oppose the Polymet project on several grounds. One is that it is not for our people to have jobs, but is to destroy our area for the benefit of China. And already the plant at former LTV spot is teaching sulfates without even being in full production. We deserve. They spoiled land + jobs that are likely only short-term as metals run out.

EOO,G7A

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
<b>Sender Last Name:</b> Jacobson		<b>Submission ID:</b> 3728
1	The conclusion that there is little risk of sulfate-enhanced mercury methylation in the St. Louis River estuary (4.1-194) is unsubstantiated and should be modified or deleted.	WR4B
1	Conclusions based on sulfate and methylmercury concentrations at sites along the Embarrass River (4.1-126,4.5-21) rest on questionable data and should be modified or deleted	WR1E
2	The water chemistry of area lakes and streams represents a legacy of past iron mining activity with many surface waters enriched with sulfate leaking from old mine pits and tailings basins. A proper sampling of this system could have provided a powerful analog for predicting the methylation effects of additional sulfate discharges. But again, only minimum sampling was done, and nothing conclusive can be drawn from the results.	WR1E
3	The assessment of mercury methylation risks (supporting documents HG01 and HG02) by PolyMet's consultant, Barr Engineering, are scientifically biased and rely on inappropriate models and incorrect assumptions. Rebuttal memos by DNR and PCA staff scientists sharply criticize these documents, and as a result few if any of Barr's conclusions are included in the DEIS. The lack of a balanced and unvarnished assessment of methylation risk in supporting documents weakens the DEIS.	WR4A,WR4B
4	The DEIS does not fully consider the methylation risks posed by sulfate discharges to several key locations: the St. Louis River estuary, the wetland complex north of the tailings basin, hypolimnetic (bottom) waters of the Embarrass chain of lakes, and beaver impoundments along the upper Partridge River. All of these locations represent high-risk situations for sulfate-enhanced mercury methylation.	WR4B,WE8
1350	The stability of the existing LTVSMC tailings basin that PolyMet plans to use for their disposal is a well-recognized concern. Rather than generating a plan that increases the safety margin of the basin, PolyMet concedes that "further design and analysis is needed." o A stability analysis and acceptable basin design should be part of the Draft EIS. o Known deficiencies should be addressed before permitting PolyMet to pile additional waste tailings on top of existing tailings.	GT1
1351	PolyMet should develop and test a plan that increases the safety margin of its planned use of unstable, old tailings basins.	GT1
3332	The Draft EIS states that water from waste rock piles will likely remain contaminated with heavy metals for up to 2,000 years. And yet, after only 65 years, this contaminated water is expected to overflow from the west pit, contaminating nearby water.	WR3A
3333	• Seepage from the tailings pit is expected to create "high risk situations" for mercury methylation in wetlands and lakes downstream.	WR4B,WE8
3334	• PolyMet's proposal to construct a wetland for the purpose of treating contaminated water is unproven. o Previous tests of small-scale treatment wetlands have shown wide seasonal variations in effectiveness. o No-one knows if these wetlands can continue to absorb pollutants over thousands of years. o Full-scale testing should be completed before relying on a wetland to protect high quality watersheds and important wilderness areas in the nearby BWCA W. o PolyMet should propose a different method for treating the water.	WR3L
3335	Polymet should develop a full-scale wetland treatment system and demonstrate its effectiveness over all seasons and for a projected term of years equal to the expected discharge of polluted water from the mine.	WR3L
<b>Sender Last Name:</b> Jalonon		<b>Submission ID:</b> 2554



*Alphabetical by sender's first name*

<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
3120	<p>I am writing to oppose the issuance of any permits to Polymet for the development of a metallic sulfide mine in the Superior National Forest until and unless the issues raised in the DEIS are fully resolved. Also, that the company be required to purchase a bond to cover the potential costs to address any environmental damage done during or in the aftermath of the mining period. The DEIS makes it clear that the proposed mining operation presents too many dangers to our waters, critical habitat areas and other precious resources. They include the following: Water from waste rock piles will be polluted for up to 2,000 years (Table 4.1-45). One analysis in the DEIS predicts that arsenic, cobalt, and selenium will exceed water quality standards. Another analysis predicts cobalt, copper and nickel will exceed water quality standards. Both analyses predict high sulfate concentrations. (4.1-113). “Relatively high sulfate concentrations in seepage from the Tailings Basin would be released to wetlands north of the Tailings Basin and lakes downstream on the Embarrass River that represent ‘high risk situation for mercury methylation’” (S-9). When mercury is “methylated” it can bioaccumulate, making fish unsafe to eat. PolyMet proposes to construct a wetland to treat contaminated waters. DEIS: effectiveness of constructed wetlands to remove metals has “strong seasonal variability.” Also: “A limited literature review also reveals wide range of variability in the pollutant removal effectiveness of constructed wetlands....” (4.1-112). The proposed wetland would cause the destruction of 1,000 acres of peatlands. This would result in a two percent increase in Minnesota’s overall CO2 emissions. The DEIS acknowledges that “project facilities and operations would result in additional greenhouse gas (GHG) emissions in the Arrowhead region”(S-1 DEIS acknowledges the potential for project to result in a loss of critical habitat for both Canada lynx and gray wolf (federally listed species) . There would also be an increased risk of vehicle strikes for both species. PolyMet proposes to use an existing mine tailings basin for the disposal of its tailings and toxic materials, but the stability of the tailings basin has been a serious concern since the project was first proposed, and has resulted in multiple designs. The DEIS acknowledges the potential for basin structural failure: “The NorthM Tailings Basin and hydrometallurgical residue facility embankments would have a low margin of safety due to fines and underlying soils in the existing LTVSMC Tailings Basin” (S-10). PolyMet has failed to address the safety issues, indicating instead that “further design and analysis would occur during permitting...” (4.13-2). In addition to the specific findings of the DEIS, it is my understanding that this form of mining has generally occurred in the arid western parts of the country, where there is not the danger to surface waters as there is in NE MN.</p>	EOO,G2C,G4A,G6,G7A,G7

**Sender Last Name:** Jamar

**Submission ID:** 300

*Alphabetical by sender's first name*

**Comment ID    Comment Text**

**Theme Codes**

314 I am writing this letter in support of the Polymet Mining's NorthMet Project. There are a few points that I would like to make. First, it is my understanding that Polymet will be a 0 discharge plant in terms of water and thus there will not be any contamination of the local watershed. It is also my understanding that Polymet has spent over 20 million dollars for the EIS in order to provide an environmentally sound project. I have reviewed the summary of the EIS and it would seem to me that the extensive EIS document and the rigorous review that the current regulating agencies have done would suggest that Polymet and the regulating agencies have done their due diligence. I also found two websites that ranked the states in terms of environmental success. Forde.com ranked Minnesota 15th for a "green" state with number one being the best. Scorecard.com ranked Minnesota 43rd in terms of air pollution with number one being the worst. Both of these suggest that Minnesota is a leader in terms of environmental regulations and Polymet will meet the required regulations. I would much prefer to have these raw materials come from a plant that has met the rigorous environmental requirements imposed by Minnesota versus coming from those countries with less stringent requirements. There is a demand for copper and nickel worldwide. One has to wonder that if this plant is not allowed to be built here, where will these minerals come from and what type of environmental controls will it have. Would China or Brazil's environmental regulations be as stringent as our current ones? I doubt it. In addition, the process that Polymet is proposing does not include a smelter which is a source of pollution. What would they have in other parts of the world? I would also like to note that there was a copper mine in the upper peninsula of Michigan that is no longer operating. It is in a very pristine area as it was when it was operating and is still after having been closed for many years. These plants can operate in harmony with nature under the current rules. I know many of the Polymet people that are currently involved in designing the Polymet process and environmental control systems. Like me, they live in Northern Minnesota and are raising families here. Typical of people of this area, they are avid outdoorsmen whether that is fishing, hunting, skiing, or just enjoying the beauty of our area. We are all very conscious of our environment and are good stewards of the environment. It is in their personal best interest to have a clean environment for themselves and their children. The economy of Northern Minnesota has been reliant on one major industry for over 50 years: iron ore. We now have the opportunity to diversify the market with a new industry that is in demand and will be for many years. Polymet alone is projecting over 350 jobs excluding the spin-off jobs. In an area that currently has an unemployment rate of over 10%, these jobs would be a welcome relief to the unemployment. The impact to the local school districts would also be significant through the school trust fund. My company's 33 employees and families would certainly benefit from this plant being built. Given the current state of the Iron Ore industry, we need this new industry to insure jobs now and for our children such as my son and daughter. In closing, we all have to weigh the risks of projects with the rewards. In my view, due to the current rigorous environmental regulations in the State of Minnesota, the environmental risk is very small yet the reward to the state is very large. I strongly encourage you to grant Polymet the permits required to make this project a reality.

EOO

**Sender Last Name:**    Janeksela

**Submission ID:** 3729

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
1	<p>Although the relationship between sulfate loading and mercury methylation is complex and difficult to model quantitatively, prior mining activity at the NorthMet site and nearby taconite operations have left a legacy of leaking mine pits and tailings basins that could provide a useful analog for predicting effects of future sulfate discharges on mercury methylation. The DEIS and supporting technical memo (HG01) report results from a modest sampling program conducted over a two year period (2006-2007) at 10 sites on the Partridge and Embarrass Rivers and smaller tributaries. Unfortunately this data set is grossly inadequate to assess sulfate effects on methylmercury levels in area surface waters. There are far too few sites to spatially characterize this large and complex drainage system, sampling frequency is too low to properly assess the effects of changing stream discharge on methylmercury and sulfate levels, and the analytical results for total mercury concentrations are nearly useless because of poor (high) detection limits and other analytical problems. Fully half of the 53 samples reported in Table 2 of Technical Memo HG01 report total-mercury levels below detection, which itself varies between 2 and 8 ng/L. Standard and widely used analytical procedures for total-mercury in water provide detection limits in the range of 0.5-1.0 ng/L, which is well below normal surface water concentrations. The lack of reliable numbers for total-mercury means that the %MeHg (the proportion of total-mercury present as methyl) cannot be calculated. %MeHg is a widely accepted and useful metric for the methylation efficiency of the environment, which allows for comparison across sites where total-mercury and other water chemistry variables may range widely (see MPCA response to HG01). The DEIS points out that methylmercury concentrations in the upper Embarrass River are greater in low-sulfate waters above the LTV tailings basin than they are at a downstream site that receives tailings-basin drainage and has higher sulfate (4.1-126, 4.1-133). However, the difference in methylmercury between the two sites is not statistically significant and furthermore cannot be expressed as %MeHg for lack of reliable total-mercury data. Moreover, some of the highest methylmercury concentrations (and %MeHg) are reported from Second Creek, which also has very high sulfate levels from mine drainage (4.1-169, see also DNR response to H001). But basically, the data set for the NorthMet site is far too sparsely populated with reliable numbers to allow for any statistically robust assessment of possible minedrainage effects on methylmercury levels. In all fairness, the DEIS does, point out that additional sampling of area waters is currently being conducted, which may help address the effects of legacy mining and sulfate loading on mercury methylation (4.1-113, 4.1-161, 4.5-1). One final note on mercury monitoring of surface waters is that a sampling plan that focuses solely on water samples is likely to be uninformative (Harris et al. 2007a; Mason et al. 2005). This is because water samples provide only an instantaneous snapshot of environmental conditions, especially in flowing waters where concentrations and fluxes can change quickly. Most mercury monitoring programs today include, and indeed focus on, biotic indicators of ecosystem mercury exposure. Forage-fish, zooplankton, and aquatic insects integrate mercury exposure over meaningful periods of time, yet if properly selected, represent discrete food-web (trophic) positions that are comparable across sample sites and through time. These lowtrophic indicators are also highly correlated with, and predictive of, mercury levels in game-fish and hence of human mercury-exposure risk.</p>	WR1E,WR4A,WR4B,FM2
1	<p>There is little in the DEIS that would mitigate the effects of sulfate discharge on mercury methylation potential. A tailings-basin alternative that would intercept groundwater discharge to a wetland complex along the Embarrass River is likely to be essential, though the flow would ultimately be redirected to the Partridge River, rather than being eliminated. No consideration is given to sulfate-removal alternatives that might reduce sulfate concentrations in discharges to something approaching background (natural) levels.</p>	WR3I,WR4C
<b>Sender Last Name:</b>	Janes	<b>Submission ID:</b> 2633
3149	<p>Altho I have read only about a hundred of the 700 page EIS online, it just seems to me a poor trade-off: a small number of jobs and some non ferrous metals for permanently damaging ten square miles of our state and producing a lot of pollution.</p>	EOO
<b>Sender Last Name:</b>	Janice	<b>Submission ID:</b> 3176

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
718	If you allow this beautiful part of the country be destroyed it will be a sin above all sins. The time set forth is not enough to allow for all that needs to be studied and understood. There should be at least 30 to 45 days extended to allow for such review. There should also be more public meeting in more locations so that all who wish to participate in this matter have a chance. The current schedule you have set forth is limited. There should also be an option for citizens to produce statements and a discussion should be held during the meeting on all presented materials.	PRO6
<b>Sender Last Name:</b> Janson		<b>Submission ID:</b> 3656
1	The DEIS does not outline any specific plan for reclamation after the mine site is closed. In the same vein there is no specific	PD3
2	mention of the method or amount of financial assurance that the mining company will need to set aside for the potential disasters after closing. Because acid mitigation is difficult to predict and long term treatment after closing is necessary, there needs to be a large sum of cash held in escrow as a damage deposit and that amount should be specific and included in the final EIS.	PD4
3	2. There was little or no field sampling done on the movement of ground water through the bedrock. Since the mine and its waste storage site sits nearly on the continental divide it should have been determined if there is any chance that polluted mine drainage (including acids, metals, or sulfates) could move in the rock over time to the north and into the Boundary Waters watershed. This was not done and should be before permitting.	WR2A
4	3. The mine site disrupts natural corridors for the movement of wildlife. Specifically the Canada lynx which is a federally-listed threatened species that requires large territories and benefits from undisturbed forest corridors. No provision is made for mitigating this loss of habitat in the DEIS.	WI5
5	4. The DEIS does not approach the most important question of cumulative impacts of this mine and the others that are proposed in the district. Polymet can not be looked at as a single, one-time event in N.E.	G9
6	5. Where is the plan for constant monitoring of the mining operation by the DNR? Waste rock needs to be sorted by sulfide content, tailings basins need to be inspected for leaks, and waste piles need to be sampled for pH in runoff water regularly. Do we just depend on the mining company to do its own monitoring? There should be a program set up in the EIS for constant monitoring of operations by an independent environmental concern or the DNR.	PD8
7	6. Sulfates are a problem that are not dealt with rigorously in the DEIS. Sulfates in surface water demonstrably impact aquatic vegetation, specifically wild rice. In addition sulfates react with elemental mercury in a process known as mercury methylation. Methylmercury is the form that bio-accumulates in fish and animals that eat fish, including humans. What process has been identified to detect and mitigate methyl mercury in the environment and how will community health be dealt with and paid for? For me personally, I have enjoyed recreating in the Boundary Waters Canoe Area Wilderness and adjoining Quetico Provincial Park over the past 20 years, and look forward to similar activity for the next 20 or more years. Contamination of these wilderness areas must be prevented to the greatest degree, even beyond what is technologically possible today even if that means Polymets (a.k.a. NorthMets) application to do extractive mining is delayed or denied until such technology exists. Perhaps Polymet (a.k.a. NorthMet) could invest similar effort and monies in recycling waste electronics to recover a similar amount of copper and nickel. Recycling efforts may be more costly now, but the collateral costs of not recycling are becoming astronomically unaffordable for each and every one of us.	WR4B,WR4F,FM1,FM4,A
<b>Sender Last Name:</b> Jaspersen		<b>Submission ID:</b> 2594
3143	Minnesota - The Land of 10,000 Lakes - Please consider carefully what this action would do if you allow this mine to be located here. PLEASE DO NOT ALLOW THIS !!!!!!!!!	E00



*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
6	4.2-19 paragraph 2 No one can drink any groundwater from the aquifers contaminated by this mine - virtually forever.	EOO
7	4.2- 26 4.2.3.4 A passive reactive barrier would require undefined periodic replacement of a significant amount of material in addition to other long term maintenance.	EOO
7	4.2-26 paragraph 2 Proposing to capture and treat all process water over the long life of these large project sites is not practical. Expected leakage and failure risks should be incorporated. Modeling basis must be based on actual maximum head testing and hydrogeology.	WE2
7	4.9.1.1 Federal Land Management: A discussion regarding the feasibility for a land exchange between USFS and PolyMet is discussed. This DEIS should not be approved or move forward until such time as the feasibility and legality of this idea be decided. The statement: "This analysis is based on a successful completion of the land exchange and elimination of National Forest lands from the Project" suggests the authors of this DEIS can predict the future. It is impossible for the public to fairly evaluate this DEIS with such speculation.	CPLU3
8	4.2-32 Filtering criteria are not requirements of statute or rules. More detailed justification of criteria used relating to economics is necessary. The choice of 1.1 miles from a ditch and at least 100 contiguous acres appear to be arbitrary . "Anticipated difficulties" is not specific enough for a final EIS / permitting. It can be argued that smaller projects spread over a wider area will provide more benefits (i.e. similar to prairie potholes.)	WE2
9	4.2-33 p3 Again, criteria not required are being used based on perceived costs. Actual costs should be defined for any comparisons.	EOO
10	That brings me to my next concern, which is: what happens to this mercury-rich peat at the mine site when it is dug up and stockpiled? In the RS73B document by Barr 2008 we read that about 1,536 acres of clear cut forest, soil and wetland disruption could occur if the project is approved. All soil sequesters mercury. The inorganic Hg in the peat stockpile has a high potential to mobilize and methylate, thus adding to the methyl mercury burden of the already polluted aquatic system. The stockpile should be capped unless moved within one year. Such mitigation measures are not discussed in the DEIS. The DEIS suggests such a potential major problem with methyl mercury from the mine site. In PolyMet documents under Peatland Disruption we read, "NorthMet mine site would result in a nominally estimated increase of 7-42 % in export of methyl mercury from the watershed". (2) This methyl mercury would be transported down the Partridge River to Colby Lake, both of which already have prohibitively high fish tissue mercury. Is this acceptable to the state and federal agencies involved?	WR4B,WR4C,PD8
11	The atmospheric Hg emissions from the proposed PolyMet mine and processing plant would contain three species of Hg: elemental Hg, ionic Hg and Hg attached to particles. The ionic Hg and Hg attached to particles, which are the most chemically reactive, will be deposited locally and the local wind rose (DEIS Figure 4.6-1) shows that the prevailing winds will deposit those species disproportionately within the Lake Superior watershed. This is not what the Clean Water Act demands for the watershed. The Clean Water Act Section 303 demands the implementation of a mercury TMDL that results in the delisting of waterbodies contaminated for fish tissue mercury. (3)Will the company have to buy "off sets" as defined by the State Mercury Implementation Plan, for any new mercury source?	AQ4,AQ6A

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Comment ID	Comment Text	Theme Codes
12	<p>Another mercury problem for these waterbodies that are already listed for fish tissue consumption advisories by the Minnesota health department (Colby Lake, the Whitewater reservoir and the St Louis River) is the proposed water level fluctuations, due to drawdown at the Whitewater reservoir. Addressed on page 4.1-176 we see that under the Proposed Action there will be a reduction in flow to the Partridge River of -10.5 cubic feet per second. And that reduction is intermittent and the magnitude varies. According to Figure 4.1-29 70-Year Cumulative Effects on Partridge River Hydrology, these intermittent reductions could result in a maximum drawdown to the Whitewater reservoir leading to as much as 300 feet of exposed sediments on some shorelines. It would also expose sediments in the many beaver ponds on the Partridge River and they are not addressed in the DEIS. Water level fluctuations have been shown to be a major contributor of methyl mercury to the sub-watersheds of the Red River and would do the same thing to the Partridge River and the reservoir in this case. Fluctuating water levels have been identified by the MPCA as putting a waterbody at risk for methylation. This DEIS does not discuss all the reasonable design and operating strategies needed to reduce these draw downs. There needs to be an attempt to schedule the water releases and withdrawals of the three mining operations, one city and one power plant that use this river, to minimize sediment exposure and therefore methylation. If we are going to allow them to use our water, then we have the responsibility to mandate that they use it in such a way that minimizes environmental degradation. That has not been suggested in this DEIS and needs to be addressed before it can be deemed adequate. (4) It needs to be addressed with a serious scientific attempt to quantify mercury methylation from water level fluctuations. That has not been done.</p>	WR4A,WR4B,FM1,FM5
13	<p>There are natural fluctuations in aquatic systems that present high risk for mercury methylation as defined by MPCA (2006). I am referring to spring snow melt and storm events in which the waters rise into wetlands and bring with it a higher than normal load of sulfates. On page 4.1-23 of the DEIS we read that 54% of the Partridge is a Type C channel according to a Level I Rosgen Geomorphic Survey. Type C channels are characterized as having a well developed floodplain. It goes on to say that in general the Partridge River has a well developed floodplain for all but the Type B reaches. Only 13% of the channel is Type B. That means 87% of the Partridge has a well developed floodplain and is at high risk for mercury methylation if the operation delivers the high sulfate waters that are predicted in this document. Currently, sulfate concentrations are often a limiting factor on mercury methylation and therefore on fish tissue mercury throughout Northeastern Minnesota. If sulfate levels increase as a result of these projects, mercury methylation may markedly increase. All of our wetlands are presently contaminated with decades of air borne mercury deposition. Most of them also have high carbon contents. Oxygen fluctuates by season, so the one sulfate reducing bacteria nutrient we can control is the sulfates. The research is clear that there is a sulfate threshold below which bacteria cannot convert inorganic mercury into the dangerous bioaccumulating form known as methyl mercury. That threshold is around 3 mg/l (Barr, 2008) and then it goes up from there. Our waterways are naturally around that threshold. Sometimes they are above it and sometimes below. Adding sulfates would clearly increase fish tissue mercury and that is not acceptable in such high quality watersheds. (8) Is this acceptable to the MPCA?</p>	WR4B
13	<p>Clearly, the statement on page 4.14-9 of the EIS is in error when it says, "Therefore, the NorthMet Project is not expected to contribute to cumulative effects on mercury in water and fish tissue in the Partridge River watershed." On the bottom of the page they make the same erroneous conclusion about the St Louis River watershed, even though they did no Geomorphic Survey of that river. If you survey the St Louis River below the US highway #2 bridge, along the Fond du Lac Reservation boundary, you will find a well developed floodplain all the way down to the Knife Falls Dam. (5)How will the EIS consider sulfate loading to floodplains, reservoirs and the estuary in the down river reaches where the additional sulfate loading will push concentrations towards and above 10 mg/L which is the wild rice standard and also push to levels that support higher rates of methylation?</p>	WR5A

*Alphabetical by sender's first name*

**Comment ID    Comment Text**

**Theme Codes**

- 13 It just so happens that the area from the Scanlon Dam on down to Lake Superior has the highest recreational use of the entire river. Spearing spawning fish that come up out of the Thompson reservoir is a longstanding local tradition. Jay Cooke State Park boasts a fantastic small mouth bass fishery. Even more important, is the St. Louis River estuary fishery. This estuary is home to world class walleye, muskellunge and sturgeon population. This is where the excess sulfate from PolyMet may have its worst impact and it is not even mentioned in the DEIS let alone analyzed to evaluate cumulative harms to natural resources. This is where sulfate levels are currently low enough so that often the lack of sulfate inhibits the sulfate-reducing bacteria that methylate mercury. This inadequacy of the DEIS must be addressed. Section 303(d) of the Clean Water Act demands that it be addressed. The St. Louis River was listed for mercury impairment in 1998 and it still doesn't have a mercury TMDL. EPA guidelines developed in 1999 show that a TMDL that will bring mercury in the St. Louis River to a level that would allow delisting needs to be done in the next couple of years. I maintain that it is a violation of the Clean Water Act to permit this mining proposal, knowing that the excess sulfate ions are likely to enhance methylation to the point that it would preclude the successful implementation of a mercury TMDL. Permitting of this mine could prevent for decades or even longer, delisting of the St. Louis River, an impaired water body under Section 303(d) of the Clean Water Act. Upon closure of these mines, it is proposed that leachate will be routed through an artificially created and perpetually maintained wetland. The carbon and water and sulfate and mercury in these artificial wetlands may lead to additional methylation of mercury, (Page 4.1-123 of the DEIS) which will further pollute adjacent aquatic systems. We have known since 1985 (Compeau, G.C. and R. Bartha. 1985, "sulfate-reducing bacteria: Principal methylators of mercury in anoxic estuarine sediment", Applied and Environmental Microbiology, Vol 50, Pages 498-502) that carbon and water and sulfate and mercury are the nutrients necessary for the metabolism of the sulfate reducing bacteria that produce methyl mercury. Also according to their own documents in the Executive Summary of RS54/RS56, about water released from the tailings basin, "Sulfate is predicted to exceed the secondary drinking water standard during the operational period and again in about mine Year 60." Any of these proposed mines in water rich environments would be massive sulfate generators. Waste water could be polished in a wetland treatment facility if the high sulfate concentration of both the mine site leachate and tailings basin leachate were first reduced by the use of nanofiltration or a Permeable Reactive Barrier. However, that would require waste water treatment for perpetuity. If that is what is needed to protect this watershed from harmful fish tissue mercury for perpetuity, so be it. (7) Will treatment of waste water for perpetuity be addressed and not just dismissed?
- WR5A,WR5C,FM1,FM3,F



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Comment ID	Comment Text	Theme Codes
13	All of the watersheds in this part of Minnesota are naturally sulfate poor. This was documented by the highly respected DNR scientist, John B Moyle. He was the first to suspect the now well-documented relationship between sulfate pollution and wild rice decline. Moyle found in DNR Fisheries Report No 69, April 2, 1944, sulfate concentrations of only .3 mg/L in the Partridge River. Even today undisturbed portions of the watershed have low sulfate concentrations. According to the DNR Study of the St Louis River (John Lindgren, Nancy Schuldt) released August 29, 2006, at river mile 171 the St Louis River has a sulfate concentration of only 2 mg/L and "Wild rice dominates this reach". That stretch of river above the confluence of the mining impacted Partridge River was packed with migratory waterfowl this last fall. DNR research, done by Dr. Michael Berndt in 2008, shows that the Mud Hen watershed which is not impacted by mining has only 2.05 mg/L of sulfate. However, sulfate levels in the Embarrass River could climb as high as 63.4 mg/L at closure of the PolyMet operation, according to this DEIS. The St Louis River from river mile 160 on down stream for the next 60 miles has been heavily polluted with sulfates, as have been all the tributaries on the north side of the river. The taconite industry lies to the north of the river. In a DNR report on sulfates in 2008, Mike Berndt found high sulfates from the Partridge river on down. For example, he found 35.38 mg/L of sulfate below the Partridge River, 43.13 mg/L above the East Two River and 37.42 mg/L above the Whiteface River. Where did all this sulfate come from? It came from taconite waste that leaked sulfate into the sub-watersheds. For example, the East Two River went from a sulfate concentration of 5.5 in 1947 to 106.05 mg/L in 2008. The Embarrass River went from .2 in 1947 to 27.37 mg/L in 2008. The Partridge River went from .3 in 1947 to 77.42 mg/L in 2008 and the West Two River went from 1.0 in 1947 to 71.20 mg/L of sulfate pollution in 2008. All of the new sulfate produced in the proposed mine waste heaps, tailings basin, sulfuric acid mist and acid rain, has to go somewhere. Of course, it is headed downstream to river reaches and associated wetlands that are lower in sulfates. In 2008 it appears that sulfate releases associated with mining in this watershed are still significant 100 river miles later. That is correctable and PolyMet can either exacerbate the problem and push the sulfate impact all the way to Lake Superior or improve the situation, depending on how they treat or don't treat their leachate.	EOO,WR1E
13	I, Carla Arneson, support and hereby incorporate by reference all comments submitted by the Tribal cooperating agencies, as set forth in Appendix D to the Draft EIS, and also set forth within footnotes throughout Volume I of the Draft EIS.	G15
14	4.7 Noise: It is stated that the effect of noise on wildlife is reviewed in section 4.4. However, a review of 4.4 reveals a dearth of references to the wealth of science regarding the compelling adverse impact of noise on wildlife and human health. A separate section devoted to this topic should be written and included in the DEIS. The cumulative effects of noise as animals move along corridors over ranges of a few meters to > 100 miles must be considered. (Radle AL. Effect of Noise on Wildlife: A Literature Review. <a href="http://interact.uoregon.edu/MediaLit/wfae/library/articles/radle_effekt_noise_wildlife.pdf">http://interact.uoregon.edu/MediaLit/wfae/library/articles/radle_effekt_noise_wildlife.pdf</a> . The DEIS fails to provide evidence regarding the serious and growing human health effects of noise. Former U.S. Surgeon General William H. Stewart said in 1978: "Noise must be considered a hazard to the health of people everywhere." (Goins L, Hagler L. Noise Pollution: A Modern Plague. S Med J 2007: <a href="http://web.ebscohost.com/ehost/pdf?vid=2&amp;hid=102&amp;sid=72c7f778-d60d-4a16-9a7f-010ec30d90a7%40sessionmgr104">http://web.ebscohost.com/ehost/pdf?vid=2&amp;hid=102&amp;sid=72c7f778-d60d-4a16-9a7f-010ec30d90a7%40sessionmgr104</a> ) Summary: p4.7-9. The use of the word "continuous" is confusing. Does not "discontinuous" noise matter, eg, blasting; 100 ton mine truck traffic; etc? For those people who frequent the environs of the proposed Project for recreation, fishing, hunting, and such activities, the data presented in 4.7 would likely adversely affect their experiences.	N4,N5,N6
14	Two specific waste issues at the tailings basin are as follows. Toxic filter cake sludge from the Dunka Mine site containing copper and nickel was placed in the tailings basin and needs to be addressed in detail by the agencies. The 1992 MPCA Hoyt Lakes inspection report stated it was placed in the southeast corner of the tailings basin. How have the agencies determined in the DEIS that "little evidence remains" and where off site was the sludge taken? Any testing done to determine impacts from the sludge must be included in the revised DEIS evidence.	PD2

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
14	The agencies must also address in detail the coal ash (bottom and fly ash) from the Hoyt Lakes and Taconite Harbor operations that was disposed of within the permitted area of the tailings basin, and placed on a base of tailings approximately four feet thick in order to keep the ash above the standing water in the area. Also, ash from the 1993 coal ash pile failure near Taconite Harbor was placed in the tailings basin and must be included in a detailed DEIS accounting . Approximately 1/2 million cubic yards of ash was released from the Taconite Harbor pile; a minimum of 300 cubic yards of ash per day was moved and disposed of in the tailings basin after the spill. What was the total moved there? Once described as "tiny bbs rolling around" by a Minnesota Pollution Control Agency official, ash is notoriously unstable and must be addressed in more detail when located within a tailing basin proposed for reuse.	PD2,GT3
15	The agencies must address in more detail the ash, the sludge from Dunka, and all other materials within the basin permitted area, their impacts to the cumulative toxicity of the basin waste, as well as to the stability of the tailings basin itself. This DEIS does not include all information concerning basin wastes and toxicity, so it does not fully assess impacts. A revised DEIS must do so.	PD8,GT3
15	All water going out of the plant must be tested before it goes to the tailings basin using Toxic Characteristic Leaching Procedure (TCLP) to determine hazardous waste. All water must pass the following testing criteria for hazardous waste: Ignitability, Corrosivity, Reactivity, Oxidizer, Toxicity, Lethality (Minn. Rules Ch. 7045.0131) and must also not be a specifically 'listed' chemical that is automatically a hazardous waste by name. This must be stated in a revised DEIS.	WR1A,PD2
16	When determining hazardous waste at the Plant Site the revised DEIS must take into account reports from the 1992 MPCA inspection of the Hoyt Lakes facility and any other reports of violations. The 1992 report found violations of hazardous waste rules. These included manifest deficiencies, inadequate personnel training, and in two instances, failure to evaluate certain wastes. Such information would raise questions about the validity of historical records and their influence on decisions made for the PolyMet/NorthMet Project.	HM6
17	The Tribal cooperating agencies' position must be implemented concerning hazardous waste as follows; "The hydrometallurgical residue facility would contain the most hazardous waste materials produced by this project that, if released to the environment, would cause serious and long lasting contamination. The unknowns...are a serious data gap and the tribal cooperating agency position is that the analysis should be conducted and included in the DEIS to comply with NEPA and so that the public can review a complete set of possible environmental impacts associated with this project."	PD2,PD5

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<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
18	<p>The U.S. Environmental Protection Agency's Design and Evaluation of Tailings Dams (1994) stated, "More recently, concerns have been raised about the stability and environmental performance of tailings dams and impoundments. Stability concerns are raised in part by the use of tailings materials in tailings dams/embankments; to mitigate these concerns, such embankments often rely on a certain amount of controlled seepage to enhance stability, which in turn affects environmental performance." In PolyMet/NorthMet's case, under the current DEIS, there is no viable solution except "No Action". If the "necessity to prevent the pollutant from being discharged" is met, then geotechnical stability of the tailings dam will not be possible to achieve with PolyMet's compounded stability problems. If the tailings dam is allowed to continue to seep for stability reasons and thereby discharge the substantial pollutant amounts listed (as well as unidentified pollutants) than "the necessity to prevent the pollution from being discharged" will not be possible to achieve. Further, disadvantages to tailings impoundments detailed in EPA's Design and Evaluation of Tailings Dams (1994) and credited to Environment Canada 198 are: "difficulty in achieving good flow distribution, difficulty in segregating drainage from uncontaminated areas, difficulty in reclamation (particularly with acid - generating tailings because of the large surface area and materials characteristics), inconsistent treatment performance due to seasonal variations in bio-oxidation efficiency, costly and difficult collection and treatment of seepage through impoundment structures, and potentially serious wind dispersion of fine materials unless the surface is stabilized by revegetation, chemical binders, or rock cover." "Inactive tailings impoundments also are receiving more attention due to the long-term effects of windblown dispersal, ground water contamination, and acid drainage. In many cases, the costs of remediation can be considerable, exceeding the costs of original design and operation of the tailings impoundment." (Design and Evaluation of Tailings Dams) The question must be addressed in a revised DEIS whether the NorthMet Project will be literally covering up a current contamination problem so it does not need to be properly dealt with now. (DEIS 4.1-7): As the LTVSMC Tailings Basin was built up over time, a groundwater mound formed beneath the basin due to seepage from ponds located within the various cells. Surface seeps have been identified on the south, west, and north sides of the Tailings Basin, although the number of seeps and the seepage rate have declined since January 2001 when LTVSMC terminated tailings deposition in the basin. " Now NorthMet is proposing to add millions of tons of waste to an already leaking basin, which will logically increase and surpass previous seepage. "Current groundwater seepage from the LTVSMC Tailings Basin to the north toward the Embarrass River is estimated at approximately 1,795 gpm (Hinck 2009, Personal Communication). This seepage rate exceeds the aquifer flux capacity, resulting in upwelling of as much as approximately 1,600 gpm of groundwater to the surface. This upwelling, in conjunction with the surface seeps, has inundated some wetlands immediately downgradient of the Tailings Basin (DEIS 4.1-7)." "The LTVSMC Tailings Basin, proposed for reuse by PolyMet, was operated from 1953 until it was shutdown in January 2001. The existing Tailings Basin is unlined and the perimeter embankments do not have a clay core or cutoff, which allows for both surface seepage through the embankment and groundwater seepage under the embankment" (DEIS 4.1-29). PolyMet/NorthMet does not propose a liner for the Tailings Basin .</p>	WR1E,GT2

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Comment ID	Comment Text	Theme Codes
18	<p>In August of 2009 the USEPA (Re: NorthMet Project — Preliminary Draft Environmental Impact Statement) stated: "In several sections, the Tailings Basin Alternative notes that groundwater will be pumped downgradient from the tailings basin, and recycled back to the tailings basin. In some options, the water will be discharged to the Partridge River – either during operation or post closure. Treatment is mentioned only as a potential option to be assessed later. We have several concerns about the discharge of this water to the Partridge River or to the unnamed creek also mentioned. We recommend that impacts from discharges and mitigation discussions be evaluated as part of this decision-making phase and not deferred to some later discussion outside the NEPA process." The subsequent DEIS contained two Tailings Basin Alternative options. The two options are "Maximum Recycle Option" and "No Recycle Option" which both discharge seepage directly to the Partridge River. All seepage and waste water of concern must be treated or contained, and a plan for doing so must be identified and open to public comment before any permitting is considered. Putting the decision-making phase, in this and other decisions, outside the realm of the NEPA process is a disregard for the EIS process and ultimately lack of respect for the rights of the citizens of the state. The Minnesota Environmental Quality Board, Tailings Basin Design report, 1978, states: "When the water contains a serious pollutant, the tailings dam must be designed to retain water for longer periods until the harmful chemicals have degraded or until the water evaporated. A completely closed system is preferred in all such cases, not only for conservation of water, but as a necessity to prevent the pollutant from being discharged. The seepage water from this type of dam must be controlled, treated, and pumped back to the mill for reuse." Vertical well pumping being proposed must be fully examined for total effectiveness in the revised DEIS. Used at superfund sites, its effectiveness is questionable. The revised DEIS must also be clear that long-term vertical well pumping is being proposed for an indeterminate period of time and likely equates as perpetual treatment.</p>	WR1A,WR2C
19	<p>In the past did Cliffs Erie, or any other party, have stability issues during the construction, filling, and operation of the tailings dam that would be considered accidents by ICOLD standards (A1, A2, or A3)? If so these incidents must be part of the revised DEIS record and included in stability studies of all NorthMet impoundments.</p>	GT1
19	<p>Fractured bedrock must be determined and all impacts dealt with in a revised DEIS. "Aquifer testing in the bedrock has not been performed in the Tailings Basin area, but the bedrock is believed to have a significantly lower hydraulic conductivity than the overlying drift (Barr 2009, Technical Memorandum: Results of Tailings Basin Hydrogeological Investigation)." Again, adding PolyMet tailings to an already leaking Tailings Basin will only increase seepage of pollutants. This must be solved. The agencies must include as part of the revised DEIS a detailed analysis of exactly how adding millions more tons of tailings to the Tailing Basin will improve the seepage of pollutants from the Basin to the groundwater. Kinetic testing is not reality.</p>	GT2

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Comment ID	Comment Text	Theme Codes
20	<p>"The single most important criteria for the application of the upstream construction method is that the tailings beach must form a competent foundation for the support of the next dike. Vick (1990) states that as a general rule, the discharge should contain no less than 40 to 60 percent sand . . . Other references state that the determining factor for upstream versus downstream construction is grain-size distribution of the tailings. In addition to grain size tests, Brawner, et al, (1973) suggested that, "If a tractor cannot be operated on the first 100 to 200 feet of beach, the grind is too fine for upstream construction methods." (U.S.EPA Technical Report, Design and Evaluation of Tailings Dams, 1994 ) In addition to tailings gradation, several other factors can limit the applicability of this method. These factors include phreatic surface control, water storage capacity, seismic liquefaction susceptibility and the rate of dam raising. Upstream embankment construction offers few structural measures for control of the phreatic surface within the embankment (U.S.EPA Technical Report, Design and Evaluation of Tailings Dams, 1994)." In the NorthMet Project DEIS Summary it states, "The NorthMet Tailings Basin and hydrometallurgical residue facility embankments would have a low margin of safety due to fines and underlying soils in the existing LTVSMC Tailings Basin." In 4.13.1.2 it further states, "Geotechnical investigations of this tailings basin (Sitka 1995 &amp; 1997) indicate a significant portion of the peat and clay soils under the dam have the potential to develop instability under certain loading conditions. There are also layers of loose saturated slimes (fine silty tailings) within the LTVSMC stored tailings material that extend from the central portion of Cell 2E northward and connect with the perimeter embankment, which are subject to liquefaction under certain conditions and therefore may create instability of the perimeter dam. In addition, several seeps occur along the toe of the northern and southern embankments." (4.13-2) "Review of the proposed NorthMet Tailings Basin preliminary design (Barr 2009, FTMP) geotechnical stability analysis indicates the perimeter embankments would be stable for unsaturated conditions, but have a low margins of safety for stability for saturated or static liquefaction conditions . Previous studies (Sitka 1995) have showed that slimes close to the dam face and clay beneath the peat in the foundation are the primary reasons for the lower factors of safety. This is a special concern for Cell 2E, the area where the NorthMet tailings would be deposited, as it contains the thickest and most extensive peat in the foundation and has the weak slimes close to the dam face." The contents of the Tailings Basin and its embankments must be examined further concerning liquefaction and catastrophic failure. Liquefaction contributed to the Taconite Harbor, Minnesota ash pile failure and the Kingston ash failure in Tennessee. At Taconite Harbor, in July 1991, "a new dike was constructed along the downhill side of the existing dike at the pile toe, and a grouted seal placed along the bedrock . The water pond at the toe of the pile was cleaned out and deepened to about 20 feet, and pumps were installed at the pond to recycle accumulated water (Sitka Corporation Failure Report)." Yet in July 1993, there was a failure. The Kingston ash pond dike had its annual stability inspection less than a year before it failed in 2008.</p>	GT1,GT2
21	<p>Regardless of the type of dams and the type of materials, dams can and do fail, even when not expected. To begin the NorthMet Project with an acknowledged possibility of failure is hard to fathom; ". . .there is a risk that static liquefaction (fluidizing of the saturated slimes by strain or deformation) could occur and may cause a flow failure along the impoundment perimeter if an event or stress condition triggers the liquefaction (Sitka 1997) DEIS (4.13.3.2). "</p>	GT2
22	<p>Sloughing must be addressed, particularly with the steep sides of the current tailing basin already making it very unstable. Historically Cliffs Erie had great difficulty keeping the basin stable because of sloughing problems, especially after rains. Sloughing, saturation, slumps and liquefaction contributed to the Taconite Harbor and Tennessee failures. These issues must be dealt with now at LTVSMC, not later.</p>	GT2
23	<p>All Tailings Basin issues must be fully solved. To state in the DEIS that "Geotechnical stability will be further analyzed during permitting when final designs will be available" is to circumvent the purpose of the DEIS . All information must be made available for public comment before any permitting is considered. If the information was not available than the DEIS should not have been released.</p>	GT1
23	<p>A Dam Break analysis and risk assessment must be done now, not during permitting. To suggest that the stability answer is to bring the NorthMet Tailings Basin "to within an acceptable margin of safety" by buttressing, as stated in the Tailings Basin Alternative, is high risk at best. Further investigations must happen in a revised DEIS, and not put off until permitting when they are not transparent and not consistent with the federal EIS process.</p>	GT1

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Comment ID	Comment Text	Theme Codes
24	The Minnesota Environmental Quality Board's Copper, Nickel Study, 1978, Tailings Basin Design, contains valuable information pertinent to this Project. "In the case of a tailings embankment, at least one borehole in the foundation soil should extend to a depth equal to 1.5 times the ultimate embankment height (MEQB Regional Copper Nickel Study, Tailings Basin Design). There was little information concerning test bores done for bedrock determination on the DEIS map, Figure 4.1-5 Depth to Bedrock at Tailings Basin Area. It appeared from the map that only one soil boring was done more than a mile from the tailings basin. 4.1-6 of the DEIS mentioned a Barr 2009, Technical Memorandum: Results of Tailings Basin Hydrogeological Investigation site boring logs but did not indicate where it could be found. Barr documentation must be made available to the public.	PD2,PD5
24	The tribal cooperating agencies' position was, "The structural stability of the tailings basin has been a serious concern since the PolyMet project was first proposed. This concern has led to the development of at least 3 different tailings basin designs that have been presented in various draft documents. Contractors reviewing these designs have expressed serious concerns with both the short-term and the long-term stability of the facility. Tribal cooperators take the position that given the history of design problems, it is irresponsible to postpone a serious analysis of the structural integrity of the latest tailings basin design until the permitting stage. A complete stability analysis must be included in the DEIS to comply with NEPA and so that the public can review a complete set of possible environmental impacts associated with this project." This position must be followed in a revised DEIS.	GT1
25	When considering NorthMet in a revised DEIS, particular attention must be paid to the MEQB Study's concern with winter conditions. "Freezing can affect tailings embankment design in several ways. Spigotting or cycloning operations may be impracticable during the winter, thus preventing raising of the embankment crest during this season. Meanwhile, with continued disposal of tailings into the pond, the pond level will continue to rise. Particularly with embankments constructed by spigotting, the freeboard available at the end of the winter for storage of the spring, snow-melt runoff may be very small, involving a real danger of overtopping or piping failures. This seasonal variation in disposal procedures may also affect the distribution of tailings materials in the pond, winter dumping of tailings at points distant from the embankment sometimes causing the fine 'slimes' fractions to settle near the face of the embankment. Subsequent raising of the embankment crest over these slimes may then lead to instability of the embankment. "	GT1
25	Also in MEQB's study; "A common error is in defining the bedrock surface. Often large boulders occur in the foundation well above the bedrock surface and provide cores that seem to be compatible with bedrock . . . where bedrock is irregular and where large boulders may be overlying the bedrock coring may have to extend 50 feet into rock for high embankments." "Where dams are to be constructed on or near bedrock, surface springs or artesian water can be a danger (MEQB)." Design for tailings dams with high embankments "requires careful and detailed study of the foundation materials, especially if clay, silt, or peat is present . . . soil samples should be tested for in-place density, gradation, shear strength, consolidation, and moisture content (MEQB). " "Organic soils are generally very compressible, have low shear strength, and should be removed from embankment foundations. When saturated or under load, they could act as a lubricant and cause a failure (MEQB)." More information concerning the bedrock and overlying drift under the tailings basin must be available in a revised DEIS. Composition of underlying drift must be clearly determined in relationship to the instability of the tailings basin. "The existing former LTVSMC tailings basin is unlined and was constructed in stages beginning in the 1950's. It was configured as a combination of three adjacent cells, identified as Cell 1E, Cell 2E, and Cell 2W and was developed by first constructing perimeter embankments (starter dams) and placing tailings from the iron-ore process directly on native material (DEIS 3.32) ."	PD2,PD5
26	It is doubtful that the concerns above and others from the Minnesota Environmental Quality Board's Regional Copper Nickel Study, Tailings Basin Design were implemented in the original LTVSMC Tailings Basin design before it was operational in 1953, or subsequently. Thus all possible inadequacies must be determined and solved before any permitting is considered for reuse of a tailings basin that would create an unstable base for the proposed NorthMet's Tailing Basin, with the distinct possibility of catastrophic basin failure throughout the life of the mine.	GT1,GT2

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Comment ID	Comment Text	Theme Codes
27	I am aware that the Dunka mine was the most polluted site in Minnesota and yet was not reported as such by the agencies. In 1989 it was "strongly recommended" that Dunka be listed on the EPA's 304(L) list. Was the EPA informed of the extent of the Dunka problem when they agreed the MPCA could issue Dunka variances? At one time variances were not given by the Minnesota Pollution Control Agency. If variances are now given because it is not possible to clean up existing mining pollution, then that must be addressed in a revised DEIS. It will directly impact the ability of the agencies to deal with the PolyMet/NorthMet Project in any substantive manner. As long as variances are given there is not a law or regulation that can be unequivocally enforced, so our current mining laws in Minnesota mean little or nothing. When companies know a variance option exists or they can participate in a Voluntary Investigation and Cleanup Program (VIC) there is far less motivation for any meaningful compliance. See DEIS Table 4.1-9. Shutting down until pollution is cleaned up would motivate adherence to regulations.	PD8
28	I strongly suggest the LTVSMC tailings basin must not be used for NorthMet. And the existing site must be cleaned up rather than monitored and inspected	EOO
29	The West Pit will become a toxic lake. The West Pit is equally, if not more, frightening than the instability of the Tailings Basin. The initial sixty-five years of wetting and drying mineralized rock will equate to a pool of acid water. "An important factor of pit lake water quality is the interaction of groundwater with the walls and surrounding host rock of the pit. In an open pit, oxidation reactions on the exposed walls release sulfate, acid, and metals into the lake. Additionally, when a pit is excavated below the regional water table, the aquifer in the host rock is dewatered. The typically sulfide-rich host rock will oxidize when exposed to air that is pulled into the evacuated pore spaces, generating reaction products on the exposed surfaces. As the aquifer recovers following mining, those oxidation products will be flushed into the pit lake by groundwater flowing into the cone of depression. For every acre-foot of water that is replaced with air, sufficient oxygen is introduced to generate 514 mg/L of sulfate, initially as sulfuric acid (Precious Metal Pit Lakes, Controls on Eventual Water Quality, Glenn C. Miller, Ph.D.)." The Cove Pit Lake south of Battle Mountain, Nevada illustrates the potential impact of oxidation reactions in the dewatered aquifer. In 1999, geochemical models predicted the pit water would contain 120 to 260 mg/L of sulfate, primarily from oxidation of the wall rock surface. However, in early 2002, the sulfate concentration in the lake was 1240 mg/L, five to ten times higher than the 1999 prediction. The modeling underpredicted the amount of oxidation by up to one order of magnitude . . . Metal solubility, particularly of divalent problematic metals such as cadmium, nickel, zinc, and copper, is much higher at low acidic pHs and can render poor water quality – a potentially toxic prospect for birds or other wildlife that may attempt to utilize the lake. The Berkley Pit in western Montana, for instance, has essentially no neutralizing capacity; as a result the pH is low and metal loadings are high (Precious Metal Pit Lakes, Controls on Eventual Water Quality, Glenn C. Miller, Ph.D.)." In 1995 at least 342 snow geese landed and died, likely as a result of the toxins in Berkeley Pit. In a revised DEIS the West Pit must be recognized as the potential hot spot that it is and if its potential toxicity cannot be solved, "No Action" is the only responsible choice.	WR2F
30	There have not been adequate decisions made regarding the handling, storage, and seepage issues surrounding the various stockpiles. All the stockpiles will be reactive to some degree, some exceedingly so, and yet the DEIS is again putting off decision making in favor of a "we'll deal with it later approach." These stockpiles are going to be pollution piles.	PD2,PD5
31	Revised DEIS must clearly determine sources of arsenic in the Tailings Basin. Are concerns with arsenic within the tailings basin due to the dumping of fly ash from the Taconite Harbor failure and disposal of ash generated from electrical plants at Hoyt Lake and Taconite Harbor? What is the impact from the use of limestone? When addressing arsenic fugitive dust emissions from the Tailings Basin, as well as treatment of sulfide bearing ore tailings, it must be acknowledged in the revised DEIS that, "Limestone may not be useful in remediating acid mine drainage resulting from weathering of arsenic - sulfides because As release from these minerals increases at higher pH values. Further, mobility of arsenic oxyanions at higher pH values may not be limited by sorption processes because surfaces of oxide/hydroxide minerals are negatively charged. Thus, mining impacted waters treated with limestone to increase pH may be affected by high As concentrations if arsenic-sulfides are present" Oxidation Kinetics of Arsenic-Sulfide Minerals by Regina Tempel.	PD2,AQ1

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32	Also, lime is used to render soils non dispersive. Is this contributing to arsenic levels? Revised DEIS should contain information on uses of lime/limestone, the effects of its use on all toxicity levels, and whether use of lime is being used to increase stability. If being used for stability in conjunction with compaction, a revised DEIS must state under Geotechnical Stability that, "reliance only on good compaction with or without lime modification is a relatively high risk option and is not recommended" (Geotechnical Engineering of Dams by Robin Fell et al) . In 4.6.3.1 of the PDEIS there is a reference to "arsenic emissions associated with fugitive dust from the Tailings Basin." Information such as this has been left out of the DEIS for various reasons and must be included in a revised DEIS because without all toxin information there are skewed and invalid conclusions in a number of areas.	EOO,PD2
33	The tribal cooperating agencies position is that, when considering a permit for PolyMet, all future development by companies already doing exploratory drilling must be included in the analysis of cumulative effects. I would add that an estimation of all possible additional development by mining companies holding large leases must be included in a revised DEIS analysis of possible cumulative effects. Cumulative effects must include cumulative air and water quality effects on lakes and rivers from all sources, including other mines. The EIS may set the standard for all water quality impacts analysis, and good cumulative impacts analysis is critical to protect water quality in the White Iron Chain of Lakes and elsewhere. Of paramount importance when addressing cumulative effects is the enormous amount of electricity that will be generated in the operation of all the projects and the resulting effect on air quality, particularly Class 1 areas already being impacted. This must be fully and transparently addressed in a revised DEIS. Air quality and inhalation is not the only risk concerns involved. Arsenic, nickel and other heavy metals can be deposited in water and soil to enter the food chain. The soil and water itself can be rendered unable to sustain life. Mercury methylation is already an issue in all of our northern waters. When considering cumulative effects the current levels of mercury contamination in all lakes, rivers, and streams that may be impacted by PolyMet/NorthMet must be added to the equation to achieve an accurate assessment of risk. A revised DEIS must also include an indepth analysis of all possible endocrine disruptors and possible impacts. "The Tribal cooperating agency position is that even though cumulative effects to groundwater, vegetation (other than threatened and endangered species), visual and noise effects, hazardous wastes, and cultural resource weren't considered during the initial scoping period, they were identified later in the process and therefore should have been made a part of the cumulative impacts analysis and incorporated into the DEIS. It is the Tribal cooperating agencies position that some mine features (e.g. pit lakes) would become permanent features of the landscape. Therefore post closure impacts should also be included in the analysis. (DEIS 4.14-3)." These Tribal cooperating agency positions much be implemented in a revised DEIS.	WR5A,AQ4B,AQ6A
34	Using wetlands for mitigation and replacing them is an oxymoron. Wetlands that developed over generations cannot be replaced in the short term. DEIS: "impracticable to replace all impacted wetland types with an equivalent area of in - kind wetlands". If wetlands cannot be replaced they should not be used for mediation. An MPCA official at the time of the Dunka Mine contamination wa s quoted as having said, "The MPCA may not allow LTV to use the wetlands as a sponge to soak up the metals." What has changed? Are we sacrificing our wetlands because despite all the research there are no other solutions; or only other solutions that would require mining companies to pay more than they are willing to pay? If wetlands are the only solution, then this needs to be stated clearly in a revised DEIS, so citizens understand the full implications of sulfide mining to our state waters. If not, then other alternatives need to be included in a revised DEIS, regardless of cost to PolyMet. The protection of our water must not be negotiable. The environmental impacts of the project on the 100 mile swamp, an undisturbed and very high quality wetland complex must be top priority in a revised DEIS.	WE2,WE3



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35	<p>Low sulfide ore myth "The folks who talk about low sulfide ore content are using the 'game of units' to try to minimize the potential for impacts by the reactive component - sulfide expressed in percentages. While the potential impacts for significant water concentration changes are at water concentration units of parts per billion, or percent changes of 0.000 000 001 % expressed in terms of weight of water . By expressing the concentration of sulfide as a percentage, by weight, in the ore or ore tailings, the values computed are made to appear small, but in reality, they are not insignificant! Try expressing the 'low sulfide ore' concentrations in parts per million of parts per billion, and you will get a better idea of the 'impact potential' for making changes in water concentrations for precipitation percolating through an unprotected pile of waste rock or sulfide ore tailings containing 0.1% sulfide (0.1% = 1/1000 = 1,000/1,000,000 or 1 thousand parts per million!). Consider the following simplified, hypothetical calculation: a sample containing 0.1% sulfide ore was contained in a box of one cubic decimeter in size, was air oxidized, followed by leaching with the same volume of water such that 1% of the sulfide resulted in acid sulfate dissolved. The amount of acid, in water, would be approximately 10 parts per million and the pH of the water would be about 5.0. If 10% of the sulfide leached the water pH would be about 4. (The actual amounts of acid would be higher (by 3x) due to the difference in density between ore and water.) As for impacts, most freshwater aquatic life can not tolerate water pH below 4. And this hypothetical calculation is just for the acid content, and is only the beginning of what happens as the metal content of the ore dissolves in low pH water giving toxic concentrations of heavy metals including aluminum, to aquatic life. The reaction times may be in the range of months to years, depending on amount of air present and volume of water infiltration and transport (Gary Glass, EPA retired, Ph.D. in Chemistry)."</p>	EOO,PD2,FM1
36	<p>Loons and Mercury and Us - A revised DEIS must look at research being done in areas with waters that have similar poor buffering capabilities. The current problems in the Adirondacks would be a place to start. Acid rain and acid mine drainage, despite different dissemination methods, have much the same effect on lakes that have little buffering ability. The Adirondacks started out with mercury advisories for fish consumption. Now many of its lakes contain no fish and scientists are seeing aberrations in the behavior of the loon population, including young who are no longer able to get on the parent loon's back. Consequently experts there are deeply concerned about the effects of methylmercury on humans since it is bioaccumulative. In Minnesota, we have had mercury advisories on the consumption of fish taken from our lakes for many years. One of the consequences of PolyMet/NorthMet, and other proposed projects, will be a significant increase of methylmercury in our waters. In the Adirondacks, ironically most of their problem came from Midwest industrial pollution.</p>	EOO,WI5
37	<p>Comments concerning Agency and Government Responsibility, Transparency of Environmental, Social and Economic Impacts In a 2001 State Master Agreement it was stated, " . . .the DNR will meet with Cliffs Erie and Rainy River Energy Corporation to discuss the status of non - ferrous metallic mining projects in this area and ways to mitigate any development plans that would interfere with non-ferrous metallic minerals mining." Disproportionate funding and support have been given to mining companies by organizations, agencies, and elected officials charged with promoting the economic diversity essential to building a strong economy in northern Minnesota. This needs to be addressed in the economic portion of the revised DEIS . Bringing sulfide mining to the Lake District of northern Minnesota is not only environmentally reprehensible; it is committing eventual economic suicide for the region. PolyMet/NorthMet will set the precedent for other sulfide mining projects on the edge of the Boundary Waters. The beautiful Kawishiwi River area will be decimated by both underground and open pit mines on its shores. Franconia's most lucrative scenario is an open pit mine. Clean up Dunka first. It may be true that no one knew what the outcome of mining in sulfide bearing ore would be when Dunka was permitted, but now it can't be cleaned up and that should be a warning in itself. Dunka looks like an anthill next to NorthMet. Once our waters require perpetual treatment, if treatment is even possible, the sustainable tourist industry will decline along with the fish in our lakes. A property owner on my chain of lakes has already decided to put plans on hold to build and move here. Realtors have buyers who do not want to buy land if they do not own the mineral rights, which doesn't leave them much to choose from; some are just scared away by the idea. The money these people bring to the economy in northern Minnesota is huge and a sustainable source, as long as the area retains what attracts them. As demonstrated by the struggling mining towns on the Range, mining's legacy makes it unlikely that new families and businesses can be attracted to an area with decimated lakes and landscapes. Instead of pouring money into an industry that will significantly damage if not eventually destroy the true wealth of our State, our water, government officials need to pour money into creating jobs compatible with that water.</p>	SE4

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38	In Minnesota, if we choose sulfide mining over our water, we will have no one to blame but ourselves. However, we will have to answer to those who rely on us to keep the three major watersheds that originate here clean. And the next generation will not thank us for selling their birthright.	G7
39	In 2009 CNN did a piece on Picher, Oklahoma, highlighting the last resident to leave the town. Once a bustling mining town the entire place was basically condemned as one of the most toxic Superfund sites in the nation. The Picher aquifer was shallow and when the aquifer was mined and flooded anoxic leaching occurred. Acid leached from lead sulphate minerals with resulting contamination that, along with collapsing mine shafts, left Picher a ghost town. It is important to note here that the PolyMet/NorthMet proposed on-site subaqueous disposal (Proposed Action and Mine Site Alternative) must be reexamined in a revised DEIS. Subaqueous disposal does not mean that leaching, even severe leaching, cannot occur. This would be especially true of ore stockpiled for an indeterminate period of time. Also some concerns exist about another method that leaching occurs which is galvanic action. Tiny electrical differences between different metals create tiny amounts of electrical current that cause the metals to dissolve. Generally this occurs in damp tightly packed fines such as tailings and does not require oxygen. "The Picher site is a stark reminder of the limits of the federal government's ability to clean up the messes of the industrial age. And it raises questions about whether some Superfund sites have such intractable problems that no amount of money, time and effort will make them safe (Mines and Communities)." NorthMet is being designed for the 100-year flood. In the era of global warming a design for the 100-year flood is not enough. The 500-year flood should be the new standard. A revised DEIS must include a NorthMet tailings basin design based upon the 500-year flood. In order to ensure protection enough freeboard must be provided for this emergency excessive precipitation. As remote as the possibility is in northern Minnesota, the final blow to Picher was a tornado that further contaminated the town with a blanketing of fugitive dust blown from the chat piles. The impact of a repeat blowdown like the one that hit the BWCAW a few years ago is worth considering. Acts of God must be seriously planned for in a revised DEIS.	PD2,G1
40	The words alone in this DEIS are reason for alarm . Minimize, Minimum requirements, Mitigation (definition: make less severe), Could, Reduction, Reduced ("arsenic loadings from the Tailings Basin in closure could be reduced by 20%"), and "Help avoid the need", to mention just a few. Minimize when referring to pollutants is inexact. With a massive amount of waste, the amount of pollution left after being "minimized" could still be massive. This DEIS is incomplete, lacking in adequate science and ways to solve its inherent problems. Another example: "Mercury in the water – Relatively high sulfate concentrations in seepage from the Tailings Basin would be released to wetlands north of the Tailings Basin and lakes downstream on the Embarrass River to represent 'high risk situations' for mercury methylation. There is some uncertainty as to whether the West Pit overflow would meet Lake Superior mercury standard, but this impact could be mitigated if it would occur (DEIS)." In other words make it less severe, but less severe than what? That is a question that must always be addressed in a revised DEIS.	EOO,PRO3
41	This DEIS is incomplete and must be revised and rewritten so the citizens of the State of Minnesota are fully and clearly informed and can make comments on all the information, not just some of it. This DEIS has dangerous gaps that must be filled, not by the agencies behind closed doors, but in the open so citizens, the tribal cooperating agencies, and NEPA will all be a valid part of the decision making. If this cannot be done then "No Action" is the only responsible action to protect our waters. I would also like to add that I object to citizens being denied the amount of time for comment writing that the EPA requested. Also, comments having to be received by instead of being postmarked on February 3rd further shortened the time for comments. The length of time the citizens of Minnesota were given to try to read, understand the information in the DEIS, and make comments was insufficient and a form of censorship.	PRO6
42	Our agencies are charged with the protection of our state waters. They must do so now. The No Action Alternative is the only choice that protects our waters, but only if it is combined with an ironclad requirement that the existing contamination at the site be cleaned up and no further contamination allowed.	EOO

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44	Referring to the No Action Alternative the DEIS states, "This alternative would avoid the environmental and social impacts associated with the Proposed Action, Mine Site Alternative, and Tailings Basin Alternative; however, the social and economic benefits from the proposed Project (increased employment and economic revenue) would not occur." What about the decreased employment and economic revenue that would occur? When addressing social and economic revenue the revised DEIS must include projected figures for what this area and this state stand to lose when promoting an unsustainable industry for short term profits that results in long term loss (economically and environmentally). When addressing economic benefits a revised DEIS must acknowledge that towns whose livelihood is still dependent on mining are dependent because mining itself has left them with no other options. The DEIS must include projections of economic loss and impacts to the recreation and tourism industry, businesses, homeowners, health and public services, among others. The figures that mining companies use are projections. The precedent has been set.	SE3
45	The agencies must adhere to State Statute. If they had done so, this DEIS would not have been released. In Minnesota water trumps everything else. Minnesota State Statute 116D.04, Environmental Impact Statements, Subd. 6, Prohibitions: "No state action significantly affecting the quality of the environment shall be allowed, nor shall any permit for natural resources management and development be granted, where such action or permit has caused or is likely to cause pollution, impairment, or destruction of the air, water, land or other natural resources located within the state, so long as there is a feasible and prudent alternative consistent with the reasonable requirements of the public health, safety, and welfare and the state's paramount concern for the protection of its air water, land and other natural resources from pollution, impairment, or destruction. Economic considerations alone shall not justify." The Minnesota Department of Natural Resources (MDNR) must practice what its publication "A Strategic Conservation Agenda 2009-2013 " says: The mission : . . ."to provide for commercial uses of natural resources in a way that creates a sustainable quality of life." "The goals: . . . "Minnesota's water resources and watersheds will be conserved and enhanced" . . ."Our vision for the future includes clean water and plenty of it. Aquatic ecosystems are healthy and sustainable" . . . "Waterways have integrity. Natural characteristics of shorelines, aquifers, and wetlands are protected" . . ."Ground water and other water resources are used in a way that preserves their integrity for future generations." Before an EIS can be issued for PolyMet, the State of Minnesota must clean up all polluted mining sites in the state. If they cannot be cleaned up, the state must not consider a sulfide mine. It is not logical to believe that the much more toxic waste from such a mine can be stopped, or cleaned up after the fact, when faced with the evidence of numerous past failures.	PRO7
46	At its core PolyMet/NorthMet is an unscientific Project. If it were being advanced scientifically it would never be proposed in the most water intensive region possible. It would be done first in an area with little water, then in progressively more wet environments, until scientific evidence could be compiled (including impacts over time) that prove whether it can be done safely. PolyMet's claim to have new technology, when much of the operation is based on old technology, is a publicity smoke screen. It must be clear in a revised DEIS that this 'new technology' is unproven on a mine of this scope in a water rich environment. The citizens of Minnesota need to be informed that they are being asked to be first in line to see if it can be done safely. If it can't, it's too late. If our agencies are unable to take the necessary steps to protect our water, as the release of this seriously flawed and incomplete DEIS indicates, then the answer is a Minnesota Moratorium.	G8B,G12
46	One of the most serious flaws in the DEIS is the proposed Tailings Basin. It is incomprehensible that a seeping, unstable tailings basin at the LTV site is going to become stable and non-polluting by adding millions more tons of mining waste. First of all the agencies must deal with the toxic waste that is already there and clean it up. They must account for all toxic materials deposited within or adjacent to the tailings basin over the life of the basin site and extrapolate resulting toxicity. There must be cumulative effects understood from all toxins that were deposited in or adjacent to the tailings basin and all toxins that will be deposited. Their chemical reactions with each other must be documented. Materials that have been or will be deposited, but are not normally considered toxic, must also be examined in combination with all other materials with which they may combine to achieve toxicity. Degradation information of past and future materials deposited must also be taken into account and made available. It is crucial that a revised DEIS examine all possible cumulative effects and interacting toxic impacts of tailing basin wastes. Only then can a plan be developed for their containment.	HM6,GT1

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47	I object to State of Minnesota Revenue being used in any manner to further the planning or permitting for an project which is contrary to and prohibited by federal law, the Weeks Act of March 1, 1911 (Public No. 435 .) The national forest lands that would be destroyed by this project are protected "to secure the maintenance of a perpetual growth of forest." The NorthMet project is contrary to the purpose of the Weeks Act. Quoting Henry S. Graves, forester, US Department of Agriculture Forest Service (issued march 27, 1911) on the purpose of the Weeks Act: "The general purpose of this law is to secure the maintenance of a perpetual growth of forest on the watersheds of navigable streams where such growth will materially aid in preventing floods, in improving low waters, in preventing erosion of steep slopes and the silting up of the river channels, and thereby improve the flow of water for navigation. While the improvement of the flow of navigable streams is the fundamental purpose, other benefits incidental in character but nevertheless important will be kept in view. Among these are (1) protection against disastrous erosion of the soil on mountain slopes and against the destruction of the soil and soil cover by forest fires; (2) preservation of water powers, since, like navigation, they depend for their value upon the evenness of streamflow; (3) preservation of the purity and regularity of flow of the mountain streams, with a view to their use for the water supply of towns and cities; (4) preservation of a timber supply to meet the needs of the industries of the country; (5) preservation of the beauty and tractiveness of the uplands for the recreation and pleasure of the people. " [PUBLIC-NO.435.] [H. R. 11798] "AN ACT To enable any State to cooperate with any other State or States, or with the United States, for the protection of the watersheds of navigable streams, and to appoint a commission for the acquisition of lands for the purpose of conserving the navigability of navigable rivers. Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the consent of the Congress of the United States is hereby given to each of the several States of the Union to enter into any agreement or compact, not in conflict with any law of the United States, with any other State or States for the purpose of conserving the forests and the water supply of the States entering into such agreement or compact . . . .SEC. 9. That such acquisition may in any case be conditioned upon the exception and reservation to the owner from whom title passes to the United States of the minerals and of the merchantable timber, or either or any part of them, within or upon such lands at the date of the conveyance, but in every case such exception and reservation and the time within which such timber shall be removed and the rules and regulations under which the cutting and removal of such timber and the mining and removal of such minerals shall be done shall be expressed in the written instrument of conveyance, . . ." (emphasis added)	PRO7
47	4.8 Cultural Resources: Regulatory Framework: It is stated that Cultural Resources management within Federal and State agencies seeks identify cultural resources and balance the need for development with protection. Not included here is an analysis of public opinion in the Arrowhead as to whether the regulatory process is fairly achieving this balance. Development is driven by economic considerations that would likely overshadow the power of those whose goal is to protect Cultural Resources. This DEIS should provide evidence to support conclusions that suggest there are no cumulative effects associated with cultural resources.	G3,CR1,CR2,CR4
48	Characterization of wetland hydrology is sorely lacking and should use the USACOE technical note "Technical Standard for Water-Table Monitoring of Potential Wetland Sites by U.S. Army Corps of Engineers" (see #48 below )	WE2
49	The assumption that all water reaching the entire mine, transport, and processing sites will be contained and treated is ludicrous and without basis. Accurate site characterization, water infiltration rates, and leakage must be accounted for.	WE1
50	Specific Polymet HydroMet Project Draft EIS Wetlands Section 4.2 Comments, sequentially numbered with section and paragraph references. 1) In my judgment the use of words and phrases: "potential, would, non-field analysis, where available, based primarily on signatures presented by aerial photograph, portion of wetland located within the sites, may, would, generally, relatively (with no reference), approximately, believed, modeling, professional judgment, and it is not expected" are not adequate for analysis of the risk of perpetual permanent environmental damage this project represents. Use of these words indicates a project favorable biased choice of language.	EOO
50	A recent Pew report documents the situation of a small but similar recent sulfide mine that has been abandoned:	G4
51	2) 4.2.1.1 Wetlands that are Minnesota Public Waters are supposedly protected regardless of isolated or incidental status. A separate EIS is required before filling or draining of a public water.	WE4

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52	3) 4.2.1.2 Minnesota Public Waters Maps & Lists are conspicuously missing from the list.	WE1
53	4.2-4 and elsewhere the analysis is limited to wetlands on the sites without data supporting this limitation.	WE1
54	4.2.1.4 should list the wetland biome as the most productive type	WE1
54	4.2.2 No mention of the location component of impact. MOU between BWSR & ACOE gives capability of mitigation outside of the same watershed but this does not mean that impact should not be considered!	WE2,WE3
54	The draft DEIS is obligated to provide the burden of proof that the Polymet project holds sufficient value incentive to cover the risks inherent in the project. The unknowns of the DEIS analysis far outweigh the proven risks. In his Thursday Jul 17, 2003 Report To Shareholders On behalf of the Board of Directors, William Murray- President and CEO of Polymet said "The NorthMet project as defined in the 2001 pre-feasibility study did not meet minimum economic criteria required by investors or potential mining partners; essentially caused by low metal prices, a high dilution factor in the mine plan and perceived high technical risk." I do not believe the currently proposed project and Draft Environmental Impact Statement {DEIS} are sufficient to change this conclusion. The volatility of the metals market, the unproven status of overzealously named "safe" sulfide ore mining and the proposed processing along with the undeniable acid mine drainage risks on a geologic time scale lead me to conclude that the Polymet project should not be permitted. We should not recklessly dare to leave this extremely high risk legacy to future Minnesotans for a relatively short term of false gain. I see no possibility that this project will result in a net gain to Minnesota or society as a whole.	G8
55	4.2.2 It seems ludicrous to omit the inevitability of AMD impacts - it is my understanding that there are no sulfide ore mines without AMD to some extent.	WE2
55	4.2.3.1 What about direct and indirect effects off site and in downstream watersheds - inevitable with AMD .	WE2
56	4.2-16 paragraph 2 Is the receiving stream a Minnesota Protected Water? All fish and other life production will be lost to post closure overflow AMD.	WE1
57	4.2-18 paragraph 2 Maintaining flow would increase (not decrease) impacts of AMD. The practice described would not reduce anything from current status. How can you claim a reduction from maintaining very localized existing conditions that are not measured but only inferred from aerial photos and generalized vegetation interpretations ?	WE2
57	4.2-18 paragraph 3 Where does the apparently arbitrary "within 50 feet" limit to indirect impacts come from?	WE2
57	4.2-18 paragraph 1 Real problems will come with post closure leakage/overflow of AMD to the watersheds.	WE2
58	4.2-19 paragraph 2 The first sentence is a fallacy. Polymet "proposes" to capture and treat all water touching any disturbed ground. This is arguably a practical impossibility for a 3,016 acre mine site and 1,000 acre plant site! Where are the numbers? This would require containing every drop by sealing every inch of the entire site while digging a huge open pit . I roughly calculate that this would require handling somewhere around 30 million gallons of water for each inch of rainfall.	EOO
58	4.2-19 paragraph 1 The "belief" that the wetlands are bogs does not make it so. Therefore, one cannot assume hydrological isolation from impacts.	WE1,WE2
59	4.2-19 paragraph 2 Groundwater contamination exists from LTVSMC tailings basin hydrological connection. 4.2-2 paragraph 2	WE2

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60	The "no-action" alternative needs to be given fair treatment. Informed and meaningful consideration of alternatives – including the no action alternative – is an integral part of NEPA's statutory scheme. An alternative may not be disregarded merely because it does not offer a complete solution to the problem. The DES provides very little discussion as to the costs and benefits of the no-action alternative relative to other proposals. The no-action alternative is not given sufficient consideration when it is treated as a hands-off alternative. By establishing the purpose and need as providing metals and some general sales benefits, the agency may inappropriately conclude that the no-action alternative should be rejected. To not give the no action alternative adequate consideration is a violation of NEPA.	ALT8
61	4.2-20 paragraph 1 I have a real problem with the BWSR / ACOE MOU which allows mitigation outside of the watershed. It does not follow letter and intent of CWA & ACOE rules. See 33 CFR Part 332.	WE4
61	4.2-19 paragraph 2 The last sentence is an incredible conclusion. It is obvious to me that water not meeting wetland standards flowing into the Partridge river will affect all surface and ground water connected wetlands with very high confidence due to the long time frame.	EOO
62	4.2-20 paragraph 2 Indirect impact in areas beyond the site will assuredly result in huge impacts. This could be better quantified by tracer flow studies. Empirical inferences from dissimilar mining are not acceptable. Monitoring and after the fact detection is not protection and does not meet the Minnesota WCA requirement of mitigation before impact.	WE2,WE3
63	4.2-20 paragraph 2 What requires monitoring during mining and after closing to detect impacts. If not required by law it will not happen. Who pays forever after closure?	WE3
64	4.2-21 paragraph 2 Ore rock and fines will admittedly escape during transportation. Since huge amounts of ore will be transported the indirect impacts to wetlands along the transportation route will be significant.	WE2
64	4.2-21 paragraph 1 Loading and transportation spillage control should be passive and secondary. The amount of ore to be handled is huge and even a small loss percentage will be significant.	EOO
65	4.2-21 paragraph 3 s2 Indirect impacts will occur from processing plant site because runoff, seepage, and infiltration will occur both routinely and during extreme weather events.	WE2
66	4.2-21 paragraph 3 Collection of "essentially" all of the seepage to surface and ground water from the plant site is not practical. Significant indirect impacts will occur from seepage to surface and ground water.	WE2
67	4.2-21 paragraph 4 s2, 4.2-22 pl Estimates are not adequate. Impacts estimated from dissimilar use are not an adequate basis for an EIS / permitting. Modeling is not definitive. Actual hydrogeology should be determined. Actual maximum head dye tracer testing that includes the entire watershed should be required.	WE2
67	4.2-22 paragraph 2 Assumption of the evaluation boundary is not adequate.	EOO
67	The "Platsol" extraction process has never been operated on an industrial mine scale. Sulfide ore mining benefits do not justify the risks in Minnesota. There has never been a sulfide ore mine that has not created acid mine drainage environmental damage. According to the U S EPA, acid mine drainage is the biggest toxic pollution problem in the US. The reality is that "total recovery of all sulfides is not achievable, so that the remaining wastes may nevertheless be acid-generating." (WISCONSIN DEPARTMENT OF NATURAL RESOURCES BUREAU OF SOLID & HAZARDOUS WASTE MANAGEMENT JULY 1995 Updated October, 1997 ) Common sense and experience support the conclusion that foolproof containment systems are not possible, especially when there is no time limit to the risk.	G7A
67	4.2-23 paragraph 2 Modeling is not definitive, especially when the basis of modeling is flawed or incomplete.	EOO
67	4.2-23 paragraph 2 Use of the site should require cleanup of past degradation to meet groundwater MCL as a minimum baseline (cumulative effects.)	WE5

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
67	4.2-23 paragraph 1 Trends and boundaries of degraded groundwater should be definitively established. Offsite contamination should be delineated and documented as a definitive baseline.	WE2
68	4.2-24 paragraph 1 Again, modeling basis is not adequate to infer water quality will meet wetland standards.	WE2
69	4.2-24 paragraph 2 Monitoring of wetlands after the fact is not adequate. Pre-permit monitoring and dye testing during project maximum head conditions should be conducted.	WE3
69	4.2-24 paragraph 3 & 4, 4.2-25 paragraph 1 & 2 Significant testing, definition of hydrogeology, and wetland typing based on defined hydrogeology are necessary to define the extent of wetland impacts to accomplish proper mitigation before approval of an EIS, permitting, and project commencement.	WE1,WE2,WE3
70	4.2-27 4.2.4.1 The no action alternative would avoid wetland impacts.	EOO
71	4.2-28 paragraph 4 4.2.4.2 Mitigation in an adjacent watershed means in one of the 81 Minnesota watersheds directly adjacent to the site. The functions of a wetland include it's benefit to the watershed it is in. Moving function out of one of the 81 defined watersheds meets the threshold of environmental harm.	WE3
72	The effects of changing climate have not been considered. A change in condition of the waste from a water isolated condition to a washed or dry condition or an increase in severe storm physical degradation and water table variations have not been considered.	EOO,WR5A,AQ3
73	4.2-28 paragraph 4 4.2.4.2 More information is required to justify out of watershed mitigation: 19598 Federal Register / Vol . 73, No . 70 / Thursday, April 10, 2008 / Rules and Regulations	WE3
74	4.2-28 p4 4.2.4.2 There is no mention of the watershed plan required by federal EPA/ACOE rules: 19610 Federal Register / Vol. 73, No . 70 / Thursday, April 10, 2008 / Rules and Regulations "District engineers will determine whether an existing watershed plan is appropriate for use in determining compensatory mitigation requirements (see § 332.3(c)(1) [§ 230.93(c)(1)]). In general, watershed plans will be developed by governmental and/or nonprofit resource planners, in consultation with watershed stakeholders. The purpose of a watershed plan is to maintain and improve the quality and quantity of aquatic resources within a watershed, not to facilitate development. District engineers will ensure that watershed plans used to determine compensatory mitigation requirements for DA permits have been developed through appropriate processes to satisfy this purpose."	WE3
75	4.2-28 p4 4.2.4.2 33 CFR PART 332 COMPENSATORY MITIGATION FOR LOSSES OF AQUATIC RESOURCES Authority: 33 U .S.C. 401 et seq. ; 33 U .S.C. 1344; and Pub. L. 108-136. Source: 73 FR 19670, Apr. 10, 2008, unless otherwise noted. "(3) Compensatory mitigation for unavoidable impacts may be required to ensure that an activity requiring a section 404 permit complies with the Section 404(b)(1) Guidelines. During the 404(b)(1) Guidelines compliance analysis, the district engineer may determine that a DA permit for the proposed activity cannot be issued because of the lack of appropriate and practicable compensatory mitigation options."	WE3,WE4

*Alphabetical by sender's first name*

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76	<p>33 CFR PART 332 COMPENSATORY MITIGATION FOR LOSSES OF AQUATIC RESOURCES Authority: 33 U.S.C. 401 et seq . ; 33 U.S.C. 1344; and Pub. L. 108-136. Source: 73 FR 19670, Apr. 10, 2008, unless otherwise noted. § 332.3 General compensatory mitigation requirements. (b) Type and location of compensatory mitigation. "(1) When considering options for successfully providing the required compensatory mitigation, the district engineer shall consider the type and location options in the order presented in paragraphs (b)(2) through (b)(6) of this section. In general, the required compensatory mitigation should be located within the same watershed as the impact site, and should be located where it is most likely to successfully replace lost functions and services, taking into account such watershed scale features as aquatic habitat diversity, habitat connectivity, relationships to hydrologic sources (including the availability of water rights), trends in land use, ecological benefits, and compatibility with adjacent land uses. When compensating for impacts to marine resources, the location of the compensatory mitigation site should be chosen to replace lost functions and services within the same marine ecological system (e.g., reef complex, littoral drift cell). Compensation for impacts to aquatic resources in coastal watersheds (watersheds that include a tidal water body) should also be located in a coastal watershed where practicable. Compensatory mitigation projects should not be located where they will increase risks to aviation by attracting wildlife to areas where aircraft-wildlife strikes may occur (e.g., near airports)."</p>	WE3,WE4



*Alphabetical by sender's first name*

**Comment ID    Comment Text**

**Theme Codes**

76	4.2-28 p4 4.2.4.2 33 CFR PART 332 COMPENSATORY MITIGATION FOR LOSSES OF AQUATIC RESOURCES Authority: 33 U.S.C. 401 et seq.; 33 U.S.C. 1344; and Pub. L. 108-136. Source: 73 FR 19670, Apr. 10, 2008, unless otherwise noted. § 332.3 General compensatory mitigation requirements. "(c) Watershed approach to compensatory mitigation. (1) The district engineer must use a watershed approach to establish compensatory mitigation requirements in DA permits to the extent appropriate and practicable. Where a watershed plan is available, the district engineer will determine whether the plan is appropriate for use in the watershed approach for compensatory mitigation. In cases where the district engineer determines that an appropriate watershed plan is available, the watershed approach should be based on that plan. Where no such plan is available, the watershed approach should be based on information provided by the project sponsor or available from other sources. The ultimate goal of a watershed approach is to maintain and improve the quality and quantity of aquatic resources within watersheds through strategic selection of compensatory mitigation sites. (2) Considerations. (i) A watershed approach to compensatory mitigation considers the importance of landscape position and resource type of compensatory mitigation projects for the sustainability of aquatic resource functions within the watershed. Such an approach considers how the types and locations of compensatory mitigation projects will provide the desired aquatic resource functions, and will continue to function over time in a changing landscape. It also considers the habitat requirements of important species, habitat loss or conversion trends, sources of watershed impairment, and current development trends, as well as the requirements of other regulatory and non-regulatory programs that affect the watershed, such as storm water management or habitat conservation programs. It includes the protection and maintenance of terrestrial resources, such as nonwetland riparian areas and uplands, when those resources contribute to or improve the overall ecological functioning of aquatic resources in the watershed. Compensatory mitigation requirements determined through the watershed approach should not focus exclusively on specific functions (e.g., water quality or habitat for certain species), but should provide, where practicable, the suite of functions typically provided by the affected aquatic resource. ii) Locational factors (e.g., hydrology, surrounding land use) are important to the success of compensatory mitigation for impacted habitat functions and may lead to siting of such mitigation away from the project area. However, consideration should also be given to functions and services (e.g., water quality, flood control, shoreline protection) that will likely need to be addressed at or near the areas impacted by the permitted impacts. iii) A watershed approach may include on-site compensatory mitigation, off-site compensatory mitigation (including mitigation banks or in-lieu fee programs), or a combination of on-site and off-site compensatory mitigation. (iv) A watershed approach to compensatory mitigation should include, to the extent practicable, inventories of historic and existing aquatic resources, including identification of degraded aquatic resources, and identification of immediate and long-term aquatic resource needs within watersheds that can be met through permittee-responsible mitigation projects, mitigation banks, or in-lieu fee programs. Planning efforts should identify and prioritize aquatic resource restoration, establishment, and enhancement activities, and preservation of existing aquatic resources that are important for maintaining or improving ecological functions of the watershed. The identification and prioritization of resource needs should be as specific as possible, to enhance the usefulness of the approach in determining compensatory mitigation requirements. (	WE3,WE4
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76	4.2-28 p4 4.2.4.2 33 CFR PART 332 COMPENSATORY MITIGATION FOR LOSSES OF AQUATIC RESOURCES Authority: 33 U.S.C. 401 et seq.; 33 U.S.C. 1344; and Pub. L. 108—136. Source: 73 FR 19670, Apr. 10, 2008, unless otherwise noted. § 332.3 General compensatory mitigation requirements. (d) Site selection. (1) The compensatory mitigation project site must be ecologically suitable for providing the desired aquatic resource functions. In determining the ecological suitability of the compensatory mitigation project site, the district engineer must consider, to the extent practicable, the following factors: (i) Hydrological conditions, soil characteristics, and other physical and chemical characteristics; (ii) Watershed-scale features, such as aquatic habitat diversity, habitat connectivity, and other landscape scale functions; (iii) The size and location of the compensatory mitigation site relative to hydrologic sources (including the availability of water rights) and other ecological features; (iv) Compatibility with adjacent land uses and watershed management plans; (v) Reasonably foreseeable effects the compensatory mitigation project will have on ecologically important aquatic or terrestrial resources (e.g., shallow sub-tidal habitat, mature forests), cultural sites, or habitat for federally- or state-listed threatened and endangered species; and (vi) Other relevant factors including, but not limited to, development trends, anticipated land use changes, habitat status and trends, the relative locations of the impact and mitigation sites in the stream network, local or regional goals for the restoration or protection of particular habitat types or functions (e.g., re-establishment of habitat corridors or habitat for species of concern), water quality goals, floodplain management goals, and the relative potential for chemical contamination of the aquatic resources. (2) District engineers may require on-site, off-site, or a combination of on-site and off-site compensatory mitigation to replace permitted losses of aquatic resource functions and services. (3) Applicants should propose compensation sites adjacent to existing aquatic resources or where aquatic resources previously existed.	WE3,WE4
77	44) 4.2-28 4.2.4.2 Preservation of wetlands for mitigation does not meet the no net loss intent of the Minnesota Wetlands Conservation Act. Preserved wetlands already exist and the destruction mitigated is a loss with no replacement of function. Minnesota has decided to protect wetlands based on their functional value (MN 103B.3355) while allowing destructive activities where avoidance of activity is not feasible and prudent (MN 103A .201 Subd. 2 b.) The Board of Water and Soil Resources (BWSR) derives its authority from MN 1038.3355 (c) The first value of the public values listed in statute for wetlands is water quality. (MN 1036.3355 (a) (1) ) Many of our waters are impaired. Some are impaired as a result of the destruction of sentially all of the wetlands in a watershed. The destruction of wetlands in our watersheds, overall loss in quantity and quality of our waters and wetlands are consequences of development that we need not and should not easily accept.	WE3,WE4
78	4.2-30 Wetland Mitigation Study Limits — Due to the enhanced benefits to the sub watershed the second priority should be within the Partridge River and other adjacent sub-watersheds.	WE3
86	The DEIS does not address the recreational value of the arrowhead region and the potential loss of that value that sulfide mining would impose. It should.	SE4

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
87	4.10 Socioeconomics: The major and growing contribution to the Arrowhead region in MN of tourism is not presented in this section and should be so that a more complete view of the economy of this region may be understood. Tourism contributes \$11 billion to MN economy, with >41 million visitors annually. These numbers have increased steadily in recent years. The Northeastern region has 16% of the >41 million visitors or about 6.56 million visitors with generation of >\$719 million in Gross Sales. This activity contributes 17,932 private sector jobs. (Explore Tourism 2008: <a href="http://www.tourismroi.com/Content_Attachments/26124/File_6334_80214451131154.pdf">http://www.tourismroi.com/Content_Attachments/26124/File_6334_80214451131154.pdf</a> . A critical question not addressed in the DEIS is the extent to which current and proposed major increase in mining in the region will increase, have no effect or decrease tourism to the Arrowhead of MN. This DEIS needs to address this critical question with data. To focus on short-term financial gain from sulfide mining and not incorporate long-term consequences, including the predictable “boom” and “bust” mining cycles, in the DEIS analyses is a major deficiency of this DEIS. Potential depression of the tourism industry and land values in the Arrowhead, would have a devastating adverse effect on the entire region for decades to come. (Thomas M. Power (Economics Dept., University of Montana: “The Economic Role of Metal Mining in MN: Past, Present, and Future” prepared for MN Center for Environmental Advocacy and the Sierra Club, 2007.; <a href="http://www.sosbluewater.org/mn_mining_economics_power.pdf">http://www.sosbluewater.org/mn_mining_economics_power.pdf</a> .) Unfortunately, a study funded by industry (Labovitz School of Business, Duluth) failed to incorporate destabilizing boom and bust cycles and adverse impacts on the growing tourism industry in their narrowly focused analysis. ( <a href="http://www.ironrangeresources.org/_site_components/documents/user/aboutreports-publications230.pdf">http://www.ironrangeresources.org/_site_components/documents/user/aboutreports-publications230.pdf</a> .)	EOO,SE3,SE4
88	4.10.2: Impact Criteria: This sections fails to include explicit review of the “boom” and “bust” cycles of mining (as noted above) that are extensively documented in the literature and relevant to the DEIS Northmet.	SE3
89	4.10.3: Socioeconomic Consequences: Impact Analysis for Planning (IMPLAN) was based on old data that does not reflect the current fiscal crisis. What impact will this have on estimating the “boom” and “bust” predictable cycles of the proposed mining?	SE8
90	4.10.3.1: Proposed Action: Environmental Justice: What assumptions are being made to support the statement that: “Therefore the Proposed Action would not have disproportionately high or adverse effects on minority populations?” While it is suggested that the proposed “boom” resulting from the proposed mining would benefit low income persons, isn’t it logical to assume that the “bust” that could occur at any time during the proposed 20 year operation of the mine would have a deleterious impact on low income families—potentially a devastating impact on persons who lack safety nets of community support?	SE2
91	4.10.4: Cumulative Effects: Note is made that the data in Tables 4.10-15-16 do not appear to be based on the recent, unique fiscal situation in the U.S. and MN. Also note that neither this section nor the section “Socioeconomics” p S14 (Summary) reflect on compelling data regarding the “Boom” and “Bust Cycles”, an issue of critical importance to the integrity of the Draft EIS Northmet as reflected by Thomas M. Power (Economics Dept., University of Montana: “The Economic Role of Metal Mining in MN: Past, Present, and Future” prepared for MN Center for Environmental Advocacy and the Sierra Club, 2007.; <a href="http://www.sosbluewater.org/mn_mining_economics_power.pdf">http://www.sosbluewater.org/mn_mining_economics_power.pdf</a> )	EOO
590	Blasting and explosive detonations produce nitric oxide and nitric dioxide as a by product. When inhaled, these cause irritation of the trachea which leads to increased risk of infection and/or emphysema. This health issue is not addressed. Mining may also cause inhalation of silica dust and/or iron oxide particles causing siderosis. This health issue is not addressed. Because of Minnesota’s experience with increased incidence of mesothelioma among miners and their families and the state government’s current studies, perhaps these health problems will be addressed. Results and recommendations of the studies should precede further sulfide mining. At a minimum these potential problems should be included in the EIS.	SE5,AQ4C,AQ6
591	In addressing air pollution problems the DEIS cited data from the Hibbing Monitoring station. Why is data from the Ely station not included? Wind patterns will affect that area for the months of April through September. (University of Minnesota: <a href="http://climate.umn.edu/wind/windRoseClimatology.htm">http://climate.umn.edu/wind/windRoseClimatology.htm</a> .)	AQ4
593	3) Analyze all of the impacts (air and water) of increased mercury in fish from the PolyMet project and other nearby pollution sources. Mercury in fish causes brain damage to children and to the fetus.	WR4B,FM1,AQ6A

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
595	4.6: Air Quality: (See 4.6.4.7 re Haze) Even in MN's two Class I areas (BWCAW and Voyageurs NP), visibility impairment is being quantified. New construction and development, including mining companies on the Iron Range, threaten to add to the problem. Global sources of air pollutants are increasing. The projected added air pollution from the proposed activities in this DEIS and subsequent proposed sulfide mining must be evaluated in the context of such changes. Fine particles (which have serious human and environmental adverse effects) will clearly be generated from multiple sources associated with this Project including forest disruption, soil erosion, road building, mining, vehicular traffic, etc.	AQ4B,AQ9
596	4.6.1.1 Existing Conditions: Regional Climate and Meteorology: Surface data are reported from the Hibbing Monitoring Station with estimates of the wind direction, etc. Why aren't other closer monitoring data provided. For example, wind roses for MN and surrounding cities ( <a href="http://climate.umn.edu/wind/windRoseClimatology.htm">http://climate.umn.edu/wind/windRoseClimatology.htm</a> ) provide data from Ely, MN Municipal Airport. Since one of the major wilderness areas in the U.S. and MN is near Ely (BWCA) it would be imperative to know what impact Northmet Project will have on air quality of the BWCA, which is already suffering from degradation of ambient air quality from power plant and other point sources. While wind roses for Hibbing show a north north west through west-northwest direction 25% of the year and south-southeast through southeast 15% of the year, Ely shows a pattern of west westsouth for the months of April through September. (University of Minnesota: <a href="http://climate.umn.edu/wind/windRoseClimatology.htm">http://climate.umn.edu/wind/windRoseClimatology.htm</a> .) Thus, the BWCA which is only 34km or 21 mi from the Project Site would receive winds from the Polymet Project Site for several months of the year. To what extent will this add to the worrisome burden currently being experienced by Class 1 areas BWCA and Voyageurs NP? At BWCA, visibility impairments have been documented for 200 days in a recent year. Has the potential impact of the Northmet Project on BWCA been quantified as part of this DEIS? Has the potential impacts of other mining activities between the Northmet Project Site and the Franconia; Duluth Metals; Encampment and Tech Cominco projected mining sites been quantified as part of this DEIS? These are critical data that must be included in the Final EIS.	AQ4,AQ4B,AQ9
597	4.6.1.2 Local and Regional Air Quality: On p 4.6-2 it is noted that "ambient monitoring data from the closest monitoring stations to the Project are provided in Table 4.6.2." It is not clear where the "nearest monitor" to the Northmet Project Site was; the data are from MPCA 2008 but the monitor source is not listed. If the data in Table 4.6-2 are from a remote monitoring site, the Northmet Project should request relevant data from MPCA for the Site environs. Also, note is made that the MPCA data was for 2004-06. These data are out of date and should be updated to ensure reliable baseline data are available from the Site.	AQ5
598	4.6.1.4 Minnesota Standards of Performance: on p 4.6-6 the first point, the statement "that facilities are required to take reasonable precautions to prevent the discharge of visible fugitive emissions beyond the property line" raises serious concern for the following reasons: Particulate Matter (PM) especially, PM 2.5 micrometers is invisible so one would not expect to see it. Yet these fine particles pose threats, not only to the environment, but to human health. Fine particles are a known cause of cardiovascular disease (heart attacks; strokes); respiratory disease (asthma, COPD) and cancer, particularly, lung cancer. (Department of Health and Human Services: <a href="http://www.atsdr.cdc.gov/general/theair.html">http://www.atsdr.cdc.gov/general/theair.html</a> ). The language in this DEIS should be revised to reflect the above. Finally, vehicular traffic and exhaust adds fine particles and other air toxicants to ambient air. Have estimates been made of the contributions to fine particle pollution over the life of the proposed Project?	AQ6

*Alphabetical by sender's first name*

<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
599	4.6.3.1 Proposed Action (Criteria Pollutants): The assessments of human toxicity from exposure to chemicals used at the Mine Site (Table 4.6-17) need to consider the lung health of workers at the time of their employment. Preexisting respiratory diseases may be exacerbated by exposure to chemicals included in this table. Of great importance is the documentation of cigarette smoking status of workers since some chemicals on this list are mutagens or carcinogens. In general, combined exposure to inhaled chemicals and cigarette smoke may increase the likelihood of development of lung cancer. The Northmet Project should have ready access to state- of- the -art smoking cessation program, including a Quit Line to support workers' smoking cessation. (these resources may be obtained from the MN Department of Health) In addition to the above threats to human health, the mining activities, miners but protect from inhaling fine particles of hard rock dust. Lung neoplasms have been associated with mining and are markedly increased in tobacco smokers. There are concerns about the risk of mesothelioma among hard rock miners: (Univ. MN: <a href="http://taconiteworkers.umn.edu/about/study_goals.html">http://taconiteworkers.umn.edu/about/study_goals.html</a> . Lemen RA, et al. Epidemiology of Asbestosis-Related diseases. <i>Envir Health Persp.</i> , 1980: <a href="http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1568524/pdf/envhpe_r00470-0008.pdf">http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1568524/pdf/envhpe_r00470-0008.pdf</a> )	AQ4,AQ4C,AQ6
600	4.6.4.5 Cumulative Mercury Emissions. As noted above, the projected hard-rock mining operations of Franconia; Duluth Metals; Encampment and Tech Cominco must be included in this analysis and Table 4.6-22.	AQ4B
601	4.6.4.7 Summary of 2006 Visibility Class I Study Scope (Updated 2009): Regional Haze and Visibility Impairment. : On p 4.6-50 a table of projects and actions are presented. Again, this table needs to include all "foreseeable" projects that will adversely impact the air quality of northeastern MN, including Franconia; Duluth Metals; Encampment; and Tech Cominco projects.	AQ4B
1129	4.2 Wetlands: It would seem reasonable that "non-field" and field analyses be used to determine wetland locations unless there are scientific data that confirm that "non-field" analyses provide as much information as "non-field" plus "field" review. This DEIS states that only "non-field" analyses were used. Why? 4.2.1.2 Wetland Delineation: Since wetlands in MN are protected by both federal and state laws, it would seem critical that precise definitions of wetlands, including their characteristics be included in the Draft EIS. This is especially true in light of the fact that 70% of the wetlands are "high quality." (p4.2-25) 4.2.1.3 ; 4.2.1.4; Wetland Classification System: The question is whether the Wetland Classification System Descriptors (see Table 4.2.1 and 4.2-2) may be ascertained by only "non-field" analyses or whether a more accurate description would result from both non-field and field assessments as noted above.	WE1
1130	4.2.3.1: Proposed Action: Potential Indirect Wetland Impacts: It is not clear in the DEIS that robust methodology exist to quantify the changes in surface or groundwater flow rates and patterns needed to project wetland impacts from the Project. What specific methodologies have been used and have they been validated?	WE2
1131	4.2.4.3: Monitoring: A wetland monitoring plan is not included in the DEIS. But such a plan "should" be implemented. Such a plan has apparently been initiated by Barr 2005 and "may need to be expanded." Several features of this plan are suggested (p4.2-37). Since wetland monitoring is arguably the most important element of the Project's role in ensuring minimum harm to wetlands, it would seem critical that this plan be included in the EIS. This deficiency should be corrected.	WE3

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
1192	4.4 Wildlife; The fact that numerous species are deemed fragile in MN: federally and state listed endangered, threatened, and species of special concern (ETSC—7species); MN Species of Greatest Conservation Need (SGCN-58 species); the USFS Regional Foresters Sensitive Species (RFSS—23 species), indicates that, while conservation and environmental policies in northern MN have merit, there are major threats to this region from human activities, including mining, proposed sulfide mining and logging and industrial development. It is in this context that this DEIS must be viewed with the plausible likelihood that the Northmet Project will only add to these environmental burdens and threats to wildlife. I found no evidence in the DEIS that the proposed Northmet Site was monitored over time for evidence of the species noted above. This deficiency should be corrected. Canada Lynx: on p4.4-3 it is stated that “.portions of the Mine site lie within the revised boundaries of federally designated lynx critical habitat. A recovery plan has not yet been issued for the Canada Lynx.” Will specific responsibilities for the Northmet Project regarding protecting Lynx habitat be included in the final EIS? Has PolyMet physically inspected the proposed Project site for lynx dens? Under NEPA and CEQ regulations, cumulative effects must be evaluated for project proposals, including alternative proposals, along with direct effects and indirect effects. It is therefore critical that a comprehensive assessment of the current and proposed mineral mining impacts on Lynx and snowshoe hare populations be conducted for the areas under consideration for mining and adjacent areas of Lynx habitat. Snow compacting from current and proposed activities and temporary roads and human activities are now and will continue to impact the lives of these creatures. The question is: How and to what extent will proposed Project activities affect these species and other species, in the context of all changes in human development in northeastern MN that may compound the adverse effects of mining? Road density has been found to directly affect predators high in the food chain: elk, wolves, wolverines, bears and lynx. (Switalski TA. How many is too many: A review of road density thresholds for wildlife. Wildlands CPR Newsletter, RoadRIPorter, 2006). Although the extent of proposed road development in this DEIS NorthMet may not suggest a deleterious effect on Lynx, it is the combination of multiple seemingly small changes across Lynx range and habitat that must be assessed, since seemingly minor effects in a complex system may in aggregate cause profound and deleterious, often unforeseen, adverse impacts. (Emmons & Olivier Resources. Cumulative effects analysis on wildlife habitat loss/fragmentation....Prepared for MN DNS, May 15, 2006; Fed Reg 2003 vol 68, No. 128. Part III. Dept of Interior: Fish and Wildlife Service. 50CFR Pt 17: Endangered and Threatened Wildlife and Plants; Notice..re Canada Lynx. Final rule. Pp 40076- 40101; Hickenbottom JR et al USDA Forest Service Biological Assessment (Canada Lynx) Lynx biological Assessment, Dec. 1999). The current DEIS Northmet does not provide sufficient information to clarify this issue?	WI1,WI2,WI5
1193	4.4.3.1 Proposed Action (Environmental Consequences): It is stated that the Final EIS will include results of consultation between USACE and USFWS regarding potential effects on Canadian Lynx and other federally listed species. I suggest that this consultation summary as well as the “process” be included with specific findings from research, assumptions and methodologies used. What specific efforts have been made at the Project site to identify Lynx? Have trail cameras been deployed? Have there been searches of the site for Lynx den sites. Or are statistical data being used to describe the potential impacts of mining on these species?	WI1
1194	4.4.5 Approach (Wildlife Travel Corridors): The list of projects identified as potentially impacting wildlife corridors does not include the Franconia; Duluth Metals; Encampment and Tech Cominco projects in the nearby Ely area. Please include these projects in your analyses. It is inconceivable that further development of mining in these areas is not relevant to the cumulative impact of the Northmet Project and other human activities in animal corridors in northeastern MN. Will Table 4.4-9 be revised to reflect these projects?	WI5
1371	Discharge of toxic Materials from unstable tailings basin is a possibility. The DEIS acknowledges the potential for basin structural failure; “The NorthMet Tailings Basin and hydrometallurgical residue facility embankments would have a low margin of safety due to fines and underlying soils in the existing LTVSMC Tailings Basin” (S-10) PolyMet has failed to address the safety issues, indicating instead that “further design and analysis would occur during permitting ...” (4.13-2_ Failure of the basin would result in serious and long-lasting contamination. Health issues related to heavy metals released into ground water are documented in Table 125-6 in Churchill, Roscoe and Furtman, Laura. The Buzzards Have Landed! Deer Tail Press, LLC, 2007. A complete stability analysis and acceptable basin design should be a part of the DEIS. Before any of PolyMet’s tailings are deposited on top of existing tailings, existing structural deficiencies must be addressed.	WR3A

*Alphabetical by sender's first name*

<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
1372	E) Require PolyMet Company to show that their waste rock and tailings piles won't collapse and dump uncontrolled pollution into nearby waters.	WR2D,GT2
1373	5) Require the PolyMet Company to show that their waste rock and tailings piles won't collapse and dump uncontrolled pollution into nearby waters and that they will not create water pollution that lasts for hundreds or thousands of years.	WR2D,GT2
2027	4.5.3.1 Proposed Action (Environmental Consequences: Fish): Water Quality Effects p4.5-15: Was the conclusion reached in this paragraph informed by the most recent Climate Change data regarding disruptions in normal cycles of extreme weather events? (WHO; UNEP Intergovernmental Government Panel on Climate Change: <a href="http://www.ipcc.ch/">http://www.ipcc.ch/</a> ) Do the assumptions regarding lack of impact even under extreme low flow conditions include changes predicted by Climate Change forecasts? This question applies to all other sections that have reached similar conclusions. 4.5.4: Mercury and bioaccumulation in Fish: The DEIS does not include important science regarding metal contamination from hard rock mining and toxicity in fish and macroinvertebrates other than mercury. Cadmium (Cd), lead (Pb) and zinc (Zn) in water and streambed sediment have been found to exceed Ambient Water Quality Criteria (AWQC). This deficiency should be corrected. (Maret TR et al. Fish Assemblages and Environmental Variables...Trans Am Fisheries Soc 2002;131:865-84. <a href="http://afs-journals.org/doi/abs/10.1577/1548-8659(2002)131%3C0865:FAAEVA%3E2.0.CO%3B2">http://afs-journals.org/doi/abs/10.1577/1548-8659(2002)131%3C0865:FAAEVA%3E2.0.CO%3B2</a> )	FM1
2119	As landowners in the Ely, MN area (Endless Waters Road), my family is gravely concerned about the effects of the proposed mining by PolyMet. Please accept these comments on the PolyMet Mining Corp. NorthMet mining project Draft Environmental Impact Statement. I have serious concerns about the safety of this project and its potential impacts on Minnesota's natural resources.	EOO
2504	My family has been in Minnesota for the last 100 years. I would hate to see such a lovely state add any more pollution to the environment and destroy one of the last pristine places. Please protect the fish and wildlife that currently thrive in Superior National Forest and safeguard this area for future generations.	G2C
3954	A principle of the US Forest Service is to "...to use the best scientific knowledge in making decisions and select the most appropriate technologies in the management of resources." <a href="http://www.fs.fed.us/aboutus/mission.shtml">http://www.fs.fed.us/aboutus/mission.shtml</a> With this in mind, why doesn't the EIS include affects of sulfide mining on Global Warming? It should.	G8
3955	B) Get better information on existing pollution, the nature of wetlands, endangered species, wild rice stands and other resources that would be affected by the project.	WI5,WE1,G8
3956	4) Get better information on existing pollution, the nature of wetlands, endangered species, wild rice stands and other resources that would be affected by the project.	G8

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
3957	4.14 Cumulative Effects: The USFS must ensure that a full range of cumulative impacts, past, present and foreseeable future, from mining in this area and adjacent areas or regions are included in the analyses. The DEIS Northmet 2009 is narrowly focused and it appears to this reader not meet the CEQ definition and intent of the National Environmental Policy Act. The cumulative and related effects of mining exploration and hard rock mining in this area and the impacts of extending the 100 mile plus Iron Range corridor deep into northeastern Minnesota's SNF and BWCA wilderness areas, have not been addressed adequately as required by National Environmental Policy Act (NEPA) of 1969 (29) (CEQ Sec. 1508.7: Cumulative Impact). Cumulative Effects analyses on wildlife habitats in this region have demonstrated the need for such information. (Emmons & Olivier Resources, Inc. Cumulative effects analysis on wildlife habitat loss/fragmentation and wildlife travel corridor obstruction/landscape barriers in the Mesabi Iron Range and Arrowhead regions of MN. MN DNS, May 15, 2006). 4.14.1.1 Resource-Specific Scale: Table 4.14-2 presents findings of the Resource-Specific Cumulative Effects Analysis. Of note is that the DEIS Northmet 2009 Project, according to projections contained herein would cause the following changes: a. increase emissions re air quality; b. increase PM 10 emissions; c. increase deposition of SO2 and NO2; d. add new mercury emitting sources; e. add new emissions sources re visibility impairment; f. have measurable impact on vegetation; g. cause 1.0% - 3.4% loss in wetland area -Partridge and Embarrass River watersheds; h. largest impact: temporary habitat conversion; i. negative impacts in 10 of 18 wildlife travel corridors. Although the DEIS states for many projected changes above the levels would be within MN or related law, it is the case that these increases and adverse impacts will combine into the aggregate of such changes in other mining activities to produce a net negative impact on the environment in the Arrowhead. It is noted (4.14-4) that there is major disagreement with the conclusions of DEIS authors regarding the significance of the above findings. In addition, the legitimacy of the analytical approach to the Cumulative Effects approach is problematic for several reasons: 1. Major data elements are missing e.g. baseline data for the Partridge and Embarrass Rivers. 2. In the watersheds, concentrations of aluminum, iron, copper and mercury exceed MN Water Quality Standards; 3. Analytic methods were not robust, e.g., no dynamical systems analysis of these complex environments. 4. No inclusion of data regarding Climate Change impacts on the ecosystems.	G8C
18606	A) Make sure the financial assurances for the public are included in the EIS before any permitting gets underway.	PD4
18610	C) Analyze the land that is going to be exchanged for Superior National Forest land to make this project possible. Make sure that the land swap would protect wetlands, endangered species, hydrology, tribal rights and taxpayers' interests.	PD1
18611	D) Analyze all of the impacts (air and water) of increased mercury in fish from the PolyMet project and other nearby pollution sources. Mercury in fish causes brain damage to children and to the fetus.	WR4B,FM1,AQ6A
18616	Financial assurance (damage deposit) for clean restoration is missing in the DEIS. The Contingency Closure Estimate would be provided and updated annually as part of the Permit to Mine and its annual report. The DEIS states that the Contingency Closure Estimate would be the basis for computing financial assurance requirements for the Project. However, this is too late to realistically evaluate the impact of the mine closure and ensure that adequate funds are in place. This must be part of the DEIS and must be addressed.	PD4
18617	Baseline Water Quality Page 4.1-13 and 4.1-14 From the data in the DEIS, a logical conclusion is that the existing LTVSMC tailings are contributing substantially to the level of constituents observed in the groundwater. It also true that the modeling of PolyMet contaminants at the basins does not take these or other existing constituents adequately into account. This oversight leads the authors of the DEIS to the illogical conclusion that seepage water from PolyMet, after passing through both LTVSMC and PolyMet tailings, will be cleaner than the existing seepage that is passing only through the LTVSMC tailings. It is not a logical conclusion that the addition of mine waste to the basins would cause seepage water quality to improve.	WR1E



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Comment ID	Comment Text	Theme Codes
18618	Page 4.1-94 The DEIS concludes that on the basis of deterministic modeling, the Proposed Action would have relatively little adverse effect on groundwater quality downgradient of the Tailings Basin. However, groundwater contamination from the previous mining activities is still an issue near the LTVSMC tailings basin more than twenty years after operations ceased. Water quality is important and this concern must be acted upon. Because of the limited distribution of monitoring wells, the extent of the contaminant plume is not known. However, recent well data show that the plume extends in some areas at least as far as private wells along the Embarrass River. In the wells that do exist near the tailings basin, pollutants including iron, sulfate, manganese, aluminum, and fluoride exceeded drinking water standards. Recent wells near the northern property line show substantial contamination of the groundwater aquifer (Barr 2009, Memorandum: Results of Tailings Basin Hydrogeological Investigation. June 2, 2009). The baseline data on which to base estimates of the impact of the proposed project on water quality at the mine site and the tailings basins is insufficient. The existing analysis for the PolyMet project calculates the additional constituents that the project will add to groundwater but is unable to realistically estimate what the resulting water quality will be because background water quality has not been incorporated into the estimates. Private domestic wells lie between the tailings basin and the Embarrass River where tailings basin discharge water is expected to ultimately discharge. Some of the sampled private wells have contaminants at levels several times the drinking water standard (Barr 2009, Memorandum: Results of residential well sampling north of LTVSMC tailings basin. January 27, 2009) Samples from these wells show that they exceed the manganese standard and close to exceeding the arsenic standard. There must be a groundwater flow model to show the direction and rate of groundwater flow, using that pattern of flow should to plan a groundwater-sampling scheme to map the extent of the existing contaminant plume. This data and analysis should then feed into estimates of how the proposed project would interact with existing contamination. The combination of existing conditions with impacts due to the proposed project would show what groundwater quality can be expected during and post project.	WR1E
18619	The PolyMet Project would significantly increase mercury levels in local fish, creating human health and ecological risks. Sulfates would impair wild rice. The DEIS studies are inadequate to prevent degradation of water quality.	WR4B,WR4F,FM1
18621	The PolyMet project would take over 6,700 acres of public land in the Superior National Forest. Yet, the DEIS has done no analysis of a land exchange to protect the environment, tribal rights and public taxpayer assets.	PD1
18622	1) Analyze the land that is going to be exchanged for Superior National Forest land to make this project possible. Make sure that the land swap would protect wetlands, endangered species, hydrology, tribal rights and taxpayers' interests.	PD1
18623	2) As the U.S. EPA suggested, make sure that financial assurances for the public are included in the EIS long before any permitting process gets underway.	PD4
18630	To understand the potential impact of the proposed Project and related projects, systems analyses are required. The DEIS is narrow in scope and fails to address important questions regarding the impact of proposed hard-rock mining on the forest and related natural systems. The conclusions do not follow a principle of the USDA U.S. Forest Service: "We use the best scientific knowledge in making decisions and select the most appropriate technologies in the management of resources." ( <a href="http://www.fs.fed.us/aboutus/mission.shtml">http://www.fs.fed.us/aboutus/mission.shtml</a> ) With science-based and unequivocal dynamic changes in global climate (WHO; UNEP Intergovernmental Government Panel on Climate Change: <a href="http://www.ipcc.ch/">http://www.ipcc.ch/</a> (reflected in Ely environs weather in recent years), coupled with multiple recent and pending major human developments in northern MN (mining; new roads; new building; new power sources; and the like) the failure to use the best science, including dynamic systems methodologies, will have grave implications on the future sustainability of these treasured forest and wilderness areas. The data and information provided in this DEIS is inadequate for formulating conclusions let alone formulating the critical questions regarding effects of sulfide mining in SNF,	PD1

*Alphabetical by sender's first name*

<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
18631	<p>4.0 Existing Conditions and Environmental Consequences: 4.1.1.2 Groundwater Resources (see 1.6.1 above): The lack of hydrologic data for the Northmet Project that would allow clear characterization of current bedrock groundwater, flow directions at the mine site and tailing basins is outlined. My review of the supporting data does not provide such detail. Question: Do the DEIS Lead Agencies have a disagreement regarding the facts of available data upon which key hydrological estimates can be made? The data is either available for such analyses or it is not available. There should be no “difference of opinion”. Also, on p4.1.5 footnote a similar “difference of opinion” is noted regarding the “underlying surficial aquifer.” If it is the tribal cooperating agencies’ position that any conclusions “..based on this aquifer test data have a great deal of uncertainty given the variability in the results” do the DEIS lead agencies have data that refute the “uncertainty given the variability in the results?” It would seem that variability can be quantified and the degree of uncertainty ascertained. Isn’t it the responsibility of the DEIS and lead agencies to clarify this? On p 4.1-3 note is made of fractures and joints in the bedrock and groundwater flow through fractures. If fractures occur at deep water levels, one could expect potentially contaminated mine waste chemicals to reach areas other than the Partridge and Embarrass River watersheds and perhaps distant sites such as Birch Lake. The geology of this region could allow this scenario. Have analyses been done to explore such possibilities? Contaminated pits will be present for many years during which time extremes in weather will occur; thus a plausible scenario would involve entry of mine contaminants into adjacent watersheds (see Fig 4.2-9). Please clarify this question. On p 4.1-8: Groundwater Quality: a quote from MN Rules, pt. 7060.0600 states: “The groundwater may in its natural state have some characteristics or properties exceeding the standards for potable water supplies. Where the background level of natural origin is reasonably definable and is higher than the accepted standard potable water and the hydrology and extent of the aquifer are known, the natural level may be used as the standard.” It is not clear in the accompanying tables and text how this applies to the current DEIS data. How frequently has this been observed in data collected for this DEIS? The definition of “natural state” would be critical since polluted water left to resume a “natural state” could still be polluted and thus require remediation. This raises the question: What is the position of the proposers and lead agencies for managing water quality not in conformance with state quality standards and prior to approving a new mining operation. Shouldn’t the existing water quality variances from standards be corrected before approvals are given for new mining projects?</p>	WR1E,WR2A,WR1E

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
18632	<p>4.1.1.3: Surface Water Resources: Mercury in Water: (p 4.1-48). It is noted that “PolyMet is conducting additional sampling in wetlands, streams, and downstream lakes in the Embarrass River watershed under an MPCA approved plan to help better understand mercury dynamics.” It should be noted that mercury is an important water hazard but the MPCA should broaden its project to include detailed quantification of acid mine drainage; sulfates; and other heavy metals. Focusing only on mercury provides an incomplete assessment of impacts of hard-rock mining. Since baseline and current mercury and methyl mercury concentrations in watersheds of this Project are critical to assessing virtually all priority categories of this EIS (Water; Fish; Humans; etc) it is surprising that such data are not available to better inform the water assessments and resulting conclusions. The MN Regional Copper-Nickel Study prepared by the MN Environmental Quality Board (EQB) addressed water quality from mineral mining as a concern in 1979 study of Filson Creek, S Kawishiwi River and environs. Increased metals levels of Nickel, Copper and Zinc were found. Related studies of Unnamed Creek and Birch Lake at Bob Bay related to taconite mining (Erie Mining Company’s Dunka Pit ) documented increased concentrations of sulfates and nickel. Specific information should be included in the final EIS regarding: who is doing the sampling, who will do the measurements and what will be the timetable for accomplishing the assessments. The details of this MPCA plan should be appended to the DEIS. Such attention is needed for this matter given the hazards of mercury, particularly methyl mercury on fragile ecosystems and also the consequences for bioaccumulation of mercury and implications for human consumption of fish. MN has a growing problem with mercury in water and has existing statewide mercury fish advisories that limit human consumption of fish: see <a href="http://www.health.state.mn.us/divs/eh/fish/index.html">http://www.health.state.mn.us/divs/eh/fish/index.html</a>. Seemingly “low” concentrations of mercury in water do not necessarily reflect mercury in the biota and fish tissue concentrations which may be logs higher and directly toxic to humans and on wildlife who feed on fish. The critical importance of these issues has led to creation of proposed national mercury monitoring network: see: <a href="http://toxics.usgs.gov/highlights/mercnet.html">http://toxics.usgs.gov/highlights/mercnet.html</a>. Tables such as 4.1-97 (p 4.1-190) and text (eg, p 4.1-189 and 4.1- 193), throughout the Draft EIS Northmet, contain measures of mercury and methyl mercury concentrations. Since there are significant methodological issues involving such measurements of mercury, the question is whether the analyses reported reflect recognized causes of and degrees of variation in mercury concentrations. For example, significant daily variations have been noted by researchers: <a href="http://toxics.usgs.gov/highlights/mercury_streams.html">http://toxics.usgs.gov/highlights/mercury_streams.html</a> and <a href="http://toxics.usgs.gov/highlights/metals_variation.html">http://toxics.usgs.gov/highlights/metals_variation.html</a> . Have models used to project methylmercury concentrations included estimates of expected variation in measures under varied conditions? Please clarify. 4.1.2.4 Mercury Impact Criteria: Note is made of the relationship between sulfate and production of methyl mercury. MPCA (2006) policies relevant to this issue are outlined and recommendations are to “avoid or minimize the discharge of water with elevated sulfate concentrations to methylmercury “high risk” situations.” It is not clear, however, to what extent the Northmet Project incorporates these recommendations into their operating plans. No details are provided and “high risk” is not defined. This should be clarified.</p>	WR4B,WR4C,FM2,AQ6A
18635	<p>4.1.3 Environmental Consequences: It is stated: “The mining, ore processing, and tailings disposal operations associated with the Project may cause changes to the quantity and quality of ground and surface water in the Project area.” The word “may” should be changed to “will”. Has there ever been a circumstance reported in the peer-reviewed literature when such mining operations have not caused such changes? Hard-rock mining causes clear predictable and adverse acid and metal-rich drainage. This DEIS focuses primarily on mercury but as noted above numerous metals leach from mining sites with toxic consequences for the biota. (Kimball BA. Assessment of metal loads in watersheds affected by acid mine drainage..Applied Geochemistry; 17; 2002:1183-1207) 4.1.3 Environmental Consequences: Note is made of Uncertainty re key assumptions and the use of “Uncertainty Analysis” for selected contaminants. Since uncertainty analysis requires a variety of objective and subjective data inputs, such simulations may produce highly variable outputs. It is stated that the analyses were approved by the resource agencies? Could the methodology, data input and analyses be appended to this EIS?</p>	EOO,WR1E

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Comment ID	Comment Text	Theme Codes
18636	4.1.3.5 Mitigation and Monitoring Measures. On p 4.1-172, Mercury monitoring is noted the MPCA Mercury Strategy (2006) that recommends water monitoring for sulfate releases and effects on methylmercury production and establishment of five monitoring sites on streams draining wetlands..." The language in this paragraph and the next paragraph where it states: "PolyMet should develop a similar mercury monitoring plan for the Mine Site..." are ambiguous. What specifically is the responsibility of PolyMet for achieving the MPCA 2006 recommendations and what does the word "should" mean? Please clarify.	WR4C
18637	4.1.4 Cumulative Effects on Water Resources: It is most disconcerting that there is "...existing seepage from the LTVSMC Tailings Basin" and that the Draft EIS suggests that the duration of these impacts would be extended. Why have the seepage problems not been corrected? The law requires polluting offenders to comply with remediation plans. The current problems should be corrected before any new mining operations are approved. As noted earlier, shouldn't the Cumulative Effects summaries in this and other Chapters include major projected mining activities of Franconia; Duluth Metals; Encampment; and Tech Caminco? If not, please provide rationale.	WR5A
18638	4.1.4.2 Water Quality: Northern MN, including the area of Northmet Project, has significant existing mercury impaired waters. (Fig4.5-4 and p 4.1-189 re Colby Lake) Almost 1,500 waterbodies in MN require Total Maximum Daily Load (TMDL) list. Remarkably a TMDL pollution reduction study has not been performed for Colby Lake to address this impairment. It would seem reasonable that this Draft EIS Northmet address when this will be accomplished and by whom. Is this planned prior to the projected operation of the Northmet Project?	WR3F
18639	On p 4.1-196 it is noted that MPCA (2006) "recommends avoiding "discharges" of sulfate to "high risk" situations, which include wetlands, low-sulfate water...where sulfate may be a limiting factor in the activity of sulfate-reducing bacteria...re the potential for methylmercury production." Has Northmet Project accepted this recommendation? Who will be responsible for ensuring that the recommendation is followed?	WR4C
18640	Note: Please clarify: Throughout the DEIS statements are made that recommendations have been made after study (such as the above by MPCA.) I am unclear as to what the disposition is on such statements. Are these all included in the final EIS? Are these negotiated with Polymet? Who makes the decision and what is the process? The current DEIS does not provide information to answer this question.	WR1E
<b>Sender Last Name:</b> Jenkins		<b>Submission ID:</b> 2865
3214	There are to many open ended environmental issues at stake to let anyone mine in or near the Boundry Waters.	EOO
<b>Sender Last Name:</b> Jennings.pdf		<b>Submission ID:</b> 2667
765	The project allows the degradation of 1200 acres of wetlands in St. Louis County and the St. Louis River watershed, with an inadequate mitigation plan. The loss of these wetlands will result in a net loss in carbon sequestration provided by these wetlands (peatlands).	WE3
793	The DEIS does not adequately address the mining project's impact on Canada Lynx and Grey Wolf Habitats. It also does not address the destruction of existing wildlife corridors. The project is located on land the USFWS designated less than one year ago as critical habitat for the Canada Lynx.	WI1,WI5
1493	The mine's tailings basin will also produce discharges high in sulfate concentrations, which will turn mercury into methlmercury, making fish dangerous to consume.	WR4B,FM1
2377	Divide, meaning that surface waters run either into the Boundary Waters Wilderness (note the word) Area through Birch Lake or into the Lake Superior watershed. Wetlands and ground water would be affected in perpetuity. Water quality concerns have not been adequately addressed in the PolyMet project's DEIS. And where they are mentioned, the vocabulary is horrifying: "exceed water quality standards;" "high risk situations, etc" Water leaching from waste rock piles at the site is expected to exceed water quality standards for up to 2,000 years.	WR1A,WR1E

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<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
2638	The DEIS should expand its analysis of the Cumulative Impacts of the PolyMet project to include a review of past, present and foreseeable future actions within the project vicinity. The state of Wisconsin has passed a law demanding this type of review and as yet no company has been able to meet its requirements.	PD8,G9
2639	As recommended by the EPA, the DEIS must include an evaluation of the financial assurance that would be provided to ensure postclosure reclamation of the PolyMet NorthMet mine and plant. Sulfide mining places huge burdens on taxpayers. These mines often require long-term or perpetual pollution and treatment. PolyMet has few assets or financial history. Mining is by nature a boom-and-bust activity, with many bankruptcies. The question of where the funding will come from for post-closure treatment, monitoring and maintenance has not been adequately addressed, and Minnesota taxpayers will have to pay millions of dollars for clean up, which is not a guarantee of return to pristine condition, after PolyMet has gone.	PD4
2640	The PolyMet project proposes a land exchange of 6,700 of federal land within the Superior National Forest. This "connected action" is required to be part of the EIS under federal law. Knowing which what lands will be exchanged is important in evaluating the environmental and cultural impacts of the PolyMet NorthMet Project.	PRO4,PD1
3158	How are jobs in sulfide mining, such as the ones seriously being discussed in the Lake Superior and Boundary Waters watersheds, good jobs? Pitting neighbor against neighbor, human being against wildlife habitat, irreplaceable pristine wilderness against iffy, onetime, short-term, destructive gain isn't a good trade-off. The economic advantage we now enjoy as a tourist, hunting and fishing destination will be forever lost.	EOO,G1,G2
<b>Sender Last Name:</b> Jensen		<b>Submission ID:</b> 265

- 278 I am a third generation iron miner and I fully support PolyMet Mining's NorthMet project. My grandfather worked for Pickands Mather, my father worked for M.A. Hanna Company, and I worked for almost 30 years for National Steel and for U.S. Steel at Keewatin Taconite. I currently work at Hibbing Community College and my current position as Director of Continuing Education and Customized Training is also dependent on NE Minnesota's mining industry. As a Quality Manager for almost 15 years I worked closely with our Environmental Manager and watched our company and the mining industry significantly improve their dedication to protecting the environment. Mining companies in NE Minnesota today understand the importance of sustainable practices and the long term cost savings associated with them. The process that will be utilized at PolyMet Mining is significantly different than the leaching process used in the non-ferrous mining industry in the past and will minimize any effects on the environment. I believe that PolyMet Mining's draft EIS has provided Minnesota's regulators with the information necessary to ensure that the mining and processing of the non-ferrous ores will be completed in an environmentally sound manner. I have watched the migration of Iron Range youth, including my children, since the early 1980's due to a shrinking job market. Investment in the non-ferrous mining industry will allow those who want to stay on the Iron Range opportunity to stay here. In addition, the domestic production of metals by Poly Met Mining critical to our way of life will reduce our dependence on foreign supplies. I firmly believe that domestically produced minerals and metals is in our country's long term best interests and will minimize effects on our global environment. I appreciate the opportunity to comment on this important issue.
- 2383 What liability will Poly Met agree to? Will they pay for any and all leakage and spills from the ponds? All liners do eventually leak. When the soils are contaminated and water carries contaminants into new territory, how will they deal with it? How will Poly Met compensate? Will they pay for health issues of populations far and wide? Will they pay for care of sickened wildlife? An entire landscape and neighborhood surroundings are at risk. It should be studied far more carefully than anything I have read thus far. Who has inspected other Poly Met mine sites, tested the surroundings? Who has interviewed people in similar mine situations?

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
2619	MR. JENSEN: I fully support the project. Okay? Primarily because I have two children that my entire life I told them, "There is no jobs up here, you are going to have to move." My daughter just graduated or is graduating on Saturday with a doctorate in chemical engineering. With these types of projects there may be opportunity for her to come back to northeastern Minnesota. Most of my generation is there. Our children are all gone because we haven't had jobs. I really believe that we can do this environmentally friendly. I have looked at the process and I would again like to say that I support the project and I think it would be good not just for northeastern Minnesota, but the entire state, and the country, because of the metals that we will be doing in the mining.	EOO
2668	The International Falls Area Chamber of Commerce, with direction and support of the Board of Directors, desires to go on record supporting PolyMet Mining Co., to develop a copper, nickel, palladium, gold and cobalt mine and process ore at the former LTV Steel Mining Company plant near Hoyt Lakes. The Chamber Board of Directors and its members understand the importance of buying locally and sees this mine as a critical component to the area's economic viability. It only makes good sense for PolyMet to mine and produce some metals not currently mined anywhere else in the United States. PolyMet, we understand, will produce these metals in an environmentally sound way and generate significant economic activity in our part of the state, while following Minnesota's strict environmental requirements to protect air, water and land. Additionally, it is our understanding that the PolyMet mine will create 400 full time jobs with an annual payroll of \$40 million. The spin off economic benefit will be more widespread than st. Louis County and could also have an economic impact in the northern most cities in Minnesota with increased employment opportunities and a larger tax base. We support and applaud all of your efforts with this project and the adequacy of the draft EIS and we thank you for the opportunity to support and voice our opinion on this important project.	EOO,G5
3118	As a new Cook County, Mn resident, as a biologist, and health science practitioner, who has read of other mining disasters, I am disturbed about how little scrutiny there has been of the potential long term affects of the Poly Met mining plan. The only incentive seems to be SHORT TERM JOBS. Perhaps to recover from the long term health problems will provide additional jobs at the expense of all taxpayers.	G2
<b>Sender Last Name:</b> Jepson		<b>Submission ID:</b> 2010
2484	DON'T LET IT RAIN ON OUR PARADE - STOP POLLUTING - SAVE THE EARTH FOR FUTURE PEOPLE	Loss Of Wetlands EOO
<b>Sender Last Name:</b> Jerich		<b>Submission ID:</b> 2171
2576	There is much mis-information being circulated by groups such as the one that solicited me to send out a canned letter to you both. I grew up in Ely, and understand the environmental at risk issues, and also the view of the people that live there and need meaningful jobs to replace those lost over the last 30 years in forestry, mining and supporting industries. My request is to exercise all caution as to the environmental impact. If you have ever seen the copper mines in Arizona, and the devastation they create, you know what I mean. There are new processes being presented here that may change the impact. Please be unbiased and balanced and protect the people economically with this opportunity as well as the area they and their children live in.	G14
<b>Sender Last Name:</b> Jhecimovich		<b>Submission ID:</b> 1057

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
1162	I am acquainted with the management and some of the directors of Polymet, and I believe they are honest trustworthy executives who keep their word. I believe they have conducted their business to date in an environmentally responsible manner and will continue to do so. I am aware of advances in mining technology which will allow Polymet to comply with the strict environmental standards of Minnesota. Minnesota regulations are among the most environmentally advanced in the world. Minnesota regulatory agencies are technically superior to those of other states. I am confident that our agencies will provide complete oversight and control over the Polymet project to safeguard our environment. I have no fear that Polymet will be allowed to damage the environment in any manner. I trust our regulatory agencies due to my past experience in dealing with them. Our environmental special interest groups will provide a complete examination of Polymet's practices and will result in a stronger template for future non ferrous development. Non ferrous mining in Minnesota will result in an improvement in the overall world environment as other areas have less stringent environmental policies and protections in place. Worldwide demand for non ferrous metals is increasing and is expected to continue to increase. Minnesota mining of these metals will result in the least environmental impact while providing needed jobs in the area. The economic impact of the Northmet project of and by itself is a compelling reason for everyone 'make this happen'. Although the Northmet plan initially contemplates a 20 year production horizon, mineral deposits have been identified to extend the economic benefit for many years beyond. Benefactors of this economic boon would be the state itself, school districts, regional businesses and the many direct and indirect jobs created by this project. I fully support the Polymet Northmet project.	EOO
<b>Sender Last Name:</b> Jiricko		<b>Submission ID:</b> 3659
1	The PolyMet DEIS describes significant environmental problems associated with this proposed mine. These issues should be resolved before this mine is permitted by the responsible state and federal agencies. The PolyMet proposal's risks to water quality are unacceptable.	EOO
2	Water from waste rock piles will be polluted for up to 2,000 years (DEIS, Table 4.1-45). We can't expect mining companies to be responsible for these operations for that long.	PD3
3	One analysis in the DEIS predicts that arsenic, cobalt, and selenium will exceed water quality standards. Another analysis predicts cobalt, copper and nickel will exceed water quality standards. Both analyses predict high sulfate concentrations (4.1-113). Minnesota waters should not be polluted with heavy metals and sulfates. A different design is needed to prevent contaminated overflow into nearby water bodies.	WR3A
4	PolyMet proposes to construct a wetland to treat contaminated waters. Effectiveness of constructed wetland treatment systems has not been proven. This method should not be relied upon as a water treatment method. The company should design another method for cleaning polluted waters.	WE6,PD5
5	The DEIS does not outline the method or amount of financial assurance that the mining company will need to set aside for the potential disasters after closing. Because acid mitigation is difficult to predict and long term treatment after closing is necessary, there needs to be a large sum of cash held as a damage deposit and that amount should be specific and included in the final EIS.	PD4
6	The DEIS Northmet proposes a form of mining that is highly controversial. There is a consistent pattern of hard-rock mining companies overstating the benefits of hard-rock mining while not revealing the true costs. The DEIS Northmet should provide evidence that the proposed Project will provide citizens of MN with benefits that exceed the risks.	PD4
3121	The Boundary Waters and Northern Minnesota are an International treasure. Visited by the World for its unique attributes, culture, and wilderness we have a strong duty to ensure no risk is taken to damage its preciousness. The sulfide mining process comes with inherent risk of long-term degradation to the environment. This has been demonstrated historically and currently with sulfide mines in other locations. When risk is unpredictable, as is the case for this mining type, analysis of future damage to the local ecosystem, economy, and environment, are impossible to mitigate accurately. Zero risk policy for this area is prudent given its World status. Please make Zero risk a fundamental part of your decision making tree.	EOO,G2,G6

*Alphabetical by sender's first name*

**Comment ID    Comment Text**

**Theme Codes**

**Sender Last Name:**    Joerger

**Submission ID:** 3381

3671 All the proposals should be shot down because it would pollute Minnesota’s environment. It could kill a lot of fishing opportunities and would basically kill all aquatic life. Is it smart to mine for a few minerals for a profit and lose all the fishing and tourism profits? The video showed that less people are coming to that area because of the noise of drilling. Hard rock mining has proven to be very toxic and the leading pollution producer in the US. The economical gain is short term and if this proposal is passed it will have long term economical affect. Please do not pass this proposal.

EOO,G2C,G11

**Sender Last Name:**    Johanneson

**Submission ID:** 2252

2660 Help! How can this be? Haven’t we learned anything from the terrible messes we’ve created in the past? We’re supposed to believe the Polymet statement? sulfide mining does not belong in our beloved wilderness area!

EOO

**Sender Last Name:**    Johanson

**Submission ID:** 1523

1847 A particular concern of mine is the approval a project that will pollute in such close proximity to the treasured Boundary Waters Canoe Area Wilderness. I am very concerned about the precedent this project will set, and any failure to fully mitigate the potential impact of pollutants that result from this project would, I believe, do serious harm even to those non-BWCAW lakes and rivers that are such a critical part of northern Minnesota's unique ecosystem.

G2C,G7B

**Sender Last Name:**    Johnson

**Submission ID:** 171

162 I am writing in support of Polymet Mining's NorthMet project. The draft EIS submitted has determined, without question, the viability and the environmentally safe foundation with which this project will be undertaken. This project is vital to the long term well being of the Range and the State of Minnesota. The jobs it will create, the products it will produce, and the tax revenues it will supply are critical to the economy. 400 plus jobs are dependent upon our acceptance of this safe mining solution. The contribution it will provide to the expanded industries it will support is the very best opportunity we have been provided in decades. We need the jobs, we need the revenue. We need to support the resources this state provides. As a citizen of Minnesota I recognize that pro-business and pro-mining is not what we have been known for. It is time this trend changes and allow us the benefits our state and our citizens deserve. I strongly support this project and all of the benefits we will realize once a permit for mining is issued. Please, let's not let another opportunity for prosperity slip through our fingers.

EOO

186 I have not previously felt so compelled to submit comments for a DEIS. As an unemployed resident of the region that will be impacted by this mine, I understand the need for jobs, especially in NE Minnesota. But I believe the long term economic impact of sulfide mining will be strongly negative for the region and for the people of Minnesota. Please consider the following comments to reject the risk to the waters of Minnesota, truly our most precious resource. Please accept these comments on the PolyMet Mining Corp. NorthMet mining project Draft Environmental Impact Statement. I have serious concerns about the safety of this project and its potential impacts on Minnesota’s natural resources.

EOO



*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
214	We strongly support the advancement and allowance of mining of non ferrous minerals by Polymet in Hoyt Lakes. The EIS submitted for review clearly demonstrates that this mining system is safe and secure. Every caution has been researched and addressed. This mine will set the standards for the world for clean and sustainable mining for the future. The positive impact it will bring to the people and the economies of this state are unmeasurable. This resource deposited in Minnesota is valuable to all the people of Minnesota and the world. We need these metals to provide the United States with an uninterrupted supply of minerals not available in our United States. It eliminates our dependence on foreign producers of these metals. It is time to provide to this state and the people on the range jobs, revenues, taxes, and an improved and sustainable economic future. 400 new jobs and countless other construction and off shoot jobs will be created. We need this type of economic stimulus, not the governmental type we have grown used to. Jobs create pride and earned stimulus. Governmental stimulus creates liability and uncertain futures. It is time for this type of safe and environmentally friendly mining to be employed for the greater benefit of the citizens of the State of Minnesota. We need this venture to go forward.	EOO
717	I am requesting : (1) a time extension of 30 to 45 days for review of the EIS. The allotted time of the review is sparse (2) more availability of public meetings The current schedule is too limited. (3) Request that the public meetings include the option for citizen statements and discussion in the open meeting.	PRO6
745	Also, if there is to be any spirit of cooperation and compromise for the common good, we must listen to each other. Will there be another meeting with a more public format?	PRO6
1119	As a concerned Minnesota citizen, I feel it is my obligation to let you know that I support PolyMet Mining's NorthMet Project. At a time when our economic situation is unstable, I think we need the contribution that PolyMet will make to the state and local economy. The estimated 400 employees and hundreds of spin-off jobs will give a big boost to the financial situation in the Arrowhead Region, as well as the State of Minnesota, and a big boost to the morale and spirits of the people. It seems clear that PolyMet has completed an extensive environmental impact study that shows they can operate the proposed facility in an environmentally friendly atmosphere that will have a minimal impact on our environment. As a person who lives in northern Minnesota, I understand the need to balance use of resources like minerals and preservation of resources such as water and air. The draft EIS demonstrlites PolyMet can mine these metals AND protect air, water and natural resources, and I support the project. PolyMet will provide millions of dollars in local and state taxes to support our communities and education system. Let's get on with pennitting this mine. We need the jobs.	EOO
1185	No project is without risk, but with the proper procedures and controls in place we can significantly reduce the level of risk on all projects. I know this first had,working as a safety directorfor,J.R. Jensen Construction Company. I feel that the 'benefits of this project'to the regIon and state far outweigh the potential negative impacts. Please pass the environmental permits needed to get this project up and running.	EOO
1190	I support Polymet Mining's NorthMet mining project. As with any project of this scale, there are many challenges. There are many important aspects to consider. :rhe EIS is an important step to address many environmental aspects of a project. This EIS was well prepared and answered many important questions, and has my support Consider in these hard economic times how'important it is to create revenue generators for the state, Creating local opportunities for workers,-and sources of materials for manufacturers, only increases the strength of our state moving forward into the future. Also it is important to think how complete and thorough this EIS is, and consider what kind of EIS other countries would produce for such a project. Apart fonn the quality differential, most countries would not provide any consideration for the natural environment. We are competing on a global stage in the modern world we need to stay competitive and manage our resources intelligently.	EOO

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
1191	I support PolyMet Mining's NorthMet project. The draft environmental impact statement does an excellent and thorough job of defining and addressing the potential environmental concerns. The NorthMet project will be an example and set the precedent for future mining operations. More than enough time and money has been spent preparing the draft EIS. It is time to move forward with this project. The demand for these metals will be met by world markets. We can be sure that the environmental concerns addressed by this EIS document, will not be taken into consideration by other countries around the world. -That is why, it is important to mine these metals here in Minnesota, where we know that the mining will be done to minimize environmental impacts. The economic impact of this project will benefit the local economy of northeastern Minnesota as well as the rest of the state. Given the current economic conditions, it is important that the jobs provided by this project become a reality. With some of the highest unemployment in the state, -northeastern Minnesota needs the jobs created by this -project. The jobs include construction, mining, venter support, and all the other trickle down employment opportunities that-will result from the PolyMet's NorthMet project. Thank you for considering my support for this very important project.	EOO
1310	I am deeply concerned about the environmental impacts implement in the North Met, and specifically the impact that sulfide mining will have on the surrounding communities and local watershed. As a concerned citizen, I plead with you that this project will not pass.	EOO,G7B
2000	g. The DEIS provided insufficient documentation of the degree to which contaminants will move in the subsurface at and near the mine site, particularly in the upper weathered bedrock-till interface, to lead to the necessity of adaptive management in the future once the mine is closed.	WR2E
2000	a. The DEIS needed to present temporal field data on the Partridge River discharge near the mine site. Given the duration of the studies done at the site (years), I am surprised that these data appear to have not been collected. Rather than directly obtain surface water data, the DEIS presented the results of a surface-water numerical model, XP-SWMM, incorporating data collected years ago by the USGS at stations removed from the mine site and within a much larger watershed, and extrapolated these results to the mine site at a smaller watershed size. The recharge rates calculated from this model to get it to agree with assumptions produced recharge rates through the glacial till that seem implausible, at least based on well hydrographs in till collected by the USGS in the general area. The DNR should reconcile these results at the least, optimally by measuring recharge from water table well hydrographs. Otherwise, the amounts of water reaching the mine pit may be larger than anticipated and the validity of their surface water model for the Partridge River can be questioned.	WR2H,WR3J
2000	b. The DEIS surface water model results did not calibrate well to periods of high flow, despite broad sensitivity analysis done to try and assess what factors mostly affect the stream discharge. Getting field data closer to the site to use in the modeling process would have been invaluable. The DEIS needs to link more directly the extent to which the surface water model error affects interpretation on plausible effects on water quality to the Partridge River caused by AMD from the closed mine.	WR3J
2001	b. The AMAX and INCO field experiments do bear on what might happen, as the broader analysis and data compilation of water quality generated from sulfide mines, in general. The DEIS discussion of AMD at Polymet in the context of other mines constituted the strongest line of evidence that, given the low grade of are at Polymet, serious acid mine drainage should not evolve over time, compared to that found at other mines.	EOO
2001	2. I found the groundwater modeling approaches used by Polymet were insufficiently documented to allow me to evaluate their degree of certainty. These models may, in fact, be inappropriate to address the problems considered; a) dewatering of surficial aquifers and bedrock aquifers near the mine pit caused by the mine and b) how rapidly potentially contaminated water might move from , the closed mine to the Partridge and Embarrass Rivers. Additional documentation should be provided to support the conclusions reached in the DEIS from the groundwater modeling approaches used, including water table maps, potentiometric surface maps and hydrogeologic cross sections showing drawdown of groundwater levels around the mine during its operation, groundwater flow velocities (MODPATH simulation module), and how model results calculate the pits will fill over time after closure.	WR2E

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
2001	a. I find that the results of the humidity experiments done at benchtopscale bear little, if anything, on what will happen in the actual stock piles or subaqueously to waste rock deposited in the former mine pits. The DEIS must address the matter of scale more directly and why these studies were done.	WR1E
2002	c. From first principles, and assuming the quality of the waste rock meets what the DEIS reports, the generation of serious acid mine drainage from Polymet should not occur except in small pockets within stock piles. Having said this, I urge DNR to develop an adaptive management plan in case unanticipated surprises evolve, particularly in light of the serious modeling uncertainty, lack of direct pertinent information on the surface water and hydrogeologic system as it now stands, and the national history of the inability of the environmental review process to project the extent of AMD at heavy metal mining operations elsewhere.	WR1E,WR2E
2002	Polymet considered all the bedrock formations a single hydrostratigraphic unit to prepare a potentiometric surface map, which implies that all the rocks behave as a single kind of water bearing unit. Yet, Polymet divided the rocks into clearly different horizontal hydrostratigraphic units based on differences in hydraulic conductivity, a measure by which water can move through soil and rock. This conceptual difference between characterizing the bedrock formation as a single hydrostratigraphic unit, and then later dividing rocks into different horizontal hydrostratigraphic units based on hydraulic connectivity, appears to be a major contradiction.	WR2A
2002	Polymet neglected to collect important hydrogeologic information needed for full characterization of the mine site. Without this data, no direct means can be used to characterize groundwater flow in the vertical direction, up or down, from the water table or surface waters under natural or perturbed conditions. As a result, there is no means to determine the accuracy of the broad results of Polymet's groundwater modeling efforts. Furthermore, some bedrock piezometers were constructed so they obtained water across the contact between the Duluth Formation and the underlying Virginia Formation. More piezometers isolated within presumed hydrostratigraphic units in the bedrock (individual water bearing zones) were needed.	WR2A
2003	I view it plausible, compared to what Polymet assumed, that flow paths in the bedrock diverge from directions defined by the water table in the overlying surficial materials. Ground water in the deep bedrock could very well move under the Partridge River to places beyond. The Partridge River hardly can be the regional discharge zone for water moving in the deep bedrock, despite what the Polymet DEIS modeling boundary conditions forced it to do. The Partridge River only serves as the discharge point of local systems in the very upper bedrock and surficial aquifers--but not to deeper waters.	WR2A
2003	I found it unfortunate that Polymet did not install piezometer nests in key locations to determine the potential for vertical head gradients. They could have been installed both north and south of the mine to intersect individual fracture sets in each rock unit and also near the Little Partridge River. The water levels measured in these could have been directly used to characterize vertical groundwater flow directions before, during and after the mine as well as the degree to which the bedrock connects with the river. Water quality measurements could also have been obtained from these to determine the degree to which fractures connect. Pumping tests could have been done from individual piezometers in such nests to determine vertical connectivity as well and the data obtained be used to calibrate the 3-D groundwater modeling effort.	WR2F
2003	The direction that ground water moves depends on the water levels measured in the wells. Ground water moves from high to low water elevations, and not only side to side, or horizontally. Water can also move up and down, vertically. Hydrogeologists routinely characterize vertical hydraulic gradients with multiple piezometers placed at the same location and called "couplets" or "nests" to determine whether ground water moves up or down, and this should have been done at Polymet. During mining, one would expect greater downward migration of water in bedrock aquifer to the open mine pit. Ground water flow directions in the deep bedrock at Polymet may not be the same as that predicated from a water table map. But when the mine opens, I would expect it to act as a drain, inducing water horizontally and vertically to hit both surficial materials and underlying bedrock where fractures connect. Since the Little Partridge River does not cut deep into the bedrock, it seems unlikely it could be a drain to anything but groundwater in the surficial materials, despite Polymet considering it a drain for ground water both in surficial materials and in deep bedrock.	WR2A

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
2004	Indeed, the contours of the potentiometric surface for all bedrock in Polymet's groundwater modeling report (Fig. 6.2, RS74A Surface Water and Groundwater Draft 02) do not bend upriver when they cross the Partridge River, which implies flow under the river. Polymet's analysis of flow paths did not address the potential that flow paths in bedrock could extend under the river, even though Polymet's groundwater modeling report indicated that potential. But, had Polymet installed bedrock wells near the Partridge River south of the proposed mine, it could have directly determined whether the river receives or loses water to the bedrock. Without such wells, only untested assumptions can be made regarding river-bedrock groundwater interaction and the validity of their solute transport model post mine remains questionable with respect to the deeper flow system.	WR2A
2005	To some extent, I agree with the position by the tribal cooperating agencies (DEIS, Vol. I at 4.1-2) that Polymet needed to install more instrumentation to characterize the hydrogeologic setting of the mine. But, I do not think a great deal more is needed. At least the potentiometric surfaces in the bedrock and surficial materials needed to be better characterized with respect to the Partridge River. Finally, the monitoring wells that Polymet installed in the wetland peat soils bears little on what the water table in surficial drift might do with mining. The wetland soils have very low hydraulic conductivity compared to other soils and effectively can be viewed as disconnected from the broader hydrologic system except very locally. I am not concerned about wetlands being drained by the mine, short of the ones that are directly in the mine footprint.	WR2A
2318	Please accept these comments on the PolyMet Mining Corp. NorthMet mining project Draft Environmental Impact Statement. I have serious concerns about the safety of this project and its potential impacts on Minnesota's natural resources. I have been trying to find a sulfide mining operation that has not caused major water pollution but I can't find any. I believe that you know this to be true but it appears that the corporate power will have a big impact on your decision. With clean water becoming harder and harder to find on the planet I think taking a chance like this for a couple hundred short term jobs is totally irresponsible. How can I tell my grandchildren that I allowed this to happen?	EOO,G7
2319	The PolyMet DEIS describes significant environmental issues associated with this proposed mine. These issues should be resolved before this mine is approved by the Minnesota Department of Natural Resources and the U.S. Army Corps of Engineers. Don't turn Northeastern Minnesota into a mining wasteland.	G8
2833	The DEIS text has only five citations to the Regional Copper-Nickel Study. This is a glaring omission of important data that was prepared especially for this environmental impacts evaluation of copper-nickel mining. This environmental impact statement is for copper/nickel/metals mining in the very same area of the Study. The DEIS does have a few citations for the Study so its authors knew the Study existed, but the DEIS does not even discuss the fact that the Study exists, its purpose, and applicability. The DEIS cannot be adequate without acknowledging and utilizing the Study data and subsequent research.	EOO,WR1E
2834	p. 4.1-34. The DEIS indicates that there are limited data pre the Peter Mitchell Mine. This infers there is data. The DEIS should provide the data that exists. The DEIS should also describe any problems or issues with each of the sets of data, as provided in any quality assurance lab reports or by the providing data source.	WR1E
3152	Please accept these comments on the PolyMet Mining Corp. NorthMet mining project Draft Environmental Impact Statement. I have grave concerns about this project's potential impacts on Minnesota's natural resources and public health. Do not initiate a project that will permanently degrade our state's greatest natural resource. Once again, business ahead of conservation will turn our state into another Louisiana. The PolyMet DEIS describes serious environmental issues associated with this proposed mine. These issues should be addressed and resolved before this mine is approved by the U.S. Army Corps of Engineers and the Minnesota Department of Natural Resources.	G2

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
3247	The DEIS basically says that they think bad contamination will not happen, in spite of metals releases in several places nearby which have not yet been controlled and continue to pollute. PolyMet must show that they have a reliable, appropriate capture/ treatment/ extraction/ disposal systems for any and all contamination that might be released, in addition to the financial assurance for performance. No matter who pays the bill, it is always cheaper to prevent contamination than to clean it up later. These comments put the preparers of the DEIS on notice of the existence and applicability of the entire study and subsequent research in the Legislative Library, which should lead to additional more recent applicable research. Because of the potential for pollution disasters in situations like this, regulatory agencies require financial assurance for pollution cleanup, closure, and required post-closure action. The DEIS should discuss an estimate of future dollars costs if an accidental contaminant release should occur, and if PolyMet or a successor should go bankrupt or leave the project area without closure or with uncontrolled contamination occurring. Please, avoid unintentional stupidity or Ponzi schemes to lay these costs on the public.	PD3,PD4
3248	Elements that should be included in the EIS are energy consumption and carbon use analyses. Will energy demand by the plant affect local residents' available supply, or their prices? What will the company do to minimize its energy and petroleum usage? What will the energy company require the mine to do to fulfill its obligations to the State to meet 25/25?	PD8
3249	This mine is in the Lake Superior watershed, an international water, and the mine is a short enough distance from the international boundary to consider international air quality issues. The DEIS should discuss what obligations the mining company has to the International Joint Commission serving both the United States and Canada. ...the Commission rules upon applications for approval of projects affecting boundary or transboundary waters and may regulate the operation of these projects; it assists the two countries in the protection of the transboundary environment, including the implementation of the Great Lakes Water Quality Agreement and the improvement of transboundary air quality; and it alerts the governments to emerging issues along the boundary that may give rise to bilateral disputes. (www.ijc.org) Was public notice of this DEIS specifically served to the IJC, the Minister of Environment Canada, and affected provinces?	G2B
3292	I also note that the DEIS generously uses terms to evaluate data including, but not limited to, slow, fast, low, little, high, elevated, significant, insignificant. These are editorial terms that do not belong in a scientific document such as the DEIS without actual data and a discussion about how it relates to other similar data and other numbers arising from the Copper-Nickel Study, toxicity studies, health concerns and risk, and regulatory standards. If other authors disagree about editorial terms, this should be included in the text discussion. Footnoting disagreement is an insult and makes it appear that the DEIS authors think they know best. Good scientists know that they do not know everything and avoidance of the appearance of arrogance will be better evidence of non-bias.	EOO
3293	A non-ferrous mining sector EIS for certain aspects may be needed. Issues may arise if the NorthMet project moves forward at this time. If NorthMet is determined not to significantly contribute to haze, and does not need to follow through on certain air emission controls, what will be done when other mining applications come along and it is determined that the sector cumulative impact on haze exceeds the limit? At least four companies have been in headlines and in USFS permitting, moving forward. Do the first applicators get the breaks?	G8C,G10
3498	To Whom It May Concern: I support PolyMet Mining's NorthMet Project. Thank you for your consideration, Nancy Johnson njohnson@ulland.com	EOO
3530	Are we to auction off our public National Forest lands to the highest bidder these days? The exchange of a few temporary jobs for a polluting time bomb that could threaten the BWCA will never be a good idea. As a frequent visitor to the BWCA and Arrowhead region, I beg the DNR to take a firm stand against this mine proposal. Thank you.	EOO,G2
3612	This is ridiculous. It will ruin so many things that mean everything to people and to nature. If you cant clean it up don't make a mess! Think about the long term, not the short term.	EOO
3768	I am all in favor of the polymet project let's move forward and start building ..... Lois Johnson	EOO

*Alphabetical by sender's first name*

**Comment ID**    **Comment Text**    **Theme Codes**

3909 Many of us who live in NE Minnesota have been disregarded by our area legislators! They live in fear of the red neck, snowmobiler, 4 wheeler coalition & live in fear of being called "queenies". They do not represent the mostly silent group, maybe even majority, that is not ready to turn over our lakes, rivers, logs, etc. that we have loved all of our lives to the mining interests (copper, nickel etc.) From Alaska to NE Minnesota, mining development with all of its ugly baggage, looms. It is instructive & interesting to think back to Teddy Roosevelt & his thoughts and actions back when things were pristine & there was very little development west of the Mississippi. He warned about development, especially mining, and how it would spoil those areas perhaps for all time. He worked to set aside vast areas of unspoiled grandeur that we still have today. We still haven't learned the lesson that he laugh. Yet, were are considering using unproven technology that could have very bad long term consequences. Please side with all of us who want to preserve whats left of the Northern Minnesota. I could have loved elsewhere, but I chose to live here where I grew up, loving the area from the iron range to the Canadian border. Our area legislators no not represent the views of many, many of us. They have their formual for re-election & that is what concerns them. None of them seem to have any pro-environment feeling at all. They have a very skewed perspective. Please stop the development by being unconvinced by the technology & convinced of the risks. P.S. Enclosed is evidence that other mining projects are being considered.

**Sender Last Name:**    Johnson and Godbout

**Submission ID:** 267

280 The Twin Ports Construction Liaison Committee is made up of local unions and union employers. Our purpose is to promote the construction industry and show the cooperation between labor and management. On behalf of the committee and our many members we are writing to comment on and support Polymet's EIS. We have worked closely with Polymet for many months and are very knowledgeable about the effort they have made to make sure this project is safe environmentally. They have explained to us a number of times how they will proceed and operate to ensure an environmentally safe operation. Comparing this mining operation to those in the past that were not environmentally friendly is wrong Today's technology is far superior to that of the past. It should also be clear that Polymet is not in the BWCA's watershed. As local citizens we are very concerned about anything that would harm the environment; therefore we have made a very concerted effort to educate ourselves on Polymet's project. We understand the need to balance resources and the preservation of our water and air. We feel that this EIS supports Polymet's effort to develop and environmentally and economically sustainable project. This mining location contains the second largest deposit of cobalt in the world. Currently the United States is importing 80% of its copper. Polymet will be a domestic supplier of critical metals and will reduce our dependence on foreign metals and create a large tax base for the area and state. It will bring life back into a mining facility that now sits idle and once employed hundreds It is estimated that Polymet would create 900 permanent jobs, 400 at the mining facility and 500 spin off jobs. It will create 1.5 million much needed construction man hours. Northeastern Minnesota has one of the highest unemployment rates in the state. The tax base is becoming smaller, schools are being forced to merge, and government agencies are being forced to cut back their services. We are asking that you approve Polymet's EIS.

**Sender Last Name:**    Johnson.pdf

**Submission ID:** 3660

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
1	<p>Summary: The DEIS lacks and has ignored valid and related scientific literature, coming to conclusions that are nothing more than conjecture. It further lacks critical definitions essential to the public’s understanding of mining. It lacks important toxicological information. Discussion: Because of the essential, unavoidably scientific nature of environmental issues in identifying environmental impacts, the Draft Environmental Impact Statement (DEIS) must include scientific statements. A wealth exists of published and peer-reviewed literature regarding the potential impacts of copper/nickel mining in Minnesota (especially the Regional Copper-Nickel Study 1976-1979 by the State Planning Agency, a compilation of work by Minnesota Department of Natural Resources (MnDNR) and many others), and also a wealth of real-world data regarding seeps, discharges and leachates, yet the DEIS appears to rely on poorly referenced studies and computer models provided by advocates for the project, rather than existing studies and data. Private PolyMet-funded reports are unlike open scientific literature in that they have not been accessible to the public, nor have they been peer-reviewed as to data, data sources, data analysis and conclusions, and therefore lack the credibility of peer review. Presenting accurate detailed information includes how the DEIS is supported scientifically (the purpose of citations), and enables comment, including verification, by the public in a reasonable time frame. Most citations infer technical support for technical statements and conclusions. On the other hand many conclusions do not include citations to the scientific basis for the conclusions, which gives the appearance of conjecture. In addition, the citations that are included refer to documents that are not made easily available for review by the public (personal experience). The emails attached document that I requested the cited documents twice. I never did receive the CD as DNR stated would be sent. I continue my position in these comments that an extension should be granted so that I and other scientists can have the opportunity to review the scientific basis of the statements with such citations.</p>	G8
2	<p>The state of Minnesota spent millions of dollars on the Regional Copper-Nickel Study (Cu-Ni Study), which was a detailed study of a 500 square-mile area, including the PolyMet NorthMet site, from 1976 through 1979, and subsequent reports based on further research. The Cu-Ni Study is based on over 180 technical reports taking up 20 linear feet in the Legislative Library, prepared by the MnDNR, Minnesota Pollution Control Agency (MPCA), University of Minnesota, U.S. Bureau of Mines, US Environmental Protection Agency (EPA), many other government agencies, and contractors, for the purpose of providing relevant background for the event of a proposal of Cu-Ni mining in Minnesota. The preponderance of the Cu-Ni Study is directly related and currently timely to projects such as this. Metallurgical processes and toxicological and environmental data have not changed significantly since the time of the Cu-Ni Study. The differences between the DEIS and the Cu-Ni Study are glaringly apparent. I found only one cited publication from that study. Potential environmental impacts identified in the Cu-Ni Study have been ignored. Many of the authors of this study are still working for MnDNR, MPCA, U of M, or are now retired or working elsewhere but are still alive and available for discussions about the study, as I am. Many other scientific reports in the open literature have also been ignored. In the short time allowed for review of this document, I have only touched on the depth needed to address the multitudinous shortcomings of this DEIS in my field of expertise. Simply addressing my specific comments will not create an adequate EIS in the areas on which I comment. The DEIS must incorporate into its text -- lock, stock, and barrel -- the entirety of the Cu- Ni Study and its literature, using proper citations and providing all cited documents to the public. The current DEIS needs to be disregarded and a scientifically supportable document must be developed.</p>	G8,G14
3	<p>Polymet Corp is likely a corporate “veil” for other corporation(s) in a position of parent, partner, owner, financier or other supporting function. Many mining companies use veils to protect the veil corporations from liability. It is important to make the names of the veil companies public in the Draft Environmental Impact Statement DEIS for at least four reasons: 1. Past behavior is an excellent predictor of future behavior. If a veil company has a continuing poor environmental record, it should be taken into account when the DEIS is evaluated. 2. Properties owned by the veil corporations may be negotiable for properties that will produce fewer impacts than the existing ownership allows, e.g. a veil company may propose an environmentally poor place to dispose of waste, yet close by there is a far better site owned by a veil company. This may allow internal corporate negotiations to acquire the better disposal site. 3. If Polymet goes bankrupt, State and or Federal Superfund will have records to pursue any veil companies to clean up any contamination. 4. If Polymet obtains all its permits and is operating, a veil company may purchase Polymet and demand changes to agreements that have been made with the State.</p>	G4A

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
4	A clear definition is needed between mineralized rock and ore, and other terms, like disseminated, used throughout the DEIS with important concepts to making decisions.	G8
5	Unlike many copper (Cu) deposits in the nation, this deposit includes significant quantities of nickel, cobalt, and zinc (Ni, Co, Zn). The DEIS ignores the fact that toxic metal releases of Cu, Ni, Co, Zn have already occurred from the Duluth Complex stockpiles and test plots at the LTV Dunka Taconite Mine (AKA Erie Mining Dunka Mine), Amax test site, Spruce Road Bulk Sample Site at near neutral pH. The release of Cu can be reduced with circumneutral pH (pH 6.7 to 7.2). This is not true for Ni, Co, and Zn (MnDNR, 1980; EQB, 1977; Eisenreich S.J., May 1976, p. 27; Lapakko K., 1980, Table 2). The Cu-Ni Study Executive Summary p. 45 states these leachate impacts are of significance. This DEIS fails to address how circumneutral releases of Ni, Co, and Zn will be addressed.	PD2
6	The concept of a 20-year mine operation is misleading to most novice readers. The 20- year mine concept is the standard way mining companies plan their operations; the 20- year time frame has nothing to do with final closure dates. All mine closures are dictated by the ore resource available, the current market price, and the profits the company requires. For example, most of the taconite mines in Minnesota started in the 1950's and are still in operation 50 years later. In that time 2.5 20-year plans have come and gone. During the 50 years many operational changes have been made without holistic environmental review. For example, a flotation process was implemented by LTV Steel, AKA Erie Mining circa 1985. Polyacrylamides were used to remove silicates from the taconite. This process change was a major change in the basin and it was not assessed for environmental impacts by the regulatory agencies. No EAW or EIS was opened to assess impacts of the polyacrylamide discharge and its breakdown products. Data was available indicating this chemical may have an environmental impact. However the MPCA managers determined testing would not be required. Now scientific information has come to light that a breakdown product from polyacrylamides is acrylamide (Smith, 1997, introduction). Additionally, both the European Union and the USEPA have determined acrylamides to be toxic (USEPA, 1994, IV.; EUROPA, 2001, effects assessment). This highlights the fact that companies' operational changes are seldom denied since the companies threaten regulators and politicians with closure and the loss of jobs unless they are allowed the change (personal experience). A 20-year operation should be just that, 20 years. At the end of 20 years all equipment and capital expenditures should be retired. After that time if they wish to continue operations, Polymet or its successor must be required to develop an entirely new DEIS, taking into account past impacts from the previous 20-year operation of the mine and the adequacy of the first EIS. In a 20-year mine-life, significant process changes can be expected. For example, in past years the taconite process crushed the rock, magnetically extracted the iron and formed it into a pellet. To reclaim wastewater from the process, a thickener chemical was added to the crushed rock wastewater to help precipitate the solids before it was discharged to a tailing basin to settle. In the past 20 years most, if not all, companies have added flotation cells to remove silicates. This requires chemicals be added to the process. Initially all tailing basins were designed for the process without flotation and allowed waste water to seep through the walls and bottom of the dikes to the surface and underground water. These seepages have changed the chemical characteristics of the local surface waters. The law of conservation of matter states that matter cannot be created or destroyed in a normal chemical reaction. This means any chemical added to the process must go somewhere (into the product, air, or waste water, soil, etc). In theory, each process change is reviewed by an agency staff person who may or may not understand the process well enough to make a scientifically credible environmental review. This has resulted in a "creeping" of impacts beyond what was delineated in the initial EIS. The DEIS must address its impacts as being cumulative to already current impacts. All future process changes must be approved through the use of a supplemental EIS to insure all aspects of potential impacts are properly evaluated though the use of numerous technical experts from numerous agencies and the public.	G9
7	The Cu-Ni Study Executive Summary indicates Polymet mine site is in the report's development Zone II (State Planning Agency, August 31, 1979, Fig 4). Zone II has the highest quality mineralization but 2/3 of this resource is below 1000' (State Planning Agency, August 31, 1979, p 9). It is unlikely that an underground operation will be ignored for this operation in the future. This may be the reason the 800' West pit is not proposed for a underwater waste rock dump. Future development (beyond 20 years) must be addressed fully in the DEIS for adequate environmental planning.	G9



*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
8	Under the “General” section of the Memorandum Of Understanding, it is relevant to identify all potentially problematic chemicals (DEIS, Volume III MOU, p. 2). This has not been addressed. All chemicals, both those contained within the Duluth Complex rock and those extraction chemicals that are proposed to be added, and their mixture and degradation products, must be clearly identified with their toxicology. Here is an example of some of these chemicals:	PD2
9	The impacts of each chemical and combination of chemicals and their degradation products must be clearly discussed in the DEIS. For example, the DEAW and DEIS identified a number of metal elements of interest found in the Duluth Complex proposed to be mined. The US Agency for Toxic Substances and Disease Registry (ATSDR) ( <a href="http://www.atsdr.cdc.gov">http://www.atsdr.cdc.gov</a> ), part of the Center for Disease Control, assesses chemical toxicology for Superfund sites and other public health purposes. The ATSDR has listed a number of the DEIS-identified elements as chemicals that have been found in the environment and are of concern such as: Mercury, Copper, Nickel, Cobalt, Zinc. There is no acknowledgement by the DEIS of these concerns identified or discussed in the DEIS. This omission strikes at the heart of the purpose for having DEIS. Adequate environmental decisions simply cannot be made by ignoring this type of information commonly available to and well known by most environmental governmental units.	PD2
10	Computer models are used extensively in the DEIS. In the scientific realm, models must be appropriate for the purpose, calibrated against actual field data, tested and peer reviewed to be proven to be accurate for their proposed use. Models must be populated with data that is both appropriate and of sufficient quantity to allow the model to work within its design parameters. Additionally, a tested model must identify its design error percentage, e.g., + or – x%, which is a measurement of the risk of being wrong. The use of models within the DEIS is not transparent as to the above criteria describing limitations. This inadequacy must be corrected. Adequate environmental decisions simply cannot be made ignoring this information.	G8
11	The DEIS must include accurate groundwater and surface water flow direction and volume maps.	WR1E
12	Summary: The stockpile design is inappropriate for sulfide bearing waste rock. It relies on laboratory cutoff values, inappropriately designed containment, and ignores construction practices that would allow near 100% of precipitation to be channeled out and away from the piles. It further ignores the uncontrolled circumneutral leaching that will occur from allowing infiltration to reach mineralized material.	PD2
13	Summary: The dike construction ignores good engineering principles.	PD8
14	Summary: Ground water infiltration into the pit is basically ignored, yet being able to predict kinetic water movements around mineralized materials and rates of metals dissolution is critical in sizing waste water treatment plants.	WR2E
15	Summary: The DEIS fails to discuss the details of wastewater treatment design, its input chemicals, and chemical quality of both wastewater discharges and sludge production.	PD2
16	Summary: The east and central pits closure relies on laboratory scale thinking with no substantive data to prove the water quality from the pit would come close to meeting state water quality standards. It amounts to nothing more than a large experiment at taxpayer’s expense. The DEIS ignores existing scientific information that demonstrates after closure the west pit will for 65 years have acid mine drainage filling it with no feasible way of treating the leachate water. The DEIS further speculates that once filled, the acid leachate will flow into the central and east pits. This disregards the fact that about 30 feet of granular material surrounds the pit and almost assuredly the outflow of the west pit will infiltrate into the glacial till rather than overflowing into the central pit. Even if the pit overflows it is inconceivable that the east and central pits will provide anything close to mitigation that will meet surface water quality standards.	PD2,PD4
17	Summary: Sulfide mineralized rock should be avoided in any construction due to the disseminated nature of the waste rock and possible spreading of circumneutral metals contamination throughout the area.	PD8

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Comment ID	Comment Text	Theme Codes
18	Summary: The DEIS fails to use proper chemical names for the chemicals to be used in the facility. It fails to test the facility's residuals including sludges and wastewater to determine: 1. are they hazardous waste; 2. the chemicals that will be discharged into both tailing basins. They further fail to discuss the toxicological and degradation products that will be discharged into these basins. Without a substantive scientifically based review, comparison to surface water and ground water standards and resultant impacts from these discharges cannot be assessed in any relevant manner.	PD2
19	The concentration and mass of chemicals and minerals in the wastewater (tailing discharge) must be identified and quantified. The DEIS uses company product names (MIBC, DF250, PAX, etc.) for many of these chemicals. This makes it almost impossible to research these products. The DEIS must use standard chemical nomenclature and CAS numbers so the public can track information regarding these products. Currently, MIBC, DF250, PAX, MagnaFlox10, Copper Sulfate will be added in this process. The ecological toxicity of these products and their breakdown products, interactions and half-life must be evaluated by qualified experts (see Minn. Rules 7050.0218 Subp. 5, 6, 7, 8). If these chemicals cannot be categorized as "environmentally safe" due to lack of data, the DEIS must not allow them to be discharged into the old LTV unlined tailing basin, which is a seepage pit.	PD2, HM4
20	The tailing slurry discharge into the basin must be tested to determine if it is hazardous waste, this includes testing for lethality (the oral rat test) and toxicity (Minn. Rules Ch. 7045.0129).	HM4
21	Since the DEIS proposes to discharge the tailing into the unlined basin, the DEIS failed to provide the chemical and toxicological information necessary to evaluate impacts of the tailing wastewater. At minimum the DEIS must: 1. Evaluate the tailing discharge to determine if it will meet stream water standards (chemical & toxicological). If the tailing fails to meet these standards, then a scientific study is required of the controllable chemical treatment (if any) that the old taconite tailing basin itself provides. This discussion must be based on scientific testing results and not speculation. 2. If the sole purpose of the basin is to filter solids and dilute the chemicals discharged, then the discharge must meet stream water standards at the end of the pipe -- not at the seepage points at the base. If this cannot be accomplished the residual chemicals must either be removed from the water before discharge to the basin or a basin should be underlined and the drainage water collected and reused as process makeup water. 3. Evaluate the tailing for sulfide and residual metals (including zinc) content and scientifically demonstrate these waste materials will not produce heavy metal leachates (at the time of discharge, in transit, and for perpetuity).	PD2
22	The concentration and mass of chemicals and minerals in the waste slurry was not identified and quantified as to its chemistry and toxicology. It is not possible to determine the adequacy of the containment proposal. Without the above information impacts cannot be assessed, nor whether the basin design is adequate to prevent impacts. Because the DEIS proposes a limited life (5 years) to each underlined basin, it appears that the waste will not meet either surface water or ground water standards. Open basins with liquids attract wildlife as a water source. If these basins require at least one under liner, they must also have covers to keep wildlife from using the waste liquids as a water source.	PD2
23	Summary: The current tailing basin condition is not adequately discussed. Tailing basins must be designed to deal with the wastes that they are to hold. The current tailing basin design appears to only serve to dilute potential toxic process chemicals. The DEIS cannot assess impacts without a full understanding of how the current basin is designed to handle both the mineral waste and chemical process wastes.	PD5, GT1
24	Summary: The proposed surface water standards do not take into account cumulative impacts from other mining operations, allowing a higher concentrations of chemical discharges.	WR5A
25	1. The DEIS must be based on scientific literature, include what we already know as pertinent field results from northeast Minnesota, and conclusions must include citations for supporting data.	G8
26	2. The basis for any copper-nickel DEIS must be the 180 + reports of the Regional Copper-Nickel Study.	G8
27	3. The corporate veil companies and financial stability must be part of the DEIS to avoid "Ponzi" schemes on the taxpayers.	PD4

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<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
28	4. Clear definitions and concepts are essential to identify chemical risks associated with mining.	G6
29	5. The DEIS must discuss implications of circumneutral metals leaching as related to water quality standards.	WR1E
30	6. The DEIS must address not only the 20-year mine life but also subsequent mine lives.	G9
31	7. The DEIS must fully and thoroughly discuss the toxicological implications of the metals encountered and chemicals that will be used, to then fully discuss impacts on human health and the environment.	PD2
32	8. The DEIS must provide sufficient information about computer models to enable the reader to understand the extent of basis in actual data, assumptions, and the measure of risk of being wrong, that all affect the validity of the results.	G7
33	9. The DEIS must include accurate and detailed ground water and surface water flow, volume and direction maps.	WR1E
34	10. The DEIS must reject the use of taconite stockpile design. All stockpiles must be designed to keep 100% of water out of the stockpiles. The only practical way is using synthetic membrane cap over the entire pile, have lower slopes even though the footprint will be larger, be repairable, and must control and direct precipitation away. Underliner installation must be redesigned, knowing the subsurface contours to prevent catastrophic rips and uncontrolled releases.	PD2
35	11. The materials used in ditch and storm water leachate collection systems must preclude seepage and be resistant to freeze/thaw cycles.	WR3K
36	12. A more detailed analysis of ground water inflow to the pits must be done.	WR2A
37	13. A detailed description of the WWTF is required to include but not limited to chemical characterization and volume of the discharged waste water and sludges. Failsafe controls and fall back plans are required if inflow volumes or chemistry exceed the capability of the facility to treat the water. Plans may include mining shutdown.	WR2G,PD2
38	14. Because the east pit and central pit closure plan entirely lacks scientific credibility to meet water quality standards, the DEIS must demonstrate that such a treatment scheme will in fact succeed. The new plan must show how massive variances will not be needed.	WR2G,PD3,PD4
39	15. Further more the DEIS must have a backup plan if discharges fail to meet surface water standards, both during mine operations and after shutdown.	WR1A
40	16. The DEIS must scientifically and conclusively demonstrate that 65 years of filling in the West Pit will not result in a lake filled to the brim with acid mine drainage from the mineralized side walls.	PD8
41	17. The DEIS must address the probability of acid mine seepage through the granular materials surrounding the pit and ultimately to the Partridge River with all of its impacts on the Lake Superior watershed.	WR2E,PD8
42	18. The DEIS must demonstrate how anoxic waters will not leach above surface or ground water standards.	WR1E
43	19. The DEIS must demonstrate how oxygenated surface waters in the pit will not provide continuing slow leaching of the side walls above standards for perpetuity.	WR3C
44	20. The DEIS must demonstrate how the Central and east pits will be able to successfully treat the West Pit's large volumes of heavy metals in the order of milligrams per liter and possible acid drainage, with a discharge that fully complies with water quality standards on the order of micrograms per liter.	WR1E
45	21. The DEIS must describe how the West Pit oxygenated waters flowing in to the Central and East anoxic pits will not provide the kinetic actions releasing the metals in Category 3 and 4 materials in the Central and East Pits, and how standards will be met.	PD2
46	22. The DEIS must address the probability of galvanic anoxic leaching.	PD2

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
47	23. The road construction materials and engineering must avoid spread of Duluth Complex material and address water flow and species habitat.	PD7
48	24. The DEIS must discuss whether it will process zinc or not.	PD9
49	25. The DEIS must address impacts of emissions of the crusher's airborne fine metalcontaining particles on surrounding waters, soils, and plant vegetation, the worker safety issues, and haze regulations.	AQ4,AQ6
50	26. The DEIS must fully, completely and properly name with CAS numbers all the flotation chemicals.	G8
51	27. The outflow waters from the rougher and scavenger flotation to the basin must be chemically analyzed, conduct hazardous waste analyses, determine mixtures and degradation products, and toxicology of all the chemicals, mixtures, and degradation products.	WR3A
52	28. The DEIS must provide a scientific discussion of how the unlined basin treats, other than dilution, the discharges coming into it.	PD5
53	29. The DEIS must discuss the interactions between the residual heavy metals from the rougher/scavenger flotation discharge and other chemicals in the basin, and how these metals will be permanently sequestered in the basin for perpetuity.	PD2
54	30. The DEIS must identify the form of cobalt, and assure it is not a radioactive species.	PD2,HM5
55	31. The DEIS must identify the chemistry and toxicology of the hydrometallurgical residue and ensure the material is not a hazardous waste before placement in the lined basin.	PD2,HM4
56	32. The DEIS must discuss how wildlife will be prevented from utilizing the basin.	WI2
57	33. The DEIS must scientifically evaluate and discuss how the 1950 tailing basin design is adequate to deal with the sulfide waste and floatation chemicals it is planned to hold.	EOO
58	34. The DEIS must discuss how both the discharge into the basin and the seepages out of the basin will meet or exceed water quality standards. Dilution is not acceptable if this is the only treatment in the basin.	WR1A
59	35. The DEIS must discuss the mass loading of chemicals from the basin into the environment over its 20-year period.	PD2
60	36. The DEIS must discuss the changing anthropologic contributions of hardness and cumulative impact from adding NorthMet's discharge as it relates to the water quality metals standards that change with natural hardness values.	WR5A

**Sender Last Name:** Jones **Submission ID:** 1471

1760 #N/A EOO

3775 leave are land in peace EOO

**Sender Last Name:** Jurgens **Submission ID:** 3704

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
1	Metallic mineral development in northern Minnesota carries with it potential for very serious environmental harm. Much of this potential impact is associated with the fracturing and disposal of the large volumes of mining ore and waste which will be generated by mining operations. Waste created by mining of sulfide mineral deposits such as proposed have always resulted in the creation acidic drainage conditions which can persist for thousands of years and result in extensive environmental degradation. Such conditions are well-documented at mine sites throughout the United States and Canada. Citing the past failures of the mining industry to manage and reclaim sulfide waste materials, the State of Minnesota and Department of Natural Resources should prohibit mining of all ore bodies containing sulfide minerals until adequate technology has been proven to deal effectively with the sulfide ore waste management issue. If necessary the Department of Natural Resources should take the initiative to fulfill it's mission to protect the state's natural heritage and request the legislature to provide a moratorium on sulfide mining. The mission of the DNR reads:	G7A,G12
2	Wetlands: Some wetlands will be destroyed within the mine footprint. Some of the wetlands immediately adjacent to the rim of the pit will be drained. The effect to wetland resources further away from the pit is a point of contention. If there is a connection between the surface and bedrock 'aquifer' then the mine pit will drain wetlands further from the pit (this is the considered opinion of the tribes). If there is a confining layer between the surface and the groundwater aquifer, then the wetlands further from the mine pit will be unaffected (this is the considered opinion of the MnDNR). Both opinions have validity. The MnDNR assertion is based upon general experience with other open pit mines in the area. Additional site-specific data would offer the opportunity to help affirm this assumption prior to construction and provide additional opportunity to address potential effects prior to their occurrence. If there is a greater connection between surface and the bedrock aquifer, the mitigation options may be more limited, may be less effective, and potentially more expensive.	EOO,WE2
3	Page 4.5- 1: Section 4.5.1.1 Special Status Fish and Macroinvertebrates - Presence of suitable habitat for Regional Forester Sensitive Species - There is likely suitable habitat for Northern Brook Lamprey, Creek Heelsplitter Mussel, and Black Sandshell Mussel in the Analysis Area. The Forest Service recommends consider this when analyzing the downstream extent of potential impacts. Since detection of these species is low due to limited numbers and distribution, analysis and effects disclosure is better served in the context of potential habitat rather than actual species presence/absence based on limited searches and sample intensity. In addition, survey methods for northern brook lamprey (i.e. electrofishing for ammocoetes buried in soft sediment) show limited success and may not be reliable.	FM1,FM2
4	Page 4.10-14: Tribal footnote. There is acknowledgement of possible net loss of acres to 1854 authority, however the DEIS could use discussion further disclosing effects to tribal concerns. For example, the DEIS could contain an analysis of acreage of lost hunting land and what that could mean for loss in money or subsistence to tribes. This could be done in terms of effects to wild rice as well.	SE1
5	Page 1-3: The DEIS indicates that the land exchange is a connected action (e.g. "This DEIS identifies and analyzes the potential alternatives and impacts for the Project based on the successful completion of a land exchange...") (emphasis added). If the Army Corps of Engineers (ACoE) and Minnesota Department of Natural Resources (MN DNR) choose not to complete a Supplemental DEIS for the land exchange, the ACoE/MN DNR FEIS may want to explain why the land exchange is being done separately in more detail.	PRO7,PD9

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Comment ID	Comment Text	Theme Codes
6	Surface water quality at the Project remains insufficiently characterized or left uncharacterized, and the defects in analysis are profound in this area. The limited data used indicates that surface waters have already been adversely impacted by mining activity, which should give rise to more scrutiny, not less. <sup>60</sup> Contaminant transport modeling suggests that the PolyMet Project will cause manganese, aluminum, and sulfate to exceed Minnesota Water Quality Standards ("MN WQS"). <sup>61</sup> Mercury, sulfate, and specific conductance have already exceeded surface water criteria in surface water samples collected near the tailings basin at nearby Area Pit 5, and mercury and aluminum exceed surface water criteria in the Partridge River downstream of Colby Lake. <sup>62</sup> Aluminum, iron, manganese, and mercury all exceed MN WQS in Colby Lake. <sup>63</sup> Contaminants from the Project will likely contribute additional loading to these existing exceedances of MN WQS in the Embarrass River, Colby Lake, and the Partridge River. No water samples have been collected from lakes near the tailings basin (including Hiekkilla, Mud, Kaunonen, or Hay Lakes) to determine if the pollutants found in the surface and groundwater at the existing tailings basin have caused contamination of those waterbodies. Aerial photography and state Public Waters inventory maps indicate that there is currently a direct surface water connection between the northwest corner of the old LTVSMC tailings basin cell 2W and the Embarrass River that has not been considered in the PolyMet tailings basin design or water quality predictions. <sup>64</sup> Determination of the final water quality of the west pit was not included in the DEIS so that potential long-term water quality impacts to the Partridge River, St. Louis River, and Lake Superior can even be characterized.	WR3A
7	The wetland delineations that were done did not encompass all of the wetlands that may be affected by the Project because no initial determination of the Project's area of influence for wetlands was made. <sup>96</sup> The site field surveys of wetland and other vegetation were limited to an area within the Project fence at the mine site, which covers less than one half of the area that might reasonably be expected to be impacted by disruption of the existing hydrology. <sup>97</sup> Around the tailings basin virtually no wetland delineation has taken place although wetland impacts from inundation are likely to occur. <sup>98</sup> The USACE is developing a monitoring plan to assess the Project's impacts to wetlands but it has not been finalized or implemented. <sup>99</sup> Moreover, this monitoring plan will only identify impacts after they have occurred. Additional analysis must be done and the DEIS supplemented.	WE1,WE2,WE3
8	There are also wetland areas of particular note that may be impacted. Potentially impacted wetlands that are part of the 100 Mile Swamp were identified by a United States Fisheries Service biologist in 1997 as "lacking ecosystem representation in protected areas. <sup>100</sup> Interest in protecting the unique character of these wetlands was based on their "watershed integrity, the presence of riverine ecosystems, and large amount of interior forest present." <sup>101</sup> This information was further substantiated in a report by the MNDNR titled "Evaluation of Selected Potential Candidate Research and Natural Resource Areas." <sup>102</sup> This document describes the 100 Mile Swamp wetlands as representing "the highest quality remaining examples of characteristic ecosystems in each ecological Landtype Association on the Superior National Forest." <sup>103</sup>	WE3
9	There are also wetland areas of particular note that may be impacted. Potentially impacted wetlands that are part of the 100 Mile Swamp were identified by a United States Fisheries Service biologist in 1997 as "lacking ecosystem representation in protected areas. <sup>100</sup> Interest in protecting the unique character of these wetlands was based on their "watershed integrity, the presence of riverine ecosystems, and large amount of interior forest present." <sup>101</sup> This information was further substantiated in a report by the MNDNR titled "Evaluation of Selected Potential Candidate Research and Natural Resource Areas." <sup>102</sup> This document describes the 100 Mile Swamp wetlands as representing "the highest quality remaining examples of characteristic ecosystems in each ecological Landtype Association on the Superior National Forest." <sup>103</sup>	WE2,WE3

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Comment ID	Comment Text	Theme Codes
9	Similar to the problems with measuring water quality impacts, the DEIS's failure to properly model and mitigate seepage rates could result in profound impacts on wetlands. Under the Proposed Action, the unrecovered seepage rate is predicted to increase to a maximum of approximately 3,800 gallons per minute ("gpm") in Year 20, over 2,900 gpm of which would be attributable to PolyMet.104 Therefore, under the Proposed Action, a significant increase (more than 100%) in groundwater upwelling relative to existing conditions would be expected. Some of this seepage water would drain to existing streams, but because of the generally flat topography and extensive wetlands, much of this water would be expected to form ponds and inundate wetlands. A more thorough hydrologic impact analysis that incorporates actual seepage rates from the tailings facility must be conducted. In addition, these seepage rates must be used, in conjunction with tailings basin water chemistry information, to assess the effects of this untreated discharge to the biota and functional values of the Embarrass River watershed wetlands.	WE2
10	The following "Technical Standard for Water-Table Monitoring of Potential Wetland Sites by U .S. Army Corps of Engineers" should be used for wetland hydrology, type determinations and delineations: <a href="http://el.erdc.usace.army.mil/wrap/pdf/tnwrap05-2.pdf">http://el.erdc.usace.army.mil/wrap/pdf/tnwrap05-2.pdf</a>	WE1
11	Since Minnesota has no coal mines, it has no experience with acid mine drainage or the Surface Mining Control and Reclamation Act funding for ongoing clean-up and treatment costs. Sulfide or hard rock mining projects pose unique regulatory and technical challenges . The industrial sector of mining work affects every major EPA program, including programs implementing th e National Environmental Policy Act (NEPA), the Clean Water Act (CWA), the Clean Air Act (CAA), the Safe Drinking Water Act (SDWA), the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), and the Resource Conservation and Recovery Act (RCRA) which should all be addressed in comprehensive detail in the NorthMet EIS .	G5
12	I find the basis and assumptions for estimating wetland impacts lacking sufficient data to justify the limited impacts that were assumed by the DEIS: 1. Modeling basis assumptions are the downfall of many model outcomes. If the assumptions are wrong the model is wrong. Ground water flow assumptions made for this DEIS are not adequate to justify the conclusions about indirect wetland impacts. Tracer testing of hydrology following the US Army Corps of Engineers guideline attached below should be required for the basis of any modeling results considered. "Technical Standard for Water-Table Monitoring of Potential Wetland Sites by U.S. Army Corps of Engineers"	WE2
13	Water Resources and Wetlands □ The water resources and wetlands analysis were a primary focus of our review. It appears that these are areas within the DEIS analysis that could benefit from more discussion or clarification of the current analysis. The analysis in these areas may also be strengthened with further data collection (e.g. wetlands connectivity to groundwater) and including more detailed monitoring plans (e.g. surface water quality and stream flow) describing in detail what would be monitored as well as when and how the monitoring would occur.	WR1A,WR1E,WE2,WE3
13	My husband and I own a home in northern Minnesota on White Iron Lake. I am extremely concerned about the socioeconomic aspect of proposed plans to develop the Polymet project. The DEIS does not adequately address this.	EOO
14	Page 3-36: Section 3.1.7.2 – Need to address how and when the waste water treatment plant will be reclaimed. If there are no reclamation plans for this system (operations to treat water at this facility would extend in time beyond when mining and processing stops), the EIS needs to explain when the Waste Water Treatment Facility (WWTF) will be removed and site reclaimed, and how long it is estimated to be needed to treat wastewater for the mine waters.	PD4
14	Mining provided jobs, but the cost of those jobs far outstripped what the men were paid. Eastern Kentucky was basically a single-industry region, and when the mines shut down or the men were laid off due to automation, they had nothing. It was a poor area when I lived there and still is.	SE3
15	Page 3-49: Tribal Cooperating Agencies indicate that maintenance/monitoring would be required for hundreds or thousands of years or ‘in perpetuity’. How w this be addressed or handled? Would it be addressed in the Response to Comments to the FEIS? If ACoE/MNDNR thinks that maintenance would not be required in perpetuity, need to state why.	PD11

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Comment ID	Comment Text	Theme Codes
16	Page 3-51: As indicated by the Tribal Cooperating Agencies, it appears that there would be both positive economic/social benefits and negative economic/social impacts. It is not likely that this project would have zero negative economic/social impacts. It is likely that there would be some negative effects to tribal values since thousands of acres of 1854 authority surface resources (the Mine Site) would be eliminated. In addition, recreational opportunities at the Mine Site would be negatively impacted, with indirect negative effects to the tourism industry. The size of these negative effects might be debated, but these are greater than zero.	PD3,PD5
17	Page 3-51: State that the no action alternative is required by CEQ NEPA implementing regulations.	G1
18	Page 3-64: Footnote - The Tribal Cooperating Agencies cited a U.S. Steel study which recommended underground mining. The FEIS should address how the U.S. Steel study is or is not valid.	CR1
19	Proposed Action and Ch. 4.0 – Our last review comments asked for more information to be presented on the waste water treatment facility. This still needs to be addressed. There is very little information on the Waste Water Treatment Facility (WWTF). This is a critical facility for water quality protection and will be the major treatment process relied upon. It should be clearly described in the EIS (not just in technical reports). Please explain the facility and treatment process design in more detail, effectiveness, and what constituents it will and will not handle. Will it treat nitrates? This should also be better addressed in the water resources section where more information is provided, especially since the DEIS states that the constructed wetlands performance is highly variable and will only be used to “polish” treated effluents.	WR2G
20	Sulfate and Mercury There will an increase in the sulfate concentration in the rivers as a result of the project. This can result in an increase in available mercury to the environment due to increased microbial activity. The result of this is an increase in mercury concentrations in downstream fishery. Two arguments are presented that this will not be a concern. First, mercury concentrations related to microbial activity in the area may be not be sulfur limited and are more reactive to organic carbon concentrations. Secondly, downstream sulfate concentrations are already very high because of other mining and power generation activity. Recent monitoring on the Partridge River also indicates downstream levels at 289 mg/l (due to other sources related to mining and power generation). Background levels in the bedrock groundwater range from about 4 mg/l to 95 (Table 7 in the 1976 Copper-Nickel study) and from about 4 to 1,200 mg/l (Table 4.1-5) in the EIS. Hence, the proposed increase in sulfate could still be considered within the existing and perhaps natural range. The only existing Minnesota Pollution Control Agency (MPCA) surface water standard for sulfate is for wild rice systems (10 mg/l). It should be noted that the wild rice found in the Partridge River was in the area of highest sulfate concentrations (see Figure 4.1-16). Apparently MPCA is presently in the process of developing standards for other waters. However, even if the existing system is not limited by sulfate concentrations immediately downstream of the project, at some point (either within the St. Louis River, the estuary, etc.) it would seem reasonable that sulfate does become limiting and the increased loading may increase the available mercury. This may mean the project would require additional resources will be required to remove the fish consumption advisory for the downstream fishery. It also appears that the Northmet Project would increase direct mercury loading to the rivers. Although it is unclear how much the project would increase the loading to the rivers, some evidence points to meeting water quality standards at the point of discharge and some suggest that it would exceed the standard for the Great Lakes of 1.3 ng/ l (= 0.0000013 mg/l). The existing Upper Partridge River mercury concentration is about 2.3 ng/l and (Colby Lake is between 4.8 and 6.0 ng/l) (pg 4.1-48). The mercury loading may also be under-represented. The DEIS indicates the project would strip off the organic soil and put it on the stockpile. This would be a source of mercury. Although the DEIS indicates that this would be treated by the wastewater treatment facility and the treatment wetland the analysis recognizes that these treatments would not work very well.	RFI,WR1E,FM1



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Comment ID	Comment Text	Theme Codes
21	The DEIS shows that there would be a wastewater treatment system at the downstream end of the project that would include a system of ponds and a pump to send water back through a wetland treatment system (the East Pit at the end of the project). The effectiveness of the constructed wetland system is based upon activity at the existing Dunka constructed wetland system. However, the Dunka constructed wetlands are not designed to remove sulfate and there is little mercury loading to the system. In addition, there may be more than one theory on how the mechanisms work for sulfate and mercury treatment. Table 4.1-63 could be more informative in its representation of effectiveness of the Dunka Mine constructed wetland (it is presently described as “Highly Variable”). Perhaps “Effectiveness Unknown” or similar verbiage would reflect the present level of understanding. Although nitrates have not been identified as an issue in mining in the area and the Northmet Project would be using some of the same processes, nitrates (from explosives) are often a concern in western mines. It should be noted that nitrates have not been considered an issue at other mines in the area. Treatment for nitrates have not been addressed (treatment has not described). Nitrates can be a concern in downstream reservoirs (in some cases increasing algal blooms and at very high concentration causing concerns for drinking water quality).	WR2G,WR3I,WR3L
22	In summary, estimates of impacts are difficult to discern because of inherent limits of understanding of the rock characterization, biochemical, and physical processes. Additional information and insight may be developed to help understand the processes and effects. However, as with all modeling, there will still be the necessary assumptions regarding the existing conditions and processes. Given these uncertainties, the DEIS appears to lean on the ability to implement adaptive management strategies through the life of the mine and throughout closure. The DEIS should reflect the need for additional resources to implement the essential adaptive management strategy, facility maintenance, and operation support in perpetuity. Additional data can be collected to characterize the background conditions and affirm accuracy of modeling assumptions to reduce the uncertainty in the analysis. Given the effects that are estimated in the DEIS, the uncertainty of the analysis, and the risk to water resources that arise from these uncertainties, it would be seem advantageous to consider additional mitigation measures and alternatives that would further reduce the impacts to water resources. It appears the Mine Site Alternative and the Tailings Basin Alternative are both superior to the Proposed Alternative at reducing impacts to water resources.	WR1E,WR1F,WR3I
23	Cumulative Effects Analysis □ While the DEIS demonstrates the ongoing efforts to address environmental consequences, some of the discussion on cumulative effects in some sections in Chapter 4.0 seem to indicate that cumulative effects analysis may be not completely shown in the DEIS.	G8C
24	Page 4.1-2: Groundwater – In comments to the preliminary DEIS, the Forest Service voiced an overall concern relating to the limited amount of actual on-site data gathered and used for the groundwater and water quality and quantity effects analysis. Confidence in the analysis and predicted project results may be improved by gathering more data and completing further analysis. Better representation of existing groundwater conditions, would improve the reliability of the analysis in predicting accurate project outcomes and effects	WR2A
25	Page 4.1-69: Solute Loading from Rock Stockpiles – Previous Forest Service comments on the preliminary DEIS included a comment on nitrate loading in solutions from the wasterock stockpiles due to blasting agents utilized during mining. This still needs to be addressed. What is expected and how will the nitrates be treated effectively?	WR2E
25	Page 4.1-112: Constructed Wetlands -This section does not provide information that supports the Minnesota goal for maintenance free closure. It actually supports the need for primary water treatment at the WWTF long term and possibly in perpetuity. More information and supporting documentation is needed to show that the wetlands will function adequately and that they can be relied upon to treat after the WWTF is closed. In addition, will nitrate be treated in the wetlands for the WWTF and at what effectiveness?	WR3L
25	Page 4.2-2: Section 4.2.1.2, Soils: ELT 13 and ELT 16 are errantly listed as being hydric soils. These soils are both well-drained which would not be a characteristic of hydric soils. These are, in fact, upland soils.	WE1

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Comment ID	Comment Text	Theme Codes
26	Tribal Cooperating Agencies □ The DEIS does a very effective job recognizing the input and concerns that the Tribal Cooperating Agencies provided on preliminary versions of the DEIS reviewed by cooperating agencies for this project. However, the DEIS could improve on incorporating these concerns into the text of the DEIS with less reliance on footnoting differences between the lead agencies and the Tribal Cooperating Agencies. The DEIS would be improved by describing any resolution on concerns raised and more fully developing support of the lead agencies analysis and processes disclosed in the document.	G8C
27	The DEIS addressed all terrestrial RFSS species. At some point, a BE will need to be completed that includes determinations for these species (as well as aquatic and plant species).	WI1
28	The Forest Service also would like to see some sort of monitoring program for the active goshawk territory in the nearby forested habitat. This could be included in the goshawk section or the other mitigation section later in the chapter. If the territory stays active or another one is found they following the SNF Forest Plan Standard S-WL-10 (Forest Plan page 2-34) would help protect the nest site and the guideline G-WL-22 (Forest Plan page 2-35) would help protect the post-fledging area. These would mainly come into play if the potential land exchange happens. It would help minimize overall effects if monitoring for nest sites were to be done and then protect active nests as possible.	WI2
28	Page 4.4-14: The Forest Service agrees with the Tribal Cooperating Agency comment #6 that wood turtles may use the possible new nesting sites that may be created. This could lead to increased mortality. The Forest Service would like to see some sort of monitoring included in the proposal to document if wood turtles start nesting in the area, and if they do protect the nesting sites from disturbance or discourage the use if protecting is not possible. This could be included in the wood turtle section or the other mitigation section later in the chapter.	WI2
29	Existing Condition and Cumulative effects of LTVSMC Tailings Basin The Forest Service requests that the DEIS address the assumptions of environmental liabilities to this proposal as they relate to (a) past and future environmental effects, (b) remediation, and (c) mitigation measures at the former LTVSMC tailings basin. (also see tribal cooperating agencies footnote #9, page 4.5-14, DEIS)	FM3
30	Page 4.5-5: Section 4.5.1.2 Habitat Conditions and Biotic Assemblages in the Partridge River and Embarrass River - Cumulative effects of Peter Mitchell Mine and LTVSMC Tailings Basin - Cumulative effects from both the Peter Mitchell Mine and LTVSMC Tailings Basin needs to be further developed in this and other sections of the document; especially in relation to potential anthropogenic effects on invertebrates (and fish) in the Partridge and Embarrass Rivers. Even though these systems represent lower-diversity, headwater communities, the potential for effects from past actions within the watersheds seems likely to have contributed to present biological and physicochemical conditions (e.g. low %EPT in Trimble Creek; high conductivity in Embarrass River and Trimble Creek; modified flows during critical periods on the Partridge River).	FM3
31	Page 4.5-12: Section 4.5.3.1 Physical Habitat Effects / Water Quality Effects - Potential Impacts to Colby Lake and Whitewater Reservoir - Under the higher water withdrawal scenarios, Whitewater Reservoir would fluctuate enough to potentially increase methylmercury formation rates and increase bioaccumulation fish and other aquatic organisms. Fluctuations under this scenario are also likely to negatively affect fish populations (e.g. declines northern pike populations due to loss or disturbance of spawning habitat) The Forest Service recommends that the DEIS clearly define "Historical water levels" on Whitewater Reservoir and Colby Lake. Under what environmental conditions were these levels established. For example, if historic levels were influenced by LTVSMC water use/yield, it would seem inappropriate to use these fluctuations as baseline, historical, or natural for comparing with the present proposal effects.	FM1,FM2
32	Potential Land Exchange □ Review of the DEIS has raised concerns about potential land exchange between the Forest Service and PolyMet to resolve the situation and ramifications of the "split estate" between the Forest Service surface ownership and PolyMet's reserved mineral rights. Although a Feasibility Analysis has not been completed addressing this potential land exchange, it is reasonable to continue to review options on conducting potential effects analysis on any future land exchange between the Forest Service and PolyMet and to strive to resolve issues relating to a potential land exchange being a connected action to the Northmet Project mining proposals.	EOO,PD3

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33	Page 4.5-17: Section 4.5.3.3/4 Mine Site and Tailings Basin Alternative - Both the mine site and tailings basin alternative would result in better water quality and healthier aquatic communities than the proposed action. The reduction of water level fluctuations in Whitewater Reservoir and less of a reduction in Lower Partridge River flows would likely result in better water quality and healthier aquatic communities than the proposed action	FM1
34	Page 4.6-37: Section 4.6.3.5 – Visibility - The discussion on visibility mitigation options goes into great detail on a number of options that have been dismissed for different reasons but is lacking in detail on the option that has been identified as the likely one. The idea is working with EPA’s mobile source staff in Ann Arbor, Michigan to plan and implement a pilot test of selective catalytic reduction (SCR) on a haul truck to control nitrogen oxide emissions. This has been discussed since 2008. The Forest Service met with the company and the MPCA in March of 2009 to discuss not only the idea of piloting SCR on a haul truck but also exchanged conceptual permit language. The Forest Service submitted comment on the PDEIS noting the absence of a discussion of this option and asked for a description of it. Discussion for this mitigation option needs to be included in the EIS.	AQ5
34	Page 4.5-19: Section 4.5.4 Mercury and Bioaccumulation in Fish - The Forest Service requests that the DEIS further address the potential loading of sulfate to the Partridge and St. Louis River and disclose potential effects as they relate to mercury in aquatic organisms within these watersheds. It seems likely to assume that increasing or releasing sulfate in these lotic systems would eventually deliver them to more lentic systems where they, in turn, may increase Methylmercury formation.	FM1
35	Page 4.6-60: The discussion of additional mitigation strategies includes options for which important details have not yet been determined. For example there is discussion of the possibility of Polymet purchasing mercury offsets from another source to offset its own mercury emissions. Establishing an offset system for mercury emissions is a considerable undertaking and to this point we were unaware that the MPCA was planning to establish one. Many details would need to be worked out before such a system could be implemented such as: • If reductions made in one year are usable in another, how long are the offsets good for? • What happens to the offset system after 2025 when the sector TMDL emission goal should be achieved? • How would the determination be made regarding what portion of the emission reductions made at another source are creditable (surplus)? • How will offsets be tracked and by whom? • What year is the baseline year for the offset system? 2005 appears to be an appropriate baseline since the goal of the Implementation Plan is a 75% reduction (from 2005) in mercury emissions from the minerals sector by 2025 (pg. 13). Reductions at a facility due to decreased activity or closure would not generate reduction units if they occurred before the baseline. • The integrity of an offset system is dependent on the quality of emissions information. In the federal mercury cap and trade rule that was proposed by EPA, mercury continuous emission monitors (CEMs) were required. Will mercury CEMs be required for Polymet and any other source it purchases offsets from to verify emissions? • Does the establishment of an emission offset system by itself require a separate rulemaking with a separate public notice and comment period? • How will timely progress toward the demonstration of mercury controls within the existing mineral industry be encouraged when the prospect for someone else to pay for the installation of controls exists? Paying for research studies was not mentioned as a mitigation option in the Guidelines for New and Modified Mercury Air Emission Sources (Guidelines) which is a part of the Implementation Plan. While alternative mitigation strategies were mentioned, this approach was viewed “as a last resort after all other equivalent reduction possibilities have been fully explored. The Guidelines go on to say “Alternative mitigation strategies should demonstrate an environmental benefit related to mercury and should be consistent with the objectives of the TMDL.” Please explain how funding research studies would lead to timely environmental benefits.	AQ5,AQ6A
35	Pages 4.7-13 – 4.7-14: Section 4.7.4 Cumulative Impacts - The DEIS needs to more clearly state the specific geographic and timeframes the cumulative effects analysis is considering and to clearly provide the rationale for these aspects of the analysis. The DEIS considers various distances from various potential noise sources yet it does not clearly relate these to the Noise Sensitive Areas listed in Table 4.7-4. The DEIS also identifies a 20 year timeframe yet does not provide the rationale for this time frame. Presumably it is because of the timeframe of the mining operations but the DEIS does not make this clear.	N3

*Alphabetical by sender's first name*

<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
35	Section 4.6.3.5 – Mercury - The Forest Service has an employee who serves on the Implementation Oversight Board for the statewide Mercury TMDL. As outlined in the Implementation Plan for Minnesota’s Statewide Mercury Total Maximum Daily Load (Implementation Plan), Implementation Oversight Board members meet regularly to review and evaluate progress toward achieving the goals of the Statewide Mercury TMDL and to determine whether additional measures are needed to meet these goals. In light of this special role and background of Forest Service staff, the following comments outline specific concerns.	AQ6A
36	The heritage section write-up (4.8) is well written. However, it is clear that the Area of Potential Effect (APE) has not been clearly established, particularly in regard to Tribal concerns (4.8-13). In addition the Tribal Cooperating Agencies have commented that all Section 106 (NHPA) has been “incomplete and inadequate” (4.8-15). If the APE is more clearly established, then there will be a clearer picture of potential effects on heritage resources (including TCPs).	CR2,CR3
37	Page 4.9-3: State Land Management Heading. The Forest Service recommends that the revegetation plan would not include the use of NNIS?	PD1
37	The Forest Service recommends that the DEIS indicate how National Forest System (NFS) may be affected by the mine, and the ability to comply with the Forest Plan on this land. In this section of the DEIS, that would be lands that would not be included in a potential land exchange. Example A: Would the mine increase upland young/upland open in the HUC 6 watershed over the threshold and preclude future vegetation management on non-exchanged NFS land within the same HUC 6 watershed? Example B: How would the mine affect lynx habitat in the relevant Lynx Analysis Unit, and affect the Forest Service’s ability to comply with Forest Plan lynx standards and guidelines when considering future management on non-exchanged NFS land within the same Lynx Analysis Unit? Example C: To what degree would water quality on non-exchanged NFS land be degraded? How would this affect the Forest Service’s ability to achieve Forest Plan desired conditions? How much non-exchanged NFS land downstream of the mine?	CPLU3
38	Page 4.9-4: As indicated in the footnote for the Tribal Cooperating Agencies footnote, effects of the no action alternative should be disclosed.	EOO
38	Page 1-1: The DEIS states that the purpose is to ‘open pit mine’ but section 1.2 Project Purpose and Need, the DEIS on page 1-3 does not mention ‘open pit mine’. It is important to have consistent discussions throughout the project description and the Purpose and Need.	PD9
39	Page 4.10-11: Recreational Facilities Heading. The DEIS erroneously indicates that the Voyageurs National Park is a part of the SNF. Also, the sentence about how the National Wilderness Preservation System prohibits motorized use except the motor lakes needs is incorrect.	COR
40	Page 4.10-21: Recreation heading. The Forest Service recommends that the FEIS more fully discloses potential effects to hunting and fishing opportunities, particularly downstream from the project area. How opportunities would or would not be affected and why. This disclosure could be linked to other sections of the EIS regarding wildlife, fish, and vegetation.	SE4
41	Page 4.10-21: Potential Mitigation Measures. A potential mitigation measure might be identifying non-federal lands in a potential land exchange that contain wild rice and attempting to achieve close to an equivalent acreage in the 1854 territory to what could be lost.	EOO
42	Page 4.10-22: Cumulative Effects Heading. Why does cumulative effects only look at jobs and income generated-what if cumulative actions result in more 1854 territory lost? The Forest Service recommends that the FEIS contains more discussion and good rationale as to why loss of 1854 territory is not an issue that needs to be analyzed in cumulative effects, more discussion regarding potential negative cumulative effects to recreation/tourism in the area, more discussion regarding potential negative cumulative effects to income from hunting or wild rice gathering?	SE4
43	Page 4.11-5: Section 4.11.4 Cumulative Impacts - Although the DEIS at this section gives a very brief evaluation of the potential for cumulative effects, this section states that “...and no cumulative effects analysis would be warranted.” More detail is needed here to demonstrate how this project relates to the visual resource at this time and in a defined future time frame, and addresses any past, present, and reasonably foreseeable management that may or may not be applicable and why.	EOO

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43	Page 4.14-2: The DEIS lacks information on why no cumulative effects to tribal interests (e.g. size of 1854 territory, wild rice, hunting opportunities) exist. It is likely that cumulative effects exist for recreation/tourism, non-TEES wildlife of interest (e.g. moose), non-TEES plants of interest (e.g. white pine), fisheries, and groundwater. It appears that there is inadequate rationale for these topics to not be discussed in the DEIS. If the existing cumulative effects analysis already covers these concerns elsewhere in the DEIS then they need to be fully referred to here. Pages 4.14-9 to 4.14-12 do have some info addressing some of these topics. For example: The analysis area for cumulative effects to tribal interests should be the 1854 territory and it may be useful to quantify the analysis given that this is an EIS and the tribes are really concerned about this. Do proposed mines, power plants, land exchanges, land purchases or other projects eliminate or add 1854 land? How many acres? What is the cumulative total loss or gain of 1854 acres in physical existence? In public ownership? For noise and vibration, if it can be shown that the areas affected by noise or vibrations from the Project do not overlap other projects, then this could be eliminated from cumulative effects analysis, or at least reduced. But it appears that the DEIS does not indicate if that is true or not is true or not.	G3,CR1,CR2,CR4
44	Page 4.14-3: If effects on water quality, etc are perpetual, it would be helpful to disclose that in the temporal scale explicitly. If not, need to explain in the FEIS why it is incorrect that effects are perpetual.	WR3I
45	Page 4.14-7: Lack of analysis on climate change could be a problem since this is an industrial scale project. There is a paragraph on climate change on p. 4.14-7, however this may not be enough to fully address the concern. The lead agencies should consider if there should be a quantification of greenhouse gas emissions since this is an industrial scale project?	AQ3
46	Page 4.14-11: Please edit the sentence about USFS roads to indicate that USDA FS national forest system roads are available to the public	ALT8
46	Page 1-3: The DEIS states that 6,700 acres of National Forest System (NFS) lands on the Superior National Forest (SNF) have been identified for a land exchange. At this time, a Feasibility Analysis for a potential land exchange with PolyMet has not been completed by the Forest Service.	PRO8,PD1
47	Overall: There is a table of comparison of alternatives which is good. The lead agencies might consider adding some quantitative information such as numbers from key indicators for each resource.	ALT6
48	Page 5-16: The Tribal Cooperating Agencies say closure information is incomplete. Does the DEIS provide enough information about closure to estimate effects related to closure? If not, need to add more to FEIS	PD3
48	The extensive footnotes where the Tribal Cooperating Agencies disagree indicates that the FEIS could address these concerns either by adding more information into the FEIS incorporating these concerns into the text of the FEIS.	EOO
48	Page 5-18: The Tribal Cooperating Agencies say that a wetland monitoring plan should be available. The Forest Service recommends including at least a general description of monitoring plans in the FEIS/ROD. We do that for our projects.	ALT5
49	Overall: Please consider if water quality will permanently change in any way from the current existing conditions, even if the change is minor or meets water quality standards but it is somehow changed and could affect natural resources in some way. If there is a change, then this should be disclosed as irreversible and irretrievable. In addition, is there irretrievable loss of biological resources outside the mine site (e.g. wild rice)?	IR2
50	Page 3-2: Section 3.1.2 – Please provide representative cross sections (figures) for the pits and representative stockpiles for appropriate years such as 10, 20 and post reclamation. The locations for the cross sections should be shown on the plan view maps. This would provide clarification for understanding what is proposed and what will be completed.	PD1
50	Pages 2-5 – 2-6: Section 2.3.1 – Although the EIS explains why reclamation financial assurance will not be discussed, it is important to explain and disclose in a broad sense what would be covered, what the process would be, and how the potential for water treatment in perpetuity will be addressed especially given increasing costs in the future. Financial assurance could potentially have economic consequences to the public in the future.	PD1

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Comment ID	Comment Text	Theme Codes
51	<p>Thank you for this opportunity to provide our input, information, concerns and recommendations for this proposed project of PolyMet Mining, Inc. Audubon Minnesota members have studied the DEIS and its associated technical background documents. Based on our review of the DEIS and associated documents, Audubon Minnesota has significant concerns about the lack of information about impacts to the environment of the PolyMet proposed mining operation. We are concerned about acid drainage from the waste piles leaking metals such as mercury, contaminating wetlands, rivers and lakes for hundreds of years after the mine has closed. Such contamination will negatively affect aquatic ecosystems, destroy wild rice beds, contaminate fish, and affect the health and reproductive capacity of birds, other wildlife and humans who consume fish and other organisms from the contaminated systems. We are particularly concerned about the risk of this mine mobilizing toxic metals such as mercury and feel the risks of such mobilization are incompletely analyzed with regard to likely impacts over hundreds of years to the aquatic ecosystems of the wetlands near the proposed mine to the estuary of the St. Louis River where it connects to Lake Superior. Additional issues identified in our comments attached include: - Extensive and persistent water contamination; - Potential failure of the tailings basin; - Methylated mercury impacts to fish, birds, other wildlife and humans; - Lack of analysis of impacts to birds and wildlife found in the Sax-Zim Bog Important Bird Area; - Wetland loss, degradation, and inadequate mitigation plans; - Potential loss of wild rice beds downstream; - Destruction of rare plants and rare plant communities, and the introduction of invasive, non- native plants to the area; and - Lack of any financial assurance calculations that would enable understanding the full risks of long-term environmental impacts of the project. These concerns are detailed further in the comments, which accompany this letter. We have included with our comments "Suggested Actions" which if taken, will make the final Environmental Impact Statement more useful to citizens and decision-makers in Minnesota. We strongly urge your full consideration of these actions.</p>	G7A,G7B,G7C,G8A
52	<p>1) Extensive and persistent water contamination: Analyses in the DEIS predicts that discharges of heavy metals and sulfates, which are known as acid mine drainage, from the proposed mine and associated waste disposal facilities will cause nearby lakes and streams to exceed water pollution standards. Tables in the DEIS show that these discharges of pollution will persist for up to 2000 years. Studies have shown that acid mine drainage kills most aquatic life. PolyMet proposes to use created wetlands as a water treatment method, but has not demonstrated that a created wetland system can effectively function in this manner. Despite this lack of supporting data, the Proposed Action relies heavily on the assumption that it will work. At the nearby Dunka Mine, where constructed wetlands were put in place to treat acid mine drainage, monitoring results show that concentrations of zinc and nickel actually increased. The DEIS acknowledges that a literature review “reveals a wide range of variability in the pollutant removal effectiveness of constructed wetlands treating mine drainage and other pollutant sources” (DEIS pg. 4.1-112). The DEIS also notes, “Constructed wetlands performance, however, is not sufficiently reliable to function as the primary treatment measure for assuring consistent year-round compliance with water quality standards” (DEIS pg. 4.1-113). The DEIS acknowledges that the constructed wetland will not likely remove mercury either. “There is very limited data regarding the effectiveness of constructed wetlands in removing mercury...Since neither the WWTF nor the East Pit constructed wetlands, which are the two primary treatment facilities for inflow to the West Pit, are expected to be consistently effective in mercury removal, concerns exist regarding the potential mercury concentration in the West Pit...There is some uncertainty as to whether the West Pit overflow would meet the Great Lakes Initiative standard for mercury and additional analysis of this issue is recommended” (DEIS pg. 4.1-123, 124). The DEIS also notes: “...a wetland treatment system in this location could promote mercury methylation, depending on the mercury and sulfate concentrations in the effluent” (DEIS pg. 4.1-167). Suggested Action: The proposed wetland system must not be relied on for mercury removal. Other methods for preventing mercury contamination must be analyzed in the EIS. Additional analysis of the issue of West Pit overflow not meeting Great Lakes Initiative standards must be conducted and presented in the EIS. The risk of the proposed "treatment" wetlands actually promoting the methylation of mercury must be thoroughly examined, as well.</p>	WR3I,WR4B

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53	2) Failure of the tailings basin: The DEIS acknowledges that “the NorthMet Tailings Basin and hydrometallurgical residue facility embankments would have a low margin of safety due to fines and underlying soils in the existing LTVSMC Tailings Basin” (DEIS pg. S-10). Despite this alarming and dangerous condition, the Proposed Action intends to use the existing tailings basin for the mine project’s own tailings wastes. It appears to Audubon that this waste disposal area is acknowledged to have a low probability of successfully containing the tailings permanently, as is necessary to avoid environmental harm. Suggested Action: The final EIS must examine alternative tailings disposal systems with less potential for catastrophic release and resulting environmental damage.	GT1
54	3) Methylated mercury impacts to fish, birds, other wildlife and humans: The DEIS states that, “Relatively high sulfate concentrations in seepage from the Tailings Basin would be released to wetlands north of the Tailings Basin and lakes downstream on the Embarrass River that represent ‘high risk situations’ for mercury methylation.” When mercury is “methylated” it can bioaccumulate in fish, making them unsafe to eat for birds, other wildlife and humans. Waters in the project area already are mercury impaired. Four lakes downstream of the project on the Embarrass River are listed for mercury in fish tissue impairments. Most of the water bodies in the project’s area are already listed as impaired for mercury and have fish consumption advisories. We are particularly concerned about the potential impact of mercury to move into the food chain and bio-accumulate particularly in fish-eating birds, such as bald eagles, loons, and osprey and waterbirds in general. Many of these species have already received special conservation recognition, as state species in greatest conservation need, or federal status under the Endangered Species Act. Suggested Action: . Too many of our lakes and rivers are already under mercury advisories, including most of the waterways into which the PolyMet mine pollution would flow. Other methods should be examined in the EIS to eliminate sulfate pollution from the mining waste, and the resulting methylation of mercury. The proposed high sulfate discharges in this DEIS are not acceptable and should not be permitted.	WR4B,WI2,WI5,FM1
55	4) Impacts to birds and wildlife found in the Sax-Zim Bog Important Bird Area: The proposed mining sites are upstream from the Sax-Zim Bog Important Birding Area (IBA). Sax-Zim IBA provides habitat for over 240 bird species, many dependent upon clean water. We are particularly concerned about those 23 bird species dependent upon the area’s patterned peatlands (such as America Bitterns and Yellow Rails), 35 species dependent upon conifer swamps (such as Magnolia Warblers and Boreal Owl), and the 22 species requiring floodplains forests (such as the Black-billed Cuckoo and Barred Owl). Audubon is concerned that the DEIS does not document the likely impacts to birds living in the Sax-Zim IBA of elevated mercury methylation and other bioaccumulative pollutants in nearby aquatic systems which will have a detrimental effect on the large bird populations residing there. Suggested Action: The EIS should analyze impacts to birds found in the Sax-Zim IBA from mercury and other pollution flowing from the mining area.	WR4B,WI2
56	5) Wetlands loss, degradation and inadequate replacement: The DEIS concedes that the NorthMet Project would result in the direct destruction of 854.2 acres of wetlands and 667.9 acres of indirect impacts to wetlands. Indirect impacts are likely to result from hydrologic changes in the project area from activities such as pit excavation, pit dewatering, and the development of dikes and ditches. Wetlands are an importance source of nesting and feeding grounds for waterfowl and other birds. The wetlands located around the proposed mining sites are high quality peat lands. The proposed mining project will have a direct or indirect impact on over 1,500 acres of these high quality wetlands. The DEIS claims PolyMet will mitigate the loss of some of these high quality wetlands by replacing them with constructed wetlands in Aitkin and Pine Counties - far from the mine site. However, these constructed wetlands will not be of the same type or quality as the destroyed wetlands. The overall result is a loss of high quality wetlands and the inadequate replacement of wetlands. Many wetlands near the mining sites that are not destroyed will suffer degradation due to contamination from the mines’ proposed discharges. Suggested Action: The EIS should consider alternative mitigation sites to those proposed in the DEIS that are both geographically closer, and that more closely replicate the quality and type of wetlands to be destroyed.	WE2,WE3

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Comment ID	Comment Text	Theme Codes
57	6) Elevated sulfate contamination leading to the loss of wild rice beds: Large numbers of resident and migratory waterfowl, including mallards, teal, wood duck, ringnecks, and coots, use the wild rice grown on rivers and lakes downstream from the project area as a major food source. The proposed discharges from the mines will elevate sulfate concentrations in waters in which wild rice grows. "Research in Minnesota has demonstrated that healthy and viable wild rice beds occur in waters with less than 10 mg/L of sulfate" (DEIS pg. 4.1-46). The PolyMet project presents a very real risk of raising sulfate concentrations above the 10 mg/L wild rice standard, with potential impacts on the health of wild rice beds. Suggested Action: The EIS should provide more information about expected sulfate concentrations downstream of the project site, and the anticipated affects on wild rice beds, and wildlife which use them for feed. This analysis should cover the time period during mine operations, immediately after closure, and for the hundreds of years during which sulfate discharges are expected from waste disposal basins.	WR4F,WR5A
58	8) Lack of information about financial assurances: The extensive and persistent water contamination anticipated from this project and documented in the DEIS will require ongoing clean up and monitoring for several decades, if not hundreds of years. Given the low probability that PolyMet corporation will persist as a legal entity during this entire period, the risk to the environment of failing or failed water treatment systems is real. Without upfront payment of secure financing to prevent the failure to maintain water treatment systems, Minnesota citizens will face the choice of environmental damages to public resources, or fiscal damages in the form of paying to maintain the water treatment systems. Suggested Action: Provide full examination in the EIS of projected financial assurance mechanisms and amounts necessary to assure maintenance of water treatment and other critical environmental remediation systems over whatever time is necessary to protect environmental resources. Thank you for allowing us this opportunity to provide this input. Sincerely, Mark R. Peterson Executive Director, Audubon Minnesota	ALT8
59	Additionally, the hydrologic characterization using MODFLOW models is too narrow in scope; it was only done for the immediate area of the mine pit and the tailings pile. <sup>59</sup> It plainly cannot be used to characterize groundwater flow direction, watertables, potentiometric surface in the aquifers, fluxes to rivers and streams, or to predict drawdown or mounding impacts to the water tables or surface waters.	WR2F
59	The issuance of a proper EIS has already been long delayed-the Final Scoping Decision came out more than three years ago. <sup>3</sup> Regardless of the time taken to prepare it, the Band is reissuing many of the same comments on the DEIS that it has issued on the last two preliminary DEISs ("PDEISs") calling for basic evaluation of Project impacts and application of well-established CEQ standards for EIS preparation, and incorporates all those comments by reference here. <sup>4</sup> Regardless of the complexity of the Project and many changes in Project proposals over the past three years, and despite the preparers' own delays, the co-lead agencies have refused to extend the 90-day comment period on the DEIS, despite repeated requests, including from the EPA. <sup>5</sup> This will only contribute to serious problems in correcting the gaps and defects in analysis in this lengthy DEIS.	PRO6
60	Likewise, groundwater contamination from the previous mining activities is still an issue near the LTVSMC tailings basin more than twenty years after operations ceased. Over the decades of operations at the LTVSMC tailings basin, thousands of gallons per minute of tailings basin water were discharged through the bottom of the basin into groundwater. <sup>65</sup> This plume of contaminated water has been slowly moving down gradient into surrounding wetlands and the Embarrass River. <sup>66</sup> The monitoring wells that do exist near the tailings basin have concentrations of pollutants including iron, sulfate, manganese, aluminum, and fluoride that exceeded drinking water standards. <sup>67</sup> But because of the limited distribution of monitoring wells, the extent of the existing contaminant plume is not known. However, domestic wells near the northern property line show substantial contamination of the groundwater aquifer. <sup>68</sup> Regardless, modeling of Poly Met contaminants at the tailings basin did not take existing pollutant concentrations into account. This resulted in the contaminant modeling that concluded that seepage water from PolyMet sulfide mine tailings and hydrometallurgical waste, after passing through LTVSMC tailings, will be cleaner than the existing seepage water that is passing through only the LTVSMC tailings. In other words, by pretending that existing contamination is an acceptable "baseline" from which only new contamination should be measured, the DEIS entirely skirts the question of overall impacts on the groundwater aquifer from putting an already-contaminated site back into production, and then releasing yet more contaminants. This approach is both deceptive and destructive.	WR1E



*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
61	<p>The DEIS indicates that mine pit dewatering impacts will be very limited or non-existent based on the assumption that there is little or no connection between the bedrock and surficial aquifers.<sup>69</sup> But this assumption is not supported by the data used to characterize mine site hydrology; instead, it is based on an unsupported "professional opinion."<sup>70</sup> In fact, the data implies that there may be substantial connection between the bedrock and surficial aquifers.<sup>71</sup> Such a connection would mean that dewatering of the mine pits could cause significant drawdown of the water table in the surficial aquifer, potentially dewatering wetlands and ephemeral streams. Impacts to surface waters, groundwater, and wetlands for a project of this size and complexity demand a scientific, data-driven approach rather than one based on opinion and scant, selectively used data.</p>	WR2I
61	<p>Furthermore, the effectiveness of the passive wetland treatment system the applicant proposes to treat mine pit and stockpile wastewater with high concentrations of metals and sulfate is untested and it is likely that the system would not function as the applicant has suggested.<sup>72</sup> All cap and liner systems leak;<sup>73</sup> therefore, some pumping of water that enters the hydrometallurgical residue cells would be needed in perpetuity, which the system does not include. The effectiveness of lime treatment to the stockpiles is very important in the final water quality of mine effluent, yet it remains uncertain in the DEIS. Additionally, 20 feet of pit wall will never be submerged and as such constitutes a perpetual source of mine related contaminants.<sup>74</sup> Because of continued inputs from the stockpiles, the tailings basins, and the pit walls, the pit lake could exceed surface water quality standards for thousands of years. Therefore, it is possible that the wastewater treatment facility ("WWTF") would need to operate for thousands of years in order to treat leachate from the tailing basin, stockpiles, and contaminated pit water. However, the DEIS does not provide a range of probable water quality scenarios, much less a proven method to treat these problems over the life of the Project and beyond.</p>	WR3I,WR3L
62	<p>The Band is profoundly concerned at the preparers' refusal to consider past state agency experience with this site that had disastrous consequences for water quality. The Band has located an MPCA document from the Minnamax Exploration Project, a test shaft drilled into the Duluth Complex, the rock formation where the mine would be sited, by AMAX Corporation in the 1970s approximately three miles from the Project mine site.<sup>75</sup> This document states that water was encountered 147 feet below the surface infiltrating into the test shaft at approximately 14 gallons per minute and identified another potentially water bearing fracture zone at 900 feet below the surface.<sup>76</sup> This means that the volume of groundwater that may be encountered by the Project mine pit has been vastly underestimated. Other MPCA documents detail an unexpected saline water discharge that resulted as part of the AMAX Exploration Project from a water pocket 1,391 feet below the surface.<sup>77</sup> The large quantities of saline water discharged, as much as 275 gallons per minute to Langley Creek, killed much of the vegetation en route.<sup>78</sup> Data shows severe impacts to wetlands in the vicinity of the project.<sup>79</sup> Water from stockpiles that were minuscule in comparison to the stockpiles proposed for the PolyMet Project drained water with very high concentrations of nickel, cobalt, copper, zinc, and sulfate, and discharged that water into Langley Creek and the Partridge River.<sup>80</sup> The project polluted streams, groundwater, and a large wetland complex in its vicinity in order for the MNDNR to study potential impacts and mitigation strategies for non-ferrous mining. Yet the data collected from the AMAX project was not used to predict water quality or wetlands impacts presented in the PolyMet DEIS.</p>	WR1E

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Comment ID	Comment Text	Theme Codes
63	Also ignored was experience with the Dunka Pit, located on the old LTVSMC site approximately five miles north and east of the PolyMet Project mine site. In the Dunka Pit, LTVSMC contacted the Duluth Complex and the Virginia Formation while mining for taconite in the Biwabik Iron Formation. <sup>81</sup> By 1991, LTVSMC had removed about 50 million tons of Duluth Complex material from the Dunka pit and placed it in "gabbro" stockpiles. <sup>82</sup> Monitoring of the drainage from these stockpiles beginning in 1976 revealed a decrease in pH and an increase in trace metals. <sup>83</sup> Copper and nickel concentrations as high as 1.7 and 40 mg/l respectively were observed in seepage/run-off from the Duluth Complex waste rock stockpiles and pH was observed as low as 5.0 at seep 1 between 1976 and 1980. <sup>84</sup> Most of the seepage from waste rock piles at the Dunka site was discharged to Bob's Bay in Birch Lake via Unnamed Creek. <sup>85</sup> A 1976-1977 study of trace metals in Bob's Bay found that concentrations of copper, nickel, cobalt, and zinc in the water of the Bay were higher than regional average concentrations and decreased with distance from the mouth of Unnamed Creek. <sup>86</sup> Additionally, it was determined that Unnamed Creek contributed more than 90 percent of the trace metals to Bob's Bay load. <sup>87</sup> The NPDES pennit for this discharge expired in 2005 <sup>88</sup> and another variance request is expected. A WWTF located at the site has been inactive because Cliffs Erie, LLC, the owner after LTVSMC, declared bankruptcy and claims it is simply too expensive to continue running. <sup>89</sup> Unfortunately, the passive wetland treatment system has not functioned well enough to remove nickel and copper in waters still discharging from the mine pit and stockpiles to a concentration that comports to comply with MN WQS. <sup>90</sup>	WR1E
64	Similarly, the Mining Simulation Project (funded in part by a Minnesota Legislative appropriation of \$185,000 to the MNDNR and MPCA) was a cooperative study to identify and resolve environmental issues associated with non-ferrous mining and to anticipate industry and government data needs to address those issues before commercial development occurred in Minnesota. <sup>93</sup> The study clearly identified those state ground and surface water quality regulations that would apply to copper-nickel mining operations in Minnesota, including applying the 10 mg/l sulfate criterion to effluent discharges where wild rice is present, and prioritized nondegradation of both surface and groundwater and protection of groundwater as a drinking water source, and rejected using natural wetlands for mine effluent treatment ("as a toxic metals dumping ground"). <sup>94</sup> Yet the DEIS states that there is "uncertainty" if the sulfate criterion to protect wild rice should be applied to wild rice waters in the vicinity of the Project, or if state groundwater standards are enforceable. <sup>95</sup> As stated in the Mining Simulation Project report, no such uncertainty exists and the DEIS must comply.	WR3I
64	But water quality impacts from prospecting and mining operations that have contacted the Duluth Complex are well known to the MNDNR and MPCA. <sup>91</sup> The State of Minnesota spent \$4.3 million over three years in the late 1970s to produce the Regional Copper-Nickel Study, a 5-volume compilation of technical information regarding the potential impacts of copper-nickel mining in the Duluth Complex. <sup>92</sup> Nevertheless, predicted water quality impacts and ineffective mitigation methods referenced in the Study were ignored when the technical documents and DEIS were drafted for PolyMet. Therefore, water quality impacts have likely been underestimated and the mitigations proposed may not be effective.	WR1E
65	Similarly, the Mining Simulation Project (funded in part by a Minnesota Legislative appropriation of \$185,000 to the MNDNR and MPCA) was a cooperative study to identify and resolve environmental issues associated with non-ferrous mining and to anticipate industry and government data needs to address those issues before commercial development occurred in Minnesota. <sup>93</sup> The study clearly identified those state ground and surface water quality regulations that would apply to copper-nickel mining operations in Minnesota, including applying the 10 mg/l sulfate criterion to effluent discharges where wild rice is present, and prioritized nondegradation of both surface and groundwater and protection of groundwater as a drinking water source, and rejected using natural wetlands for mine effluent treatment ("as a toxic metals dumping ground"). <sup>94</sup> Yet the DEIS states that there is "uncertainty" if the sulfate criterion to protect wild rice should be applied to wild rice waters in the vicinity of the Project, or if state groundwater standards are enforceable. <sup>95</sup> As stated in the Mining Simulation Project report, no such uncertainty exists and the DEIS must comply.	WR1E,WR3I

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66	The National Environmental Policy Act ("NEPA") <sup>6</sup> requires that an EIS at least discuss mitigation measures with "sufficient detail to ensure that environmental consequences have been fairly evaluated." <sup>7</sup> With the current DEIS, such evaluation is impossible. The DEIS does not take the required "hard look" at all the environmental consequences of the Project, including polluting surface and groundwater resources and drying up or inundating thousands of acres of wetlands in the 1854 Ceded Territory. Without adequate study of the adverse effects and determination of possible mitigation measures, the DEIS does not provide sufficient information for either public review or agency decision making. The lead agencies must significantly supplement the DEIS and provide a full opportunity for agency and public review before issuing a final EIS.	PRO3
66	The cumulative public information regarding risks to area hydrology from mining the PolyMet site cannot be dismissed and new, favorable data be inserted into the EIS instead. Experience requires much more evaluation to be done and the water sections of the DEIS must be significantly supplemented.	WR5A
1591	We've been deeply disappointed with current plans to develop Polymet and the multiple sulfide mining projects planned for northeastern Minnesota. There has been a disheartening rush to begin operations without the careful environmental study we've come to expect in our state.	EOO,G8A
<b>Sender Last Name:</b> jwzvrz@lwuace.com		<b>Submission ID:</b> 2309
2756	tgsBTC <a href="http://saurogbxrryw.com/">saurogbxrryw</a>, [url=http://srcoremqgszi.com/]srcoremqgszi[/url], [link=http://dtaupdoelblq.com/]dtaupdoelblq[/link], http://jahzhjisslku.com/	G15
<b>Sender Last Name:</b> Kacura		<b>Submission ID:</b> 3137
3507	I travel and canoe in the Boundry Waters area. These proposed mines will do nothing but damage the fragile enviroment. DO NOT ALLOW IT.....PLEASE, keep this land prestine!	EOO
<b>Sender Last Name:</b> Kaeter		<b>Submission ID:</b> 3159
1028	come costing us tax payers millions. The DEIS predicts that arsenic, cobalt, and selenium will exceed water quality standards. It also predicts high sulfate levels in the water. The DEIS table 4.1-4.5 states that water leaching from waste rock would contaminate water for up to 2000 years. To my knowledge there are no provisions to prevent waste rock to exposure from rain water. The DEIS estimates the west mine pit will overflow within 65 years. The apparent flowage would be into the Partridge River which flows into the St Louis River and ultimately into Lake Superior. Even the slightest chance of polluting any of these bodies of water is grounds to turn down this permit. In addition it is expected to destroy approximately 1000 acres of wet lands. Minnesota has lost most of its wetlands already; we should not allow this project to destroy any more. The tailings basin has structural problems which could cause it to fail, which would cause even more environmental contamination. As it is the groundwater contamination is expected to exceed water quality standards. No sulfide mining should be allowed in Minnesota unless it is proven completely safe during extraction and into the future long after the mine closes. Plastic liners aren't the answer, nor is filtration. I strongly oppose this project and for the good of our state and the citizens of this state you should	EOO,WR2D,WR3A
<b>Sender Last Name:</b> Kaiser		<b>Submission ID:</b> 3737

*Alphabetical by sender's first name*

<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
1	I could not find information in the DEIS or supporting documents regarding temporal changes in ground water levels in either surficial or bedrock wells. An analysis of temporal changes in ground water is essential to understanding the recharge from seasonal precipitation to surficial and bedrock water levels. From my reading of the DEIS and supporting documents, it seems that groundwater quality was analyzed once (DEIS, Vol. I at 4.1-8), which would be insufficient to evaluate any dilution by recharge. Groundwater levels and water chemistry change seasonally if recharge occurs during snowmelt, and these changes can be used to directly calculate recharge rates within the groundwater system. I think the DNR should have demanded such data and analysis to determine directly what the hydrology might be doing to the geochemistry at the proposed mine site, rather than rely on theoretical models to the degree that it did. If temporal data on water levels were not collected with sufficient frequency to evaluate recharge directly, it would be a major gap in the groundwater data set. There would be no direct means by which to test the hydrologic and geochemical models prepared in the DEIS and their results would have to, in some measure, be taken on "faith."	WR2A,WR2F
742	I would like to state my ardent disapproval of the process for public comment at the recent "public" hearings. There was no real access or open forum. In my opinion allowing gubernatorial candidates to have the floor with no rebuttal or chance for questions is ridiculous.	PRO1,PRO6
<b>Sender Last Name:</b> Kane		<b>Submission ID:</b> 1807
1135	Water quality is just too important to fool around with. Northern Minnesota has irreplaceable beauty that is a resource that should be preserved and nurtured, not squandered for such a short term goal. The tourist industry, the quality of life and recreation, and the natural beauty would be forever affected by this kind of mining. Can we risk the pollution that will inevitably occur when water leaching from waste rock piles at the site impairs water quality for up to 2,000 years? This is unacceptable to me. It is unreasonable to expect that mining companies will be able to maintain water treatment facilities for that amount of time and it is an unfair burden to pass on to future generations of Minnesotans who will inevitably be left to pay for these operations. Additionally, it will be all but impossible to calculate sufficient financial assurance for a mining operation that is going to require such long-term care.	PD4,PD10,G1
2392	I am writing to comment on the PolyMet Mining Corp. NorthMet mining project Draft Environmental Impact Statement. I'm very concerned about this type of mining in such a water-rich area as northern Minnesota. Other mines of this type have created extraordinary pollution in western states and the people of those states have been left to clean up the mess.	EOO
2393	The PolyMet DEIS describes significant environmental issues associated with this proposed mine. These issues should be resolved before this mine is approved by the Minnesota Department of Natural Resources and the U.S. Army Corps of Engineers. Please do not approve this mine. It is far too risky to the health of the water table and there is no assurance that the pollution it will create will be able to be cleaned up. Thank you.	G4A,G7C
<b>Sender Last Name:</b> Kang		<b>Submission ID:</b> 3308
3601	Please consider my opposition to the NorthMet Project. As a physician, I value and use the natural wilderness to promote physical as well as mental health. We have so little pristine land left, it would be short sighted to mine for quick profit at the expense of long-term environmental damage. Sulfide mines are only bad, only dirty, only toxic. Please add this to the voices of opposition.	EOO,G2
<b>Sender Last Name:</b> Kangas		<b>Submission ID:</b> 259

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
272	Essar Steel Minnesota LLC (ESML) is building a state-of-the-art Open Pit Mining, Concentrator and Pellet Plant operation which will be followed by DRI plant and Slab Caster. Once operational, Essar Steel Minnesota will be the first fully-integrated mine through steel-making facility in North America. We are located on the west end of the Mesabi Iron Range in northeastern Minnesota, and are adjacent to the community of Nashwauk. PolyMet will create several hundred permanent jobs and several thousand construction and other "spin off" jobs at a time when economic stimulus from manufacturing projects is so sorely needed on the Iron Range and in the United States. PolyMet, like Essar, is a company that is committed not only to protecting the environment we live and play in, but also providing for a safe, sustainable way for Minnesotans to make a living and provide for the future.	EOO
<b>Sender Last Name:</b> Kappes		<b>Submission ID:</b> 3235
3141	I live to the north of one of the designated tailings ponds that will be used to store the waste from the mineral removal process. I am not in favor of this facility to begin operation, as to the uncertainty of the possible devastating outcome for the area.	EOO
3594	The creation of jobs is a pretty poor excuse to allow this to go through, if after twenty years the area can't be used for anything else but a dump. Who will be responsible for making things right if their so called patented process fails?	PD4
<b>Sender Last Name:</b> Karon		<b>Submission ID:</b> 1071
99	What do we have to do to get a hearing in Duluth on the EIS for PolyMet? A certain number of signatures? A request or two?	PRO6
100	Otherwise who to contact to request an EIS hearing on sulfide mining in Duluth. Seems kinda silly to only hold two hearings in very small towns.	PRO6
1176	We're paying attention in Duluth, and we think that we have a stake in the potential pollution issues from sulfide mining on The Range.	G2B
<b>Sender Last Name:</b> Kate		<b>Submission ID:</b> 3517
534	<b>AIR QUALITY IN PRISTINE BOUNDARY WATERS:</b> The DEIS does not approach the most important question of cumulative impacts of this mine and the others that are proposed in the district. Polymet can not be looked at as a single, one-time event in N.E. Minnesota. With permitting of Polymet will come at least 2, perhaps 4 or more new applications for permitting from other mining companies. What will be the total impact on the environment by all these potential mines and how will the EIS deal with mitigation of all these in concert? Specifically the Boundary Waters, which is down wind of all these projects, will be negatively impacted in terms of atmospheric haze from dust particles and other emissions blown into the air. According to the U.S. Forest Service, the Polymet project alone will cause significant haze impairments in the Boundary Waters 36 days each year! Tell us how this cumulative effect on air quality must be dealt with for Polymet and all future applications. In addition how is global warming affected by this mining operation and the combinations of all potential mines in the future?	AQ3,AQ4B
1125	<b>WILDLIFE:</b> The mine site disrupts natural corridors for the movement of wildlife. Specifically the Canada lynx which is a federally-listed threatened species that requires large territories and benefits from undisturbed forest corridors. No provision is made for mitigating this loss of habitat in the DEIS.	WI5
3248	<b>BOUNDARY WATERS WATERSHED:</b> There was little or no field sampling done on the movement of ground water through the bedrock. Since the mine and its waste storage site sits nearly on the continental divide it should have been determined if there is any chance that polluted mine drainage (including acids, metals, or sulfates) could move in the rock over time to the north and into the Boundary Waters watershed. This was not done and should be before permitting.	WR2A

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
3249	SULFATES IMPACT: Sulfates are a problem that are not dealt with rigorously in the DEIS. Sulfates in surface water demonstrably impact aquatic vegetation, specifically wild rice. In addition sulfates react with elemental mercury in a process known as mercury methylation. Methylmercury is the form that bio-accumulates in fish and animals that eat fish, including humans. What process has been identified to detect and mitigate methyl mercury in the environment and how will community health be dealt with and paid for? The Boundary Waters is a very unique National Park that deserves to be fiercely protected. Developing open mine pits without the proper monitoring and regulations spells doom for this pristine paradise - if not in our generation, certainly in our grandchildren's time. Please do the right thing and protect this national treasure by addressing the above issues.	WR1E,WR4B,WR4C,WR4F
3703	The DEIS does not outline any specific plan for reclamation after the mine site is closed. In the same vein there is no specific mention of the method or amount of financial assurance that the mining company will need to set aside for the potential disasters after closing. Because acid mitigation is difficult to predict and long term treatment after closing is necessary, there needs to be a large sum of cash held in escrow as a damage deposit and that amount should be specific and included in the final EIS.	PD3,PD4
3704	MONITORING PLAN?: Where is the plan for constant monitoring of the mining operation by the DNR? Waste rock needs to be sorted by sulfide content, tailings basins need to be inspected for leaks, and waste piles need to be sampled for pH in runoff water regularly. Do we just depend on the mining company to do its own monitoring? There should be a program set up in the EIS for constant monitoring of operations by an independent environmental concern or the DNR.	PD2,PD3,PD5

**Sender Last Name:** Kearney **Submission ID:** 1033

1133 I am writing to you in support of Poly Met Mining Company, which is proposing to develop a copper, nickel, platinum, palladium, gold and cobalt mine, and process ore at the former LTV Steel Mining Company plant near Hoyt Lakes, Minnesota. My six brothers and I were born and raised on the Iron Range, and, as a young boy, we lived a short time in the area of the proposed PolyMet Mining Company. Our family later moved to Virginia. With the exception of the years I attended college, and the short time I worked in west central Minnesota, I have lived my entire life on the Iron Range. My wife and I currently reside in Hibbing. During my years living on the Iron Range, I have witnessed times when the mining industry has been prosperous, and have experienced lean years of layoffs and unemployment. The Iron Range has an eager, willing and ambitious labor force that is hungry for stable employment. PolyMet Mining will certainly fill some of the industry's current void! PolyMet and its vendors will provide our young people with multiple opportunities for challenging and exciting careers providing critical metalls needed in medical applications, electric cars, catalytic converters, cell phones, computers and other essential products. PolyMet will also provide millions of dollars in local and state taxes to support our Iron Range communities. I am excited to see the benefits that PolyMet Mining will be providing our local area, and I hope that Department of Natural Resources will find that PolyMet has properly addressed all potential environmental impacts of its mining and has shown that air, water, and natural resources will be still be protected.

**Sender Last Name:** Keefe **Submission ID:** 2635

3151 Please save our pristine norhtland from poluution G2

**Sender Last Name:** Kelly **Submission ID:** 1739

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
2265	Please accept these comments on the PolyMet Mining Corp. NorthMet mining project Draft Environmental Impact Statement. I have serious concerns about the safety of this project and its potential impacts on Minnesota's natural resources. Though only twenty, I have paddled hundreds of miles over Boundary Waters Lakes and have an intimate relationship with the region. For the past two summers, I have worked as a canoe guide of sorts for the Charles L Sommers Canoe Base run by the Boy Scouts of America (located on Moose Lake). These two summers have made me aware of the peculiar and unique nature of the Boundary Waters. Only when one considers the extent of the environmental degradation that has occurred on American soil, the astounding way in which almost all of our land has become domesticated, tamed, and paved over, can someone see what the Boundary Waters is--a last vestige of the American wilderness, a final hiding ground for untrammelled nature. For me, just on these purely emotional and abstract terms, that would be enough to question any decision to dig a sulfide mine in the BWCA region. However, I think that there are also inherent economic reasons why the decision to allow mining would be detrimental to the region. Northern Minnesota has hosted several phases of resource extraction. The first white people to come into the region came for the furs, the second wave came for the lumber (in fact cutting down much of the BWCA), and the final wave mined iron. What is notable about all three of these historical economic booms is their negligible current effect: Where did the lumber wealth go? What jobs do the iron miners have now? What sustainable economy did these resource-based industries create? In reality, all of these industries created short-term, low-skill jobs while encouraging the growth of an unsustainably high population. Most of the profits went to companies based in other places and other cities (as would currently be the case with the Canadian mining companies who proposed the current project), and the end result was environmental degradation with little long-term development of the infrastructure or economic self-sufficiency of the region. In contrast, the money brought in by tourism is sustainable and generally promotes a healthy long-term economy for the region. Obviously, tourism will never create the short-term boom of the mining town. But it will also never create a painful bust. In the longterm, it is best to recognize that Northern Minnesota has finite resources. Perhaps it is best if we employ them in a sustainable manner rather than endangering our environment for the sake of a cheap and ephemeral buck.	G2,G11
3332	As a yearly user of BWCAW, I cannot imagine a Minnesota without this incredible expanse of untouched, singing wilderness. Have you ever read Sigurd Olsen? His book, "Singing Wilderness," perfectly describes the incredible, unique, and powerful majesty of the BWCAW. There is no where else on Earth like this place; to permanently damage its integrity and purity for a few years of economic profit is practically immoral. Please accept these comments on the PolyMet Mining Corp. NorthMet mining project Draft Environmental Impact Statement. I have serious concerns about the safety of this project and its potential impacts on Minnesota's natural resources.	EOO
<b>Sender Last Name:</b> Kemp		<b>Submission ID:</b> 2425
2916	I am writing to you as a citizen of Minnesota concerned about the PolyMet sulfide mining project proposed on 6,700 acres of public land in the Superior National Forest. As a former member of the Minnesota Pollution Control Agency Board, I toured th abandoned copper-nickel test mine near Babbit many years ago. There was pollution leaching out of that facility years after its closure, and there still is, requiring its ongoing monitoring for all time, apparently.	EOO
2917	The EIS is not adequate, and must more throughly consider the long term impacts on Minnesota's environment and future generations. I do not want future pollution officials to have to expend resources eternally monitoring and attempting to clean up toxic pollution at taxpayer's expense.	G8
<b>Sender Last Name:</b> Kenig		<b>Submission ID:</b> 3112

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
3490	I am writing to express my concern about the possible negative environmental impact of copper sulphide mining on the northeastern MN ecosystem. I worry that the current economic climate may lead us to overlook possible long term pollution problems in an effort to provide good jobs in the short term. I don't understand the scientific and technical questions well enough to judge the assertion that this kind of mining can now be done so as to ensure that pollution will not occur. I am also saddened at the thought that this question may continue to divide us as a community, and would like to pursue other less environmentally risky ways of making a living than extractive industry to sustain the local economy. I am a thirty-year resident of the area and a property owner on the White Iron Chain of Lakes near Ely. Thanks for your efforts in trying to make a careful, informed decision.	G1,G2
<b>Sender Last Name:</b> Kennedy		<b>Submission ID:</b> 3475
3750	I believe the proposed PolyMet mine is an eventual inevitable future for NE Minnesota. I am all for the economic development that will be a result of this project. I am all for mining of the Platinum Group Metals when a tried, sound, safe process has been defined that will not result in serious environmental impacts for this area. PolyMet's proposal will leave too much degradation to the environment if allowed to proceed as proposed. Even the alternatives allow for too much degradation to the surface and ground waters in our area. The freshwater resource in NE MN needs to be protected for future generations. There are too many insults taking place in the name of progress to our environment, immediate and world wide that are irreversible. Need we allow for one more which impacts an already limited resource in our nation? The South Dakota mines, the Montana mines, the Colorado mines that have devastated areas from sulfide mining in the name of progress need not take place here. We have a choice to proceed differently. Let us take the time and allow those who are making large profits to define a process that will not leave our environment devastated and the local/state governments with a large investment of cleanup after the profits have all walked away. Require that the waste water be treated before being released into the environment, so the acidic properties of the water do not methylate the mercury into organics which can be taken up the food chain. I believe we can all benefit from PGM mine here, and, there is a way to make it a win-win	EOO,G2C,G7A
<b>Sender Last Name:</b> Kermeen		<b>Submission ID:</b> 363
52	This company which is newly formed has no holdings in producing mines & as of January 31, 2009 had a huge deficit & only 20 full-time employees. The company does not have finances to assure post-closure reclamation, maintenance and treatment which tribal agencies studies conclude would be necessary for a minimum of 2000 years.	PD4
402	I live in Cloquet and clean water is imported to me and is vital to people, animals, fish and the entire world, not just Minnesota. In the past I have read of the devastation the sulfide mining process has caused and left behind in the western states of the United States—even after so called promises to care for and monitor the land and water perpetuity.	G7
403	I am very concerned about the permanent damage that would be caused by the PolyMet proposal which would be only a short term economic boost to a business that would be only temporary.	G1,G2
2000	The DEIS descriptions of the modeling design as well as results from this modeling were so minimal it was impossible to review the effort properly. Polymet used many assumptions in the modeling, the most important of which related to fracture flow in the bedrock. Polymet, for convenience, assumed the bedrock hydraulically behaved equivalent to a granular porous media, i.e. soils, and that the bedrock did not have any preferred direction of hydraulic conductivity (anisotropy). But, at the scale of the modeled area, the bedrock cannot be assumed to behave as if it were an equivalent homogeneous silty-clay. The area modeled is insufficiently large, given the infrequent occurrence of fractures, to merit such an assumption.	WR2A



*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
2000	The DNR should request Polymet explain more thoroughly why their 3-D modeling efforts were not simply coupled to MT3D to characterize contamination transport. The DNR should request that all properties used in the modeling (e.g. hydraulic conductivity, effective porosity etc.) be discussed and explained in detail, and insist that the modeling should at least meet ASTM standards for modeling. This includes sensitivity analysis, and statistical calculations comparing measured and calculated water levels and water fluxes (movement) to streams, etc. to show the degree to which the modeling can be relied upon for projection in the future. Without this degree of explanation, the modeling results have to essentially be accepted with a large degree of faith that the work was properly done.	WR2E
2000	It cannot be assumed that the fracture pattern in the crystalline rocks does not have a preferred orientation. Fractures evolve because of regional and large-scale stress fields that geological processes impose on rocks. I expect that geologists have determined the predominant directions and even the frequency distributions of fractures in the bedrock of the Iron Range, given decades of geological research that have been done there. Polymet could even have had their geologists visit other Iron Range mines and determined the frequency of fractures and their orientation by direct observation. Using this data could very well have changed the assumptions used in the groundwater modeling effort of the DEIS and led to a different conclusion regarding how much potential mine water moving in bedrock aquifers might reach the Partridge River and other water bodies from the mine site and tailings basin.	WR2A
2002	I looked at groundwater hydrographs from multiple wells the USGS installed during the Copper-Nickel regional study (Siegel and Erickson, 1980) and saw that water levels fall on the order of 10 feet in thick till during the year. I multiplied that value by reasonable specific yields for clayey soils and came up with recharge at least several times more than that determined from Polymet model results. The amount of water calculated to potentially discharge to the mine may be factors too low, which could lead to unanticipated mine discharges to streams.	WR2A
2003	Polymet could have directly determined the order of magnitude of the amount of recharge to both bedrock and surficial groundwater systems from changes in the water levels in their observation monitoring wells, coupled to approximate specific yields of the materials (e.g. <a href="http://www.co.portage.wi.us/groundwater/undrstnd/soil.htm# Specific%20Yield">http://www.co.portage.wi.us/groundwater/undrstnd/soil.htm# Specific%20Yield</a> ; and <a href="http://water.usgs.gov/ogw/gwrp/methods/wtf/">http://water.usgs.gov/ogw/gwrp/methods/wtf/</a> ). From this direct data, Polymet could have better calibrated their surface water models and reduced error. Indeed, from monitoring water levels in their own piezometers in the bedrock, they also could have determined the extent to which the bedrock connects to or is isolated from surficial deposits and the water table. So, despite all the work done, Polymet did not collect sufficient data to easily evaluate several major aspects of the hydrogeologic system directly, but rather, chose to use a Model to do it.	WR2A
2003	Similarly, recharge to underlying bedrock groundwater could be determined directly from water level variations if available. Indeed, if conservative solutes (e.g. chloride) in groundwater sampled in deep piezometers changed from one year to the next, it would imply recharge to that horizon tapped by the well. The amount of recharge could be calculated using a simple mixing model. With respect to water levels, if Polymet did not measure water levels over time, there will be no direct way to test a major model assumption, how much recharge of precipitation and snowmelt occurs to surficial aquifers and underlying bedrock aquifers at the mine site.	WR2A
2003	I cannot emphasize too much that a difference between measured recharge rates from that assumed from modeling results does make a difference in understanding what goes on hydrologically at the mine site. All models are non-unique. Polymet argues they "calibrated" the MODFLOW model against some real hydrologic data. But this doesn't mean the models are "right". All it means is that the model could be calibrated by trial and error, changing assumptions to get a "fit." Without independent data to test the model results or history matching, there can be no assurance that the model results can be useful for future prediction.	WR2A

*Alphabetical by sender's first name*

<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
2004	With respect to the Polymet groundwater modeling results, Polymet produced no water table maps or potentiometric surface maps during the mining operations, no MODPATH simulations to show groundwater velocities and flow paths before or during mining, and no hydrogeologic cross sections showing vertical flow directional and velocities. Polymet did not present critical values for effective porosity for any of their subsurface solute transport calculations or water flex calculations from the pits post closure to the Partridge River. The effective porosity in bedrock can be less than 1%, compared to 10-30% for surficial materials. The lower the porosity, the faster the water will move. So, if Polymet used a default value in MT3D of tens of percent, typical for surficial material aquifers, their solute transport could be, wrong by many times- resulting in the possibility that contaminants could reach the Partridge River much faster than what the model projected. I did a search for the word "porosity" in document "RS74A Surface Water and Groundwater Quality Modeling: Mine Site Draft 02" I found it mentioned once in the introductory material.	WR2F
2004	Nor did I see how dewatering of the surficial aquifers during mining was handled by MOD FLOW. Did modeled areas, called nodes, mathematically lose all their water? I understand that groundwater draining from surficial materials into the mine will be inhibited by engineering, whereas drainage from underlying bedrock will still occur. How did Polymet use MODFLOW to handle this engineered condition, continual saturation of the upper layer of the model, while allowing the middle of the model to drain with little recharge to replenish it? I wonder if the model basically failed to converge to a proper mathematical solution.	WR2F
2005	What MODFLOW algorithm did Polymet use to handle de-saturation in the first place? Does dewatering in the ~700 foot mine induce dewatering from the Partridge River to the mine as the pit is excavated? If the river were in hydraulic communication with the bedrock, water from the river could plausibly recharge the mine from the south. Potentiometric surface maps for all layers and fluxes calculated from the river during mine operation needed to be presented.	WR2F
<b>Sender Last Name:</b> Kern		<b>Submission ID:</b> 2208
2615	MS. KERN: I grew up on the Iron Range so I know a little bit about the project and I am in support of the project and I would like to see it move forward. I would like everything to stay safe. I know there is environmental issues about it, but I feel from the information that I have read that it is a good project and I would like to see PolyMet get some support to move forward with their copper mining.	EOO
<b>Sender Last Name:</b> Keseley		<b>Submission ID:</b> 329
34	In fact, a possible "mining moratorium law" such as in Wisconsin should be considered.	EOO
<b>Sender Last Name:</b> Kett		<b>Submission ID:</b> 2360
2847	The PolyMet DEIS describes significant environmental issues associated with this proposed mine. These issues should be resolved before this mine is approved by the Minnesota Department of Natural Resources and the U.S. Army Corps of Engineers. I also do not believe that this project will contribute to any meaningful jobs beyond the extreme short term. If any long term jobs do come out of this, they will likely involve the clean up and monitoring of the site (i.e. government jobs).	EOO,G1
<b>Sender Last Name:</b> Ketten		<b>Submission ID:</b> 1192
1307	As a Minnesota native, I am writing with deep concern about the proposed mining project. The waters of MN are our most precious resource and should not be polluted with heavy metals and sulfates. These contaminants are dangerous to fish and the delicate ecosystem. We have to care for our waters and mining near them is not an option.	G2C,G7B

*Alphabetical by sender's first name*

**Comment ID    Comment Text** **Theme Codes**

**Sender Last Name:**    Kidd **Submission ID:** 159

150 One of the reasons I want this project to go forward is the creation of jobs that it will give the community, as well as I love the fact that they have come up with a new process for extracting the precious metals besides the leaching process. The other aspect of this project that I love is that they are going to recycle the old plant instead of tearing down and building a whole new plant. I love the fact that we are recycling the old one, creating jobs for sandblasters, painters, electricians, everybody. That's all I have to say. Keep it short. EOO

**Sender Last Name:**    Kiehne for Brice **Submission ID:** 3646

18318 Franconia believes that this draft report is a good effort and reflects the extensive work that was behind its preparation. It is also our view that, after responding to the comments, it can lead the way to a Final EIS and a conclusion of Adequacy. EOO

18319 The draft EIS is very thorough and covers all the potential impacts identified in the Scoping EAW and Draft Scoping Decision Document (June 6, 2005), including some additional concerns that were not initially identified. However, there is one aspect of the draft EIS that is somewhat confusing; that is where it appears to contain two sets of conclusions: one in the body of the report and others in footnotes. This issue was quite evident at several public meetings we have attended recently where the opinions of the American Tribal Cooperating Agencies (footnotes) are expressed as statements of fact rather than the viewpoints of one group. These opinions are often not based on facts in the Draft EIS. The carefully studied and factual conclusions of the Responsible Governmental Unit were often ignored at the meetings. This has created confusion and is misleading to the public. As you are aware, the draft EIS is intended to provide full disclosure of the technical information. Opinions should be supported by technical information contained in the draft EIS. PRO9

18320 and most of its platinum and palladium. This exacerbates our international trade imbalance, exports jobs to other countries, and creates opportunities for others to limit our availability to vital raw materials (e.g. oil). It also ignores the environmental damage in other countries where responsible mining and processing practices are widely ignored. Additionally, having to import these resources also affects our country's ability to produce value added products, including "green" products (hybrid cars, wind generation, etc.), which use these important metals. The result is further loss of job creation opportunities. According to the International Platinum Group Metals Association, <http://www.ipa-news.com/pgm/index.htm>, "One in four of the goods manufactured today either contain PGMs (platinum group metals) or had PGMs play a key role in their manufacture". As we noted, we import nearly all of our Platinum Group metals. G1

18321 Franconia believes that the EIS is complete, thorough, and well documented. We believe this should lead to a conclusion by the Agencies that the Northmet Environmental Impact Statement is Adequate. Thank you for this opportunity to comment on the Environmental Impact Statement. EOO

**Sender Last Name:**    Kightlinger **Submission ID:** 3133

3503 wanted to let you know that I am strongly opposed to the idea of sulfide mining in northeast Minnesota and the BWCA area in particular. Water is such a precious resource for Minnesota and sulfide mining does not have a good track record re: controlling environmental damage. Because northern Minnesota is such a watery area it's very naïve and foolish to think the mining operation can be safely contained. Please do not approve these mining permits – it's a bad idea and makes no sense. The few jobs that might be gained from mining can't even come close to the adverse economic impact to the Arrowhead region and BWCA due to water damage from mining. G1,G2,G7

**Sender Last Name:**    King **Submission ID:** 1152

1266 I spent many childhood summers in the BWCA and this last summer as well. Its pristineness is very important to me. No drilling sounds! EOO

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
3144	As a parent and a lifelong Minnesotan, I am very concerned about making short-term financial decisions that permanently diminish the natural legacy we are leaving to our children. I am very much afraid that is exactly what is happening here. Please reconsider and require that the DEIS completely answer these environmental concerns.	G2
3525	I am REALLY tired of so called 'environmental activists' completely mis-representing the draft EIS and PolyMet's proposed mining venture. These 'environmentalists' want to HALT any PROGRESS by deliberately lying and distorting the facts about this proposed project. The amount of sulfur in the rock in our area (1-2%) is drastically less than the sulfur amounts found in other areas where open-pit sulfur mines are operating (typically 20% and greater). Nowhere do they acknowledge that the water will be safe for human consumption after PolyMet has processed it. Nowhere do they admit that the existing wetlands from the old LTV plant NOW supports fish and wildlife; and this was the case BEFORE the LTV plant had access to the environmental controls that PolyMet will provide. Northeast Minnesota NEEDS the type of jobs that PolyMet will provide; and NE Minnesota should NOT be held captive to a SMALL group of rich Twin Cities citizens that visit our area for one week every year or so. These 'environmentalist extremists' claim that PolyMet is RUSHING the EIS process when in fact the process started in 2006!!! I do not consider 5 years and millions of dollars spent in complying with EIS guidelines to be RUSHING anything! Please let us enjoy the benefits of working again in the industry for which we have been trained - MINING; and do not let a bunch of rich fat cats using lies and distortions prevent us from providing for our families!!!!!!	EOO
3870	As a resident of the arrowhead region, I feel strongly that the potential resources available from this initiative are not worth the impact it will have on a local and greater environment. Elli King PO Box 526 Finland, MN (No unrelated mailings please) 1800-619-3772	EOO
<b>Sender Last Name:</b> Kingery		<b>Submission ID:</b> 3331
3624	Issues to think about: A short term economic gain is the main issue at stake. There are other options to build economic strength. This project has so many issues and the people of MN and the rest of the world deserve better. Health issues, water quality, wildlife, eco-tourism – Look what is in danger. The main threat is water – 50% of the endangered species need water or wetlands to live. Let’s make the right decision about the environment + economic strength.	G1,G2C,G7,G11
<b>Sender Last Name:</b> Kingston		<b>Submission ID:</b> 3111
1289	4) Require resolution of tailings basin geotechnical stability and seepage issues identified by the Tribes and the U.S. Environmental Protection Agency.	GT2
1884	3) Require detailed and cumulative impacts of potential mercury increases in fish as related to the PolyMet project and other nearby pollution sources, including mercury methylation as well as discharge and emissions. All lakes in the White Iron Chain of Lakes currently have mercury advisories for fish consumption, and this is an area of vital importance to members.	WR5C,FM1,FM3,AQ6A
3516	1) Include cumulative air and water quality effects on lakes and rivers from all sources, including other mines. This EIS may set the standard for all water quality impacts analysis, and good cumulative impacts analysis is critical to protect water quality in the White Iron Chain of Lakes.	WR5A,CR1,AQ4B
3517	2) Include future development of sulfide-mining by companies already doing exploratory drilling in the analysis of cumulative effects. (Tribal position)	G9
3518	5) Require financial assurances in the EIS before any permitting process gets underway. (U.S. EPA position)”	PD4
<b>Sender Last Name:</b> Kirby		<b>Submission ID:</b> 1617

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
2025	Lake Superior is one of the largest fresh water sources left on the planet. With global climate change progressively making fresh water more of a commodity, I find the idea of allowing this kind of pollution to take place incredibly irresponsible and arguably suicidal.	EOO,G7B
<b>Sender Last Name:</b> Kireta		<b>Submission ID:</b> 3520
1126	The PolyMet mine will obstruct at least 2 of the remaining 13 corridors where wildlife can cross the 120 miles of the Mesabi Iron Range. These corridors are important not only for mammals like moose and wolves but also for the northward migration of the deciduous forest and all its components in the face of climate change. The DEIS ignored the mine's impact on wild corridors	WI5
3251	I am concerned about the impact on fish and wildlife of the proposed PolyMet Mine in Superior National Forest and urge you to better analyze the proposed mine. Of particular concern are the following issues, which were not adequately explored in the Draft Environmental Impact Statement (DEIS): 1) Mercury. Increased levels of sulfates leached from the PolyMet Mine will increase mercury accumulated in fish tissues, causing harm not only to the fish but to animals and people who eat the fish. The DEIS did not adequately analyze the potential impact of the mine on mercury levels in surrounding waters and fish.	WR1E,WR4B,FM1
3252	The PolyMet Mine will result in enormous sulfate releases that will exceed the state standard for wild rice, which is sensitive to sulfates. These sulfates will likely eliminate wild rice in the Partridge and Embarrass Rivers, and diminish the famous wild rice beds in the St. Louis River estuary near Duluth, which is 100 miles away from the mine. The DEIS did not adequately analyze impacts on wild rice and the associated health and economic impacts. Please protect the fish and wildlife that currently thrive in Superior National Forest and safeguard this area for future generations.	WR1E,WR4F
<b>Sender Last Name:</b> Kise		<b>Submission ID:</b> 1545
1889	This is not okay. As a person that goes to the boundary waters area multiple times during the summer i think this is absolutely not okay. It's going to ruin the environment and the atmosphere up there as we know it with irreversible changes during our life times. Stop.	EOO,G11
<b>Sender Last Name:</b> Kitterman		<b>Submission ID:</b> 3173
716	SLOW DOWN - EXTEND THE PERIOD IN WHICH YOU CONSIDER ALL ASPECTS OF THIS ISSUE!! DON'T MAKE AN INCREDIBLE ENVIRONMENTAL STEWARDSHIP MISTAKE HERE FOR THE SAKE OF SHORT RUN JOB NUMBERS IN NORTHERN MN!	PRO6
2517	I am writing today to express my extreme concern over the mining project that is being considered in northern Minnesota adjacent to the BWCA. I do not feel that adequate consideration has been given to the citizens of this state to decide if this mining project is a good long term decision for our future generations. Only a nominal amount of research on my behalf suggests that this class of hard rock sulfide mining is extremely deleterious to the health of the watershed. Historical records reveal that the prophylactic measures suggested by the mining companies are likely to be only marginally effective in the short run - and the effects of the acidic runoff are there to be delt with for thousands of years to come. Actually, I am a little shocked that our political and civic leaders - who we depend upon to protect our clean waters - would allow this process to develop to the point that it has without allowing for adequate input from individuals like myself that love the BWCA and Voyageurs' Ntnl Park. Please I admonish you to take a step back and reconsider this process that seems to bringing a potential threat closer to reality. Don't you want your grandkids to be able to hook a smallmouth bass in the BWCA? Wake up! I am not a political radical - just another guy who loves the BWCA - don't class my letter in with the tree huggers and bunny humpers. I am all for jobs in Northern MN, but we MUST KEEP this in perspective.	G1,G7

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
3124	We (my family members) are deeply concerned about the long range effects of sulfide mining on the watersheds on north side of the divide. Short range measures to minimize the deleterious effects of acidic runoff and groundwater penetration have not been proven to effectively halt the long term pollution potential for the BWCA which is just adjacent to the north of the Duluth Mining and the Franconia test sites.	WR1A
<b>Sender Last Name:</b> Kivela		<b>Submission ID:</b> 3662
1	Worldwide demand for copper and nickel continues to increase. Minnesota has legislated power companies to generate 25% of their electricity from renewable energy sources by 2025 with wind turbines providing a significant portion. Across the U.S. the demand for electricity generated by renewable resources is also rising. Mega-watt for mega-watt the construction of the average wind generation facility consumes 1.5 times more copper than a similar sized coal fired facility. Assuming the demand will be met, we must ask ourselves is it better to purchase foreign supplied materials produced under less strenuous environmental practices, or produce it where we can monitor the process. Though the draft Environmental Statement appears to have several figures improperly labeled, tables improperly referenced in the text, and typographical errors the document appears to address the environmental and economic impacts. The errors do not appear significant and additional EIS findings and mitigation review will be short and a decision of adequacy is in the near future. I have seen the good and bad of mining. I live, work, and play near the proposed PolyMet Mining operation and could be among the first to experience any impacts. Understanding the need to balance the preservation of our local and global environment versus the economic impacts, I feel the project is environmentally and economically preferable and sustainable and I wholeheartedly support it.	EOO
<b>Sender Last Name:</b> Klamm		<b>Submission ID:</b> 1161
156	We are looking for the public to have more involvement.	PRO3
508	Financial assurance must be addressed.	PD4
1276	How can we consider granting permission to a "start-up" company in an industry known to contaminate streams downstream for 2000 years.	G7B
<b>Sender Last Name:</b> Klang		<b>Submission ID:</b> 124
113	I am for the Polymet project. It will benefit our portion of the state with jobs and tax revenue, and the whole state which definitely needs more tax revenue. I live in the area and want clean air and water and believe Polymets plan will assure this will happen.	EOO
3554	I am 100% in support of PolyMet. We need to do everything we can to bring industry and jobs to the Iron Range. Right now, most of our young people are moving away to the Twin Cities and other large cities. We must make life on the Iron Range sustainable to preserve our way of life and our industrial history. And the address part should not be optional. The residents of northern Minnesota should take precedence over "once-a-year-if-that" visitors. We have families to feed, and we are struggling to stay here. They shouldnt have any say in what we do with our area. We do not have any say about how they live in the Twin Cities!	EOO
3574	I am for the Polymet project. It will benefit our portion of the state with jobs and tax revenue, and the whole state which definitely needs more tax revenue. I live in the area and want clean air and water and believe Polymets plan will assure this will happen.	EOO
<b>Sender Last Name:</b> Kloker		<b>Submission ID:</b> 3739

*Alphabetical by sender's first name*

<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
2000	There needs to be further documentation of flow velocities that MODFLOW (Mod path) and MT3D calculated throughout the model domains before mining, during mining and after to provide credence to the model results. The essential conclusions of the modeling relating to discharge of potentially harmful waters from the closed mine site tie directly to the values of effective porosity used in the models. I do not think, from my reading, that Polymet only considered groundwater flow through surficial materials from the pits postclosure, and readers need to clearly know how the models were put together and the degree to which they are calibrated on real data or simply "heuristic" or theoretical.	WR2F
2000	Given these modeling uncertainties in recharge rates, flow rates, flow velocities, effective porosity, dispersivity, and calibration points, even if water levels and discharge to streams numerically agree with that measured, the modeling does not provide certainty in forecasting. In the absence of proper and multidisciplinary field calibration using chemistry and water levels, there can be no assurance the models, in fact, worked. For example, hydrologists for decades have used isotopes of water and carbon to measure groundwater ages and how long water in groundwater flow paths has been in the ground after recharged as rain or snowmelt. These independent data could have been used to clearly determine if the timing of water flow in complex flow systems calculated by models are at least in the right ballpark. For example, if no tritium were measured in water sampled from the deep Virginia Formation, then it can be at least assumed that the water in it must be at least 60 years old (Clark and Fritz, 1997). From the carbon isotopes in the dissolved inorganic carbon in it, Polymet could have determined if the water in the Virginia formation were 100's or 1,000's of years old. If water were that old, the issue of bedrock water impacting the mine would have been moot-flow rates to the mine would be so small as to be negligible.	EOO
2000	In the case of the flow paths south of the hypothetical closed mine, I was struck that a constant head boundary (same and constant water level) was used throughout the complete extent of the surficial sediment to the base of the rock units as a boundary condition upgradient, as well as on the Partridge River side. Polymet needs to justify this kind of boundary condition, akin to what would be a lake edge. Doing this forces water flow to be horizontal and technically speaking, "over-conditions" the flow system hydrodynamics. Basing flow paths on a constant head boundary in this manner forces discharge from the bedrock into the river, conceptually as if the river cut through the bedrock hundreds of feet. Moreover, actual head values (water levels) for these boundaries used in the model seemed arbitrary and "selected" to match the predicted hydraulic gradient. Yet, Polymet prepared a working three dimensional groundwater flow model for the mine. Why did Polymet choose not to simply add onto this model a solute transport component? This is what MT3D was designed to do, calculate solute transport in three dimensions coupled to MODFLOW. So, I don't fully understand why Polymet downgraded their model for solute transport post-mining to two dimensions along multiple flow paths, when the presumptive theoretical plumes of multiple contaminants from the closed mine could have been broadly simulated through normative coupling of the modeling modules and locally adding more rows and columns in the model as needed where more detail was desired.	WR2F
2000	3. I found that Polymet installed insufficient ground water monitoring wells and piezometers inbedrock to either characterize where and how ground water in bedrock moves across the mine site, or how it interacts with the Partridge River. The DNR should request additional (~6) monitoring wells in bedrock be installed south of the proposed mine area in an array sufficient to determine these issues. At several of these installations and some north of the mine site, piezometer nests should be installed in the Duluth formation and underlying Virginia formation to determine vertical head gradients. Installations with screens crossing these units serve no purpose in determining what happens between them. Finally, the DNR should install piezometers and water table wells adjacent to the Partridge and Embarrass Rivers where presumptive flow paths may end to determine if these streams lose, gain, or have no influence on groundwater flow in the bedrock underneath them.	WR1B,WR2A
2001	However, the boundary conditions used by Polymet for their post model scenario 2-D modeling do lead to a worst case scenario for the Partridge River, insofar as all the water from the mine winds up in the river, but it does not show what might happen under the river. Perhaps Polymet can do a sensitivity analysis to show that putting a constant head boundary only at the river node and in surficial materials, but not in the bedrock too, would not change, the results. When the pit water might reach the river is highly predicated on effective porosity values for which I have no information. Perhaps Polymet did their model at steady state after it was assumed that flow paths reached the river. This needs more clarification.	WR2F

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
2005	I found it particularly troubling that Polymet could have directly determined how water moves in the shallow subsurface and bedrock at the mine site area in the field, but it was not done. The overall properties of the surficial materials and their connectivity to the uppermost bedrock probably are generally similar in the mine area, including where the tailings basin occur. The existing tailings pond at the proposed plant site has been in operation for decades. Had a series of piezometer nests (wells at different depths at the same location) been placed in the bedrock with a water table monitoring well perpendicular to the pond downgradient direction relative to the pond (towards the Embarrass River), a great deal could have been evaluated about how contaminant transport occurs in surficial materials over large distances and under elevated heads (driving force)-including characterization of the degree to which loss of potential contaminant metals by sticking to organic matter (sorption) to soils might occur, natural attenuation. Instead, Polymet chose to use modeling to estimate the effects of solute transport from the future new mine tailings pond to the subsurface. Yet, the opportunity was there to actually calibrate such a model against real field data. My suggestion does not constitute a "research topic" from an academic reviewer. Rather, doing this exercise would have provided proof of the concept that the models being prepared, material properties assumed, and so on, were properly configured. I have the same concerns with the modeling Polymet did from the tailings basins as with the other groundwater models done by Polymet: poor documentation of results, assumptions that cannot be tested very well because of insufficient instrumentation, and inarticulated logic behind the work. This is a missed opportunity if I have ever seen one.	EOO
2006	The quantification of ground water discharging to the Polymet mine may be reasonable. But, insofar as groundwater discharge seems to be the largest part of water entering the mine, the modeling needs to be clarified and maybe tested by some simple back of the envelop calculations using Dupuit Foresheimer equation or even Darcy's Law outright. I am not saying the results of the modeling are wrong. I am saying I can't tell if Polymet may be right or wrong from what was provided in the DEIS and supporting technical documents which I reviewed. If they are wrong, then contaminated ground water could very well reach the Partridge River faster than assumed in the future, and dewatering of aquifers around the mine may be greater than assumed from the models. Additionally, the amount of water entering the mine may be less than anticipated with attendant issues related to disposal.	WR2A
2006	So, I have to ask, What background values will the DNR use to compare future scenarios against each other? Will they use these compromised metal values or something else? Will the DNR only look at sulfate? Specific conductance? Dissolved heavy metals of interest? Or will the DNR choose to have consultants continue only to sample for "total" metals, thereby insuring false positives some of the time by virtue of human error and natural hydrology? Total analyses do not reflect what is dissolved in the water, but incorporate nonsystematic introduction of sediment and other debris during sampling and easily produce false-positives, leading to indications of contamination when it does not occur.	RFI
2006	Total and dissolved metals concentrations are apples and oranges. Total metals concentrations for major dissolved metals, calcium and magnesium, as well as iron and manganese may not be useful either for MCL comparison purposes for the same reason---they measure a combination of entrained sediment and what actually is dissolved in the water. Polymet compromised the ability to use the gathered background data for scientific comparison to aid in assessing potential future contamination by adhering only to the regulatory standards that use totals metals for all but a few of the metals of regulatory interest. This concern includes samples of ground water collected at the tailings basin area. Here too, there appear to be some violations of standards that may reflect not what is dissolved in the water, but what was stirred up into the water from the surrounding immobile soils as part of the sampling process. Perhaps the DNR insists that total analyses be used to characterize contamination, but if so, it is wrong, and Polymet's consultants needed to protect their client from unreasonable false positives. Nobody will drink dirty water, and my evaluation of much of the groundwater water quality data is that much of that sampled water was dirty from soil and rock flour particles stirred into the sample during the sampling process.	WR1E



*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
2006	Most of all, even EPA recognizes that MODFLOW models produce very limited results when water moves in fractured media at the scale of this investigation. (e.g. <a href="http://www.epa.gov/tio/tsp/download/2003_meeting_fall/final_modeling_panel.pdf">http://www.epa.gov/tio/tsp/download/2003_meeting_fall/final_modeling_panel.pdf</a> ). The MODFLOW approximations used by Polymet, while possibly reasonable with respect to quantities during mining, do not have sufficient robustness. with respect to directions and rates of groundwater flow before and after mining concludes, and the degree to which subsurface contamination might move to the Partridge River. The modeling discussion and reportage did not include what normally are considered minimal requirements for model reporting suggested in textbooks (e.g. Anderson and Woessner,1992; American Society of Testing Materials, available at: <a href="http://www.astm.org/Standards/D5718.htm">http://www.astm.org/Standards/D5718.htm</a> ). Any description of a groundwater or solute transport model should at least include: 1. maps showing boundary conditions for each layer and distribution of material properties; 2. plots of calibration data against modeled results, and calculation of root-mean squared and other statistical parameters to show model calibration results statistically; 3. water level maps for transient conditions for water table and underlying stratigraphic units (mining conditions, in the case of this study); 4. hydrogeologic cross sections at steady state and under transient conditions (if appropriate), including flow paths and seepage velocities; and 5. a sensitivity analysis to show how assumed parameters condition model results.	WR2E
2006	Polymet characterized surface water resources in the proposed mine area by synthesizing USGS, MPCA and other prior and existing data resources and then developing mathematical models to evaluate the extent to which leakage from the closed mine via ground water and potential pit overflow would impact the Partridge River; which already receives significant discharges from taconite mines. The USGS and other agencies have no stream gage near the proposed mine site, so Polymet used modeling approaches to estimate what streamflow might be. It would have been far more valuable had Polymet installed stream gages immediately upgradient and down-gradient of the proposed mine, and then made discharge measurements there and at former USGS sites. Then, the assumed relationships between river discharge at the mine and much further downgradient at the USGS site could have been statistically verified.	WR3J
2006	I agree with using empirical analog observations, looking at what water levels may have done elsewhere when a mine excavation occurs, as a check for what would be probable and whether MODFLOW results can be considered reasonable or not. Indeed, looking at what has happened at other mines can be very useful given the similarity of broad hydrogeologic settings in the Iron Range. But these analogs examples need to be explained in much further detail than found in the DEIS to argue convincingly that water level changes to shallow and bedrock waters around the proposed mine will be negligible (DEIS, Vol. I at 4.1- 61).	WR2A
2007	But, knowing the true flow path directions and if groundwater in bedrock flows under the river may be important. For example, if subsurface contaminated water bypasses the Partridge River, it could move north towards the larger regional lake hydrologic discharge zones within the Boundary Waters Wilderness. The volume of water and degree of contamination probably would be slight, but at least the plausibility of it happening should have been addressed for completeness.	WR2A

**Sender Last Name:** Kluempke

**Submission ID:** 253

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
266	I am writing to show my support of the Northmet project and am urging your Agency to support the recommendations of the draft EIS. The development of a precious metals mining industry is vital to the economy of Minnesota and especially to the economic future of Northern Minnesota. More importantly, the draft EIS indicates that the NorthMet project can be developed successfully while at the same time taking the needed precautions to minimize negative impacts on our environment. Our company has been engaged in the environmental engineering practice for more than 40 years and we are confident that the NorthMet project can be designed, constructed and operated in an environmentally safe manner. Additionally, the iron mining industry has been a significant economic driver in Northern Minnesota for more than 75 years, providing jobs to area families and enhancing the local tax base. The opportunity to diversify our mining industry to include precious metals mining indicates that mining can continue to contribute to our economy well in to the future. Another vital component to this economic initiative is that by generating and processing strategic metals here in Minnesota, we are able to reduce our dependence on importing these materials, and this is in the strategic best interests of the United States. Supporting the Northmet project is in our collective best interests and I urge the State and Federal Agencies involved to show their approval of this project.	EOO
<b>Sender Last Name:</b> Klug		<b>Submission ID:</b> 3307
3600	I was absolutely terrified and appalled to learn about this proposal, both because it would be a disaster to allow a precedent to be set by granting permits to these companies and because before this evening, I had no idea that this issue was even taking place. I grew up in Two Harbors and Duluth and am now going to college at Carleton College in Northfield. I know what's at stake here, what amazing beauty and resources other than these "precious" metals are contained in our area. I miss the waters of Northern Minnesota when I am not there, please do not allow them to be polluted with sulfuric acid and consider that there mines would empty quickly enough.	EOO,G7A
<b>Sender Last Name:</b> Knuth		<b>Submission ID:</b> 3168
712	After having done some reading regarding the type of mining proposed for Northern Minnesota, I urge that more time granted to look at the environmental impact and future costs incurred due to this type of mining.	PRO6
<b>Sender Last Name:</b> Koerbitz		<b>Submission ID:</b> 1082
1186	I would like to voice my support for the Polymet project and the Polymet EIS. I believe proper study has been conducted and proper mitigations are/will be put in place to adequately protect environment and the people of NE Minnesota. This project is important to the region, state and the nation and it provides good paying jobs in an economically depressed area.	EOO
<b>Sender Last Name:</b> Konze		<b>Submission ID:</b> 1950
2472	Follow Wisconsin lead - investigate before, not after. Remember taconite tailings in Lake Superior?	G6
<b>Sender Last Name:</b> Korte		<b>Submission ID:</b> 2579
448	The need for better information on existing pollution, the nature of wetlands, endangered species, and other resources that would be affected by the project.	WR1E,FM1,AQ4
688	Analysis of all of the impacts (air and water) of increased mercury in fish from the PolyMet project and other nearby pollution sources.	WI5,WE8

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
1145	The existing inadequate showing by PolyMet Company that their waste rock and tailings piles will not collapse and dump uncontrolled pollution into nearby waters, causing potentially catastrophic water pollution.	GT2
2214	The unacceptable prediction in the existing DEIS that water pollution from the proposed mine could possibly last 2,000 years.	WR1A
2215	The inadequate information in the DEIS regarding the scope and extent of potential pollution, including detailed information regarding water flow from the affected areas.	WR1A
2410	As the U.S. EPA suggested, making sure that financial assurances for the public are included in the EIS long before any permitting process gets underway.	PD4
2411	The absence of a detailed reclamation plan which is tied to the required financial assurances	PD3
2412	The failure to analyze the land that is going to be exchanged for Superior National Forest land to make this project possible.	PD1

**Sender Last Name:** Kosbiston

**Submission ID:** 1180

1295	Having worked construction and in the trades for my entire adult life, I totally understand the local support of the new and proposed mines in NE Minnesota. Well-paying jobs is an attractive option when you are struggling to keep your family afloat. However I am alarmed & deeply concerned about the certain compromises to the landscape and especially the water quality, with equally certain long-term negative effects for very short-term gains locally – with the vastly disproportionally larger profits flowing out of the country, and the industries proven track record of dodging the clean up costs.	G2A,G7B
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**Sender Last Name:** Koschak

**Submission ID:** 3663

1	This letter is in regards to the proposed PolyMet sulfide mining project proposed on 6,700 acres of public land in the Superior National Forest. Upon personal review of the draft DEIS it is my opinion as a resident of Minnesota that this project should absolutely not be allowed to proceed.	EOO
2	What proof does Polymet have that they can mine sulfide ores without environmental pollution? Have they mined sulfide ores in the past and not polluted? What is their track record and what assurances do we, as citizens of Minnesota, have that OUR environment will not be permanently damaged?	PD2
3	Polymet's own DEIS statement predicts violations of water quality from water running off waste rock piles for up to 2000 years (DEIS Table 4. 1-45). It also predicts that the West Pit will overflow at year 65, contaminating the Partridge River (Table 4. 1-64) which flows into the St. Louis River and then into Lake Superior. This water pollution contains mercury which negatively affects the fish population. Part of the DEIS statement includes that waste rock from the sulfide mine will be piled on old LTV waste sites, some of which have liners, and some don't. How can a company pile waste rock from the sulfide mine on top of taconite waste piles that are already polluting and call itself environmentally conscious? Please explain to me how the DNR will allow this type of water pollution? It is not a matter of if, but when and how bad the pollution will be according to the DEIS. How can the DNR allow a major polluter to operate	RF1,WR1E,WR3A,WR5A,G
4	methylation? Polymet proposes to use the existing taconite mine tailings basins for disposal of sulfide mine tailings, but the stability of these tailing basins has been a serious concern since the project was first proposed. The DEIS acknowledges the potential for basin structure failure and Polymet has failed to address the safety issues and indicated instead that "further design and analysis would occur during permitting" (4.13-2). How can a mining company receive a permit to sulfide mine when appropriate due diligence is not performed? Failure of these basins would result in serious and long-lasting contaminations. What measures are in place to prevent the basins from failing? What happens when they fail?	GT1,GT2

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
5	I have a couple of major concerns. I think the issue of the tailings basin is a big concern. I think the tailings basin itself is going to fail. There is no plan in place to save the environment once that tailing basin breaks loose. We've had that issue happen before, we had the pit up at Milepost 7 in Silver Bay that blew loose. We had the pit at Taconite Harbor that vacated how many millions of cubic feet of taconite tailings and that went across Highway 61, and we've waiting for an environmental disaster to happen in northern Minnesota again, so my concern is the -- I should say is the inaccuracies and poorly designed tailing basin that LTV Steel had that they plan on using; the liners, construction of the basin itself I think is inadequate. The boulders that they're going to be dumping from these massive 200-plus-ton trucks are going to rip through the liner and cause extensive damage to the liner.	EOO
5	Polymet's DEIS statement predicts that designated critical habitat for the protected species of the Canadian Lynx and the gray wolf will be destroyed. Deer habitat and travel corridors will be destroyed. The DEIS acknowledges that habitat will be lost for all animals and that there will be an increased risk of animal/vehicle collisions. Please explain how a federally protected animal such as the gray wolf should be allowed to lose critical habitat. Under the proposed land exchange, does the DNR come into possession of designated critical habitat for the protected species of the Canadian Lynx and the gray wolf? How does the DNR rationalize that this is a good decision for Minnesotans who pride themselves on the diverse environment in which they live?	WI1
6	Polymet proposes to destroy both directly and indirectly 1500 acres of wetland in the mining of sulfide ores. This would be the single biggest loss of wetlands in the history of the Army Corps of Engineers. Most of these wetlands are high-quality peatlands. The destruction of 1,000 acres of peatlands would result in a two percent increase in Minnesota's overall carbon dioxide emissions. Mr. Ahlness, please explain how you rationalize this destruction of our precious wetlands? Reports from the MN State Legislature and Governor Pawlenty call for the protection of peatlands for their ability to capture and secure carbon. How can this destruction be permitted? These wetlands cannot be replaced, so what are the other options? How can the Army Corps of Engineers allow this wetland destruction? How do we offset the two percent increase in carbon emissions?	WE2,WE4
7	The DEIS acknowledges pollution as fact. Who will pay for the cleanup of the pollution? What happens if PolyMet declares bankruptcy and cannot financially pay for any cleanup? Who is financially responsible for the cleanup – the taxpayers of Minnesota? The environmental cleanup costs should not fall on the citizens of Minnesota. If monies are not in place from PolyMet, than the project should not be allowed to proceed. If PolyMet, a foreign company, is allowed to reap the financial benefits of its proposed mine while ravaging the environment of Minnesota without penalty than that will be a travesty. What assurances do the taxpayers of Minnesota have that they will not be saddled with a cleanup bill?	PD4
8	4.7-1—"The region has traditionally supported various mining activities as well as logging on federal, state, county, industrial and private forest lands. Review of aerial photography and public records indicate that there are few noise sensitive areas or receptors such as residences, campgrounds, and national wilderness areas within the Project vicinity." What tests determined that noise won't be heard in the Boundary Waters 20 miles away? How do you determine effects of noise by sight rather than by sound (aerial photographs)? Was it determined that more noise is ok because there has traditionally been noise in the area? How does 24 hour a day noise affect the character of the land? This doesn't give credibility to the impacts on wildlife.	RF1,WI2,N1,N3,N4
11	I talked to the people at the meeting in Aurora last night and they had no plan in place to catch this water that's going to be exiting, they had no way to monitor it, so it's an intangible, so we need to address the water coming out of the tailings.	WR3A
12	The next big problem is the leaching that's going to come from the waste piles. The waste piles are the same thing, you take a 900-foot hole and you take 900 feet of earth, how many thousands of cubic yards, pile it up on top and you get the rain water leaching into that sulphur-based core and it's going to run off that pile and it's going to run right down into the Embarrass River and the Partridge River. There is no containment that can be designed and there's nothing that's been designed in the pilot plant in Hibbing, Minnesota, situated in the control lab atmosphere that's taking into account what the actual situation is going to happen, and this is a big concern of everybody. Everybody is concerned about clean water and what we're going to have to live with.	WR1C

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
13	Counsel for WaterLegacy. Furthermore, why does PolyMet’s DEIS not contain an alternative underground mine option?	ALT3
14	3-50. (3.2.1 No Action Alternative)—Tribal cooperating agencies disagree with the assumption that the proposed project would only result in social and economic benefits. The environmental impacts of the project on the 100 Mile Swamp, an undisturbed and very high quality wetland complex, would constitute a social impact. Furthermore, economic development that is not centered on heavy industry (tourism for example) would be adversely impacted by the project. How will these social and economic problems be dealt with: the social impact of the 100 Mile Swamp and the loss of tourism revenue to dependent businesses? The economic reality of Northeastern Minnesota clearly shows that the stable source of the economic engine is from non-mining jobs. According to Tom Powers from the University of Montana Economics Department, mining only represents 5% of the total personal income in Minnesota’s iron range counties.	ALT1,SE4
32	<b>SOCIOECONOMIC IMPACTS</b> • Weakness of a mining economy are not adequately addressed in the DEIS. As quoted from the Tom Powers report, “The Economic Role of Metal Mining in Minnesota”: Mining inevitably depletes economically viable ores, forcing mines to be abandoned. Usually the very process of mining, concentrating, and refining the metal ores creates relatively permanent environmental damage: huge open pits, massive waste piles, extensive settling ponds, heavy metal pollution, acid mine drainage, etc. These reduce the attractiveness of mined-over areas to new residents and businesses, making it difficult for mining areas to diversify their economies. • The advancement and possibility of PolyMet being permitted has destabilized the real estate market in areas of northeastern Minnesota where the MDNR has leased and offered for lease state mineral leases. People do not want to live near a sulfide mine and property values are already being affected by the possibility of PolyMet's approval. • The economic analysis of the DEIS must be rewritten to address the above concerns.	SE4
42	This is not the old “mining as usual” of the past, such as seen in iron ore or taconite mining. When compared to sulfide mining, iron ore and taconite mining is quite benign, yet has left plenty of environmental pollution problems that we, in Minnesota, are still dealing with. Sulfide or nonferrous mining poses serious environmental threats to water via acid mine drainage or AMD which is one of the worst mining related environmental problems. AMD typically occurs in sulfide mining operations where sulfide-bearing ore comes into contact with air and water. Sulfuric acid is produced and can then leach into other bodies of water and pollute entire water sheds. The PolyMet proposed project’s AMD will flow into the Partridge River joined with the Embarrass River, flows into the St. Louis River, and finally into Lake Superior---the cleanest of the Great Lakes.	WR3D
59	1) Too few public meetings There simply are too few public meetings in the state of Minnesota to adequately inform the public of this precedent-setting mining project. At both of the meetings held already, the public was sequestered because the expectation was that there would be too many people at the “public” meetings to be able to discuss openly, and have questions and answers given, as is the case in a NORMAL public meeting process. Procedures for the two “public” meetings were changed in response to your concerns over having too many people at the meetings. Obviously, on such a significant project, to be able to allow active participation by the public there should be more public meetings scheduled throughout the state, which would result in more manageable numbers of people at each of the meetings.	PRO6
60	2) Timing of the public meetings The Draft EIS, which came out in mid November, 2009 allows for a public comment period until February 3, 2010. The timeline and procedure for public study and review of the 1500+ page DEIS, as determined by the DNR and the Army Core of Engineers is utterly ridiculous. It took almost five years to create the DEIS. Could not the public of Minnesota have more than 100+ days to review it? The people of Minnesota are just now becoming aware of this massive issue.	PRO6
61	There are not sufficient paper copies of the document—most libraries in the northern cities and towns have not even been allocated one DEIS paper copy. Many people do not have access to a computer for the length of time it takes to read through this huge and complicated Draft EIS to learn about this precedent-setting project and express their opinions. Many people in outlying Minnesota do not have reliable computer service or do not have computer service at all.	PRO6

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
62	Experts have hardly had the chance to review the information and many members of the public are just now beginning to learn what sulfide mining is. Thus, the urgent need for additional public meetings after the New Year so that the public can become educated about the environmental impact of this type of mining, and to become informed enough to make up their own minds. Only two public meetings, both in the month of December, which is most inconvenient for many people is certainly not enough for this controversial landmark project.	PRO6
63	3) Location of the public meetings The location of the two public meetings was poorly designed. The need for public meetings in many locations is imperative instead of just one meeting in northern Minnesota in Aurora, and a single Twin Cities meeting in Blaine, which is remote from the population center. This review process set up by the DNR was designed to make it difficult, if not impossible, for effective public access to information and the opportunity of give oral comments.	PRO6
64	4) Format of the public meetings The entire public meeting process is flawed, by not soliciting public comments at the two meetings held in Aurora and in Blaine on this massive project. No public debate or open discussion was allowed. The public was deprived its right to having the opportunity to publicly	PRO6
65	voice their opinion and hear other people's opinions. Furthermore, hearing only from the consultant for the agencies on its own draft EIS is simply ridiculous. Then, adding "salt to the womb", let's be sequestered and made to listen to two politicians in Aurora and three politicians in Blaine promote their belief that the PolyMet project is the best thing since "sliced bread" for the state of Minnesota! This cannot be called a "Public Meeting."Both meetings were "a one-sided propaganda" meeting in favor of PolyMet and sulfide mining. It is my belief that some members of the public who only hear from the consulting firm for the mining company and the politicians promoting the DEIS will certainly be intimidated and will be reluctant to express concerns that are different from those in the DEIS. Interestingly, the following legislative officials: US Rep. Oberstar, US Senators Klobuchar and Franken, State Senators, Tomassone, Bakk and Saxhaug, and State Representatives Rukavian, Dill, Anzelc, and Sertich had all come out in support of the proposed mine prior to the public meetings.	PRO1,PRO6
66	1) Extend the comment DEIS period to at least the end of March, 2010, or later. The public needs this amount of time to read and understand the implications of the DEIS before the comment period is over.	PRO6
67	2) Schedule more meetings in January and February in Duluth, Rochester, Mankato, Brainerd, St. Paul, and other cities. This is the first ever proposed sulfide mine in Minnesota being considered for permitting---the people of Minnesota have the right to be informed.	PRO6
68	3) Let's get the "public" back into the public meeting. Operate as a public meeting with members of the public being able to speak into a microphone before a group and have their comments transcribed by a court reporter. (Instead of a one-on-one speech to a court reporter as in the Aurora and Blaine "public" meetings.) This is the standard procedure used for meetings involving environmental impact statements. By listening to and having the opportunity to respond to others at the meeting, the public becomes informed and more understanding of the very complex issues involved in the DEIS.	PRO6
69	4) Get rid of the politicians! Along with the consultant's opinions on the DEIS, let's get some balance into who gets to present. Other cooperating agencies who are formally involved in the process (the Tribes) should have a representative speak before the public. Furthermore, it is my belief that a representative of a formal environmental organization should also be allowed to speak at the public meetings, and share more fully the concerns that this new type of mining to Minnesota will have on the environment.	PRO1,PRO6
114	I just wanted to say that I am for clean water. I am against the mine operation starting in theAurora-Hoyt Lakes area. I think the environment should trump everything. I think clean watershould trump everything. It's a resource that cannot be renewed, once it's polluted, and I think that's what the mine will do. There is a lot of jobs at risk, obviously, but there is a lot of other avenues that I think we can take, other avenues such as industry, manufacturing, that would create jobs, rather than a mine, that's going to affect the environment, so that's it.	EOO,G7
125	And my concern is the impact of PolyMet and the water that is going to be exiting the plant and creating the sulphide issue that everybody's concerned about. This is not jobs, this is clean water; I am for clean water and I'm for preserving what we have.	G7

*Alphabetical by sender's first name*

<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
126	The State of Wisconsin has boycotted it, the State of South Dakota has boycotted it, why does Minnesota have to be a guinea pig for 400 jobs. After 20 years, 95 percent of the jobs that are going to be let -- are actually going to be gone and these people are going to leave the area, so we're going to have five percent of 400, 400 jobs and the environmental disaster that's going to happen here is just paramount, we cannot allow this. So as a citizen of northern Minnesota and the state of Minnesota, I am strongly against this until further studies have been done.	G1,G8,G12
127	The EIS that's been written is not up to the standards it should be and I think we need to take a strong look at this, 400 jobs is not worth it. We can stick to something that's more sustainable. We've got somebody that's going to get a job there 25 years old and they're going to work for 20 years and what happens then; unemployment. We can continue the situation that northern Minnesota has right now; uneducated kids finish school, high school, go get a job in the mine, running around with their truck and that's it, and that's it, what do they have, children, and then situations exist, it continues on and on and on, so we need to, as the State of Minnesota, evaluate this and stop the action right now and a no-action plan on this and let this thing lie. We don't need the minerals that bad. And that's it.	G1
134	My name is Kevin Koschak from Andover, Minnesota. And as far as the PolyMet proposal goes, I am against the creation of a sulphide mine in northeast Minnesota. I think that after reading the Draft EIS proposal, the admittance of PolyMet at this -- the tailings pile would leak and ground water will be compromised, whether it's in ten years or 20 years, they don't know. Our Great Lakes and Boundary Waters are our precious natural resources that the State of Minnesota promotes and hawks for tourism and generates billions of dollars to the state in tourism and revenue, and to see those areas possibly polluted would kill a viable tourism industry that as of now is supporting small towns such as Ely and all the other Iron Range facilities. As far as the Lake Superior tourism goes, if they had dead sea caused by sulphide waters that are polluting, killing fish, that would be a big black eye for the State of Minnesota all for the short-term economic gains of 400 jobs that most of which are not even going to be hired from in-state or locally in the Hoyt Lakes/Ely area, and I believe most of those jobs are going to be outsourced or they'll be brought in. I don't know, there's not many four-year graduates in geology that live in Ely, Minnesota, right now, so I think that a lot of those jobs are going to be filled from either the Canadian firm themselves or likewise. As far as the Canadian firm goes, I just don't think that Minnesota needs to be a guinea pig for a foreign firm to come in and decide to try, and I stress the word "try," to do this sort of mining in an environmentally responsible way. I think that it has never been proven to be done in any sort of an environmentally responsible way. Michigan has gotten some severe problems, as far as the Colorado River in Colorado is completely destroyed because of sulphide mining and all they're asking to do is put a different liner in for tailing and I don't think it's going to work. The State of Wisconsin has a moratorium on mining, this type of sulphide mining, and I believe Minnesota should have the same thing. I mean, we have only X amount of precious resources that we have left, I think we need to protect them. If we want to mine, I think the iron ore mining is great, that's a totally different animal, that's been wonderful to the northeastern portion of the state, and obviously in the country as well, with the iron ore exports and steel production, but this type of mining I think has got far too many economic consequences that could possibly wreak havoc to the Boundary Waters, which, you know, generates over a million visitors a year. And then Lake Superior, I just think it's just too much, in terms of environmental and tourism, you know, destruction, I think it does not add up to the fact that we're going to get 400 jobs that in the end are going to fizzle out in less than 20 years. Because progressively, according to the EIS, as there gets less and less rock to mine, you're going to have less and less people to do it, so these 400 jobs are going to be mostly short-term in the state of Minnesota and, in essence, the taxpayers are going to pick up the tab for the clean-up after that Canadian firm pulls out and calls it aday. That's what I have.	EOO,G1,G4A,G7A,G11,G1
362	I have grave concerns about the PolyMet copper sulfide-mining project because I firmly believe that our present clean water sources are in jeopardy if this project is permitted. Furthermore, the lives of those who depend upon these water sources will be negatively impacted into perpetuity.	G7
363	If approved, other mining companies such as the Franconia Minerals and Duluth Metals, also both Canadian companies, will be right behind seeking their permits to mine in Minnesota. These later two mines, if approved, would be mining at the doorstep of the Boundary Waters with their AMD flowing into Birch Lake, the entire Kawishiwi Watershed, into the BWCA and all the way to Hudson Bay.	G9

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
364	<p>The politicians do not want to allow the public to make their own decision on the DEIS. No, let's tell them [the public] what they should think and do. Let's allow the mining companies to continue to convince our legislative officials and politicians that sulfide mining is the best solution to solve the "jobs" problem for northern Minnesota. Note the following information from the book "The Buzzards Have Landed" by Laura Furtman (regarding the Flambeau Sulfide Mine in Ladysmith, WI): HOW MINING COMPANIES MAKE INROADS INTO A COMMUNITY A mining company makes inroads by: • Getting to know those people presumed to be the decision makers in the community. Mining officials will woo local leaders, become their friends and join the right churches and local clubs • Learning everything about the political arena affecting the area in which the mine is to be built. All levels of government will be infiltrated, including the township, county, city and state. None will be ignored. • Claiming its mine will bring jobs and prosperity to the area, even though such claims have not proven to be true in other mining towns. • Declaring that its project will be environmentally safe, even though there is not a single example of a sulfide ore mine anywhere in the world that has operated without polluting the water. • Using all forms of the media to spread its message. It will contact local newspapers and place advertisements. It will get on the local radio station and explain how its project is environmentally safe and will supply good jobs. It will arrange to broadcast information on the local television stations so people will be able to see how the mining company is willing to address the concerns of "regular guys" like you and me. Anaconda Mining Company is a good example of this. It actually owned daily papers, magazines and radio station in Montana where it mined. • Spreading many "gifts" around the community for this and that to prove what a "good neighbor" it is, even though these gifts are but a drop in the bucket for a multi-national corporation. • Sending its lawyers to sit down at the table with the local people and town officials to discuss and clear up any problems or "misunderstandings" about the mine. This is the company's way of convincing the doubters in the community of G-364 how safe the mine will be and how good it will be for the local economy. The officials will appear only too happy to explain everything to the local country bumpkins. (Franconia Metals is an expert on above method. It provides a box lunch with its tour of the barge that sat for two summers on the water of Birch Lake, along with a tour to show its drill rigs, plus, a slide show with much "information" on its plans for sulfide mining and how wonderful it will all be. I know, because I was "honored" to be invited to one of its promotional programs.) • Discrediting the large numbers of people in the community who are opposed to the mine, claiming they are just a "small group of uninformed troublemakers." The company also will claim these people are "outsiders," even though the mining company is the real outsider and those who are opposed to the project live right there. • Sitting in on the drafting of any new rules or laws that will govern the mining project and spending lots of money on lobbying to weaken mining regulations and other environmental laws." I think that it is obvious that the mining companies have influenced our legislative officials, who in turn are influencing the people of Minnesota to believe that sulfide mining will be the panacea for all of our job and economic woes before the public has sufficient opportunity to learn more about this type of environmentally dangerous mining, and make up their own minds.</p>	EOO
481	<p>3. I have read that the air emissions from this potential plant will affect the air quality (haze) of the BWCA on 36 days. How well will the emissions be regulated? What will the tolerances be?</p>	AQ5
505	<p>S-11- under Cumulative Effects—"General increase in air emissions, however, no significant effect on regional air quality." What determines whether an effect is significant?</p>	AQ4
506	<p>4.4-10—"The Project would generate approximately 970 (948 vehicle and 22 rail) trips per day, totaling about 3,989 miles, between the Mine and Plant Sites. ..An additional 3,930 miles per day of vehicular traffic are expected within the Mine Site itself, primarily to haul ore to rail siding and waste rock to the stockpiles." Are these miles included in carbon and particulate emissions for the mining operation? What is the economic liability of so heavily relying on equipment that uses expensive fuels while emitting pollutants that contribute to global warming and haze?</p>	G8C,AQ3



*Alphabetical by sender's first name*

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507	4.6-32—However, while energy use is reduced by one-half, greenhouse gas emissions do not decline per unit of production from what would be expected. . .principally because of the large load of non-energy process emissions associated with hydro processing.” How could a cap and trade policy or carbon tax affect the economic viability of this plant? Since this process is based upon a small pilot study done in Canada, what is the economic liability of this plant not operating in an economically efficient of a way as proposed? The hydrometallurgical plant will take approximately two years to construct, after PolyMet comes up with the money to start construction. PolyMet earlier asked for the option of hauling crushed rock from the site, prior to plant construction. Where is this addressed in the DEIS? What is the economic liability of transporting crushed rock rather than semi-processed metals? Why isn’t the cost comparative stated in this DEIS? Would copper be able to be electroplated on site without going through the autoclave process? How would the copper be separated from the ore in order to do so? How would the resulting acid mine drainage trail, especially that of the rail line, be addressed?	PD4,PD7,PD8,AQ3,AQ4
508	4.6-32—However, while energy use is reduced by one-half, greenhouse gas emissions do not decline per unit of production from what would be expected. . .principally because of the large load of non-energy process emissions associated with hydro processing.” How could a cap and trade policy or carbon tax affect the economic viability of this plant? Since this process is based upon a small pilot study done in Canada, what is the economic liability of this plant not operating in an economically efficient of a way as proposed? The hydrometallurgical plant will take approximately two years to construct, after PolyMet comes up with the money to start construction. PolyMet earlier asked for the option of hauling crushed rock from the site, prior to plant construction. Where is this addressed in the DEIS? What is the economic liability of transporting crushed rock rather than semi-processed metals? Why isn’t the cost comparative stated in this DEIS? Would copper be able to be electroplated on site without going through the autoclave process? How would the copper be separated from the ore in order to do so? How would the resulting acid mine drainage trail, especially that of the rail line, be addressed?	PD4,PD7,PD8
510	The project could also increase air pollution that results in regional haze and create a risk of perpetual pollution. The PolyMet DEIS states that PolyMet would have no significant effect on regional air quality. This conclusion is taken in isolation. Cumulative effects of other proposed mining must be included in order to make the DEIS adequate.	AQ4B
511	Acid rain from the autoclave/hydromet plant must be taken in a cumulative context with sulfates and acid leaching into the ground water as part of the DEIS. PolyMet’s contribution to Regional Haze in the Class 1 airs of the BWCAW and Voyageurs National Park, have not been adequately addressed in the DEIS. PolyMet’s ore bodies potential to disperse toxic asbestiform fibers across northeastern Minnesota has not been adequately addressed. How will you address these concerns regarding air pollution?	AQ4C,AQ4D,AQ9
1021	4.6-33—“This additional mitigation of wetland types other than Type 8 (open and coniferous bog) would contribute to compensating for the Project’s impacts on Type 8 wetlands.” Which agency, and under what laws and rules was it determined that it is ok to lose open and coniferous bogs as long as they are replaced by other types of wetlands? How was it determined that wetland replacement for PolyMet could be made out of the county and out of the watershed?	WE3
1070	4.4-9—“Consultation between the USACE and the USFWS regarding the potential effects on federally –listed species is currently ongoing.” Will this go on until those species are extinct? How will this be reported in the FEIS?	RFI,WI1
1072	4.7-7—“Impacts from blasting are expected to be minimal.” How do these impacts affect wildlife? What studies determined use of the word “minimal”?	RFI
1195	7. Make sure that the potential waste rock and tailings piles will not collapse and dump uncontrolled pollution into nearby waters, creating pollution that will last for many years.	GT2
1292	3. How will PolyMet change the rubber liner that is proposed to be underneath the newly constructed tailings pond? How will they change the liner under the 20+ story high stripping pile? It is obvious that any sharp edge of even the smallest overburden will damage, if not ruin, the rubber liner.	GT1

*Alphabetical by sender's first name*

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1293	3-34—"LTVSMC coarse tailings layer would be placed to create the covered surface on which vegetation could be sustained." How stable are coarse tailings as a foundation?	RFI
1294	It is vitally necessary to require the PolyMet Company to show that its waste rock and tailings piles won't collapse and dump uncontrolled pollution into nearby waters and that they will not create water pollution that lasts for hundreds or thousands of years. I understand that the water leaching from waste rock piles at the site is expected to exceed water quality standards for up to 2,000 years. This is unacceptable to me. It is unreasonable to expect that mining companies will be able to maintain water treatment facilities for that amount of time, and it is an unfair to future generations of taxpayers to pay for the reclamation and clean up of this faulty project.	PD2,PD3,PD6,GT2
1733	6. Are there potential dangers to humans, wildlife, aquatic life and vegetation that could destroy or reduce them? I would not like to see anyone contract diseases from sulfides.	FM1
2000	Could the State anticipate everything? No. But with adaptive management approaches, at least the State, the public, and the mining company could all feel comfortable with the process. How to define the "triggers" that would lead to changing activities or remediation strategies would need to be determined in a fair and equitable manner. I would recommend a clear statistical approach to document trends in water quality in the Partridge River post mining. Given the inherent uncertainty in both the hydrology and geochemistry, there need to be clear contingency plans upfront before any surprises emerge after the mine is permitted.	WR1A
2000	For example, provisions could be put into place in case the water quality of the Partridge River should systematically change to exceed MCLS that could be attributed to closed mine discharge. I note what looks to be the makings of a reasonable monitoring approach in place (DEIS, Vol. I, Table 3.1.S.13-C), but some modification related to solutes and hydrology would be appropriate.	WR1A
2000	I think a different regulatory approach based on adaptive management should be considered by the DNR. In an adaptive management approach, water quality, groundwater levels, and fluid discharges would be monitored sufficiently to formally trigger remedial changes during the mining activity and thereafter.	WR1E
2001	This conclusion probably is correct, although it would be more compelling had the modeling efforts been done clearer and conforming to standard practice.	WR1E
2001	4. Polymet insufficiently characterized how water leaking from the present and future tailings ponds may carry potential contaminants north to the Embarrass River. The hydrologic conditions caused by tailings ponds have been present for many years and offer a unique opportunity to directly evaluate important contaminant transport properties at the proper distance (scale) along subsurface pathways to the river prior to mine opening. Polymet chose not to do this, but to develop models and other methods to infer what might happen. The DNR should insist that Polymet directly take advantage of this opportunity and install a series of shallow piezometer nests (and water table monitoring wells) along appropriate transects from the existing tailings pond, and from these, determine flow directions, characterize changes in ground water quality and characterize material properties governing solute transport.	WR2A,WR2E
2001	As a result of these statements, the tenor of the public meeting was changed and, for me, the integrity of the process, which was ostensibly meant to provide an unbiased presentation of information regarding the environmental review process and a summary of the information in the DEIS, was called into question.	PRO6

*Alphabetical by sender's first name*

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2001	I bring these philosophical points up to put my review into context. The DNR and Polymet layered deterministic mathematical model on top of deterministic model in their evaluation of future hydrogeochemistry and fate and transport of dissolved substances in water at the mine site. Each model had some, but insufficient data, to fully characterize what it tried to do. But, without sufficient data to calibrate (match) on, these and other models cannot arrive to compelling "right" answers, only approximations of what might happen within a factor or two, at best. The properties of ground water and geochemical systems, as water moves through them, notoriously change spatially and with flow-path distance (e.g. hydraulic conductivity, retardation coefficients, interconnected porosity in fractured rock; Allison and Allison, 2005; Neuman, 1990; SchulzeMakuch et al. 1999; Schulze-Makuch, 2005). Indeed, the large range in natural variability of material properties of porous media and aspects of water-rock chemical reactions are such that models can be forced to mimic field data used to match modeled results by changing many combinations of assumptions.	WR2E
2001	Recognizing the difficulties of accurately projecting the environmental impacts from a mining operation of this nature, I strongly recommend that the DNR and other appropriate agencies develop an adaptive management plan to address closure of the mine. Parts of this adaptive plan would include: a. Developing a scientifically robust program of water quality monitoring in the Embarrass and Partridge Rivers adjacent to pit. This monitoring program would be tied to scientifically well-known changes in water chemistry caused by seasonal variations in river discharge (e.g. rising water levels at snowmelt, low flow in September), rather than some kind of rigid temporal monitoring protocol; b. Developing statistical methods to characterize changing trends in water quality over time (not occasional violations of State maximum concentration levels); and c. Developing remediation strategies should unexpected but plausible water quality changes occur. For example, should unanticipated post-closure AMD cause the pH of the Partridge River to drop below acceptable levels for some environmental receptor, how would this change be handled locally before subsequent dilution and mixing downstream ameliorates the problem at a regional scale?	WR2E,WR1E,EOO
2001	a. The DEIS provided inadequate documentation of the 3-D groundwater modeling before and during the mine operation to allow a proper review of the modeling effort, including the documentation of the solute transport properties; dispersivity, and effective porosity, that affect how contaminants migrate. I found no statistical sensitivity analysis, no maps prepared of water table or potentiometric surface drawdown over time at the mine, and no hydrogeologic cross sections showing flow paths and ground water flow velocities. I refer the DNR to ASTM (2000) for guidance, or any textbook on groundwater modeling. I recommend that DNR obtain and present the fundamental materials used to document a groundwater model. Without this documentation, the validity of the modeling effort cannot be determined.	WR2E

*Alphabetical by sender's first name*

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2001	who lives on Birch Lake in the Superior National Forest. I have grave concerns about the PolyMet NorthMet mining project Draft Environmental Impact Statement (DEIS) proposed on 6,700 acres of public land in the Superior National Forest, not only for the safety of the proposed project, but for its potential impact on Minnesota's natural resources, and the future of its present sustainable economy. I have not taken this proposed project lightly, as I firmly believe it is a dangerous, unprecedented "mining experiment" in water-rich northern Minnesota, where this type of mining has never before occurred. I have spent many hours studying the enormous amount of information included in the DEIS and on the internet related to the danger of sulfide mining, and the multitude of disasters that have occurred in other states and other countries who have done hard-rock mining. It does not come without serious environmental consequences that every citizen in Minnesota has a right to know about since we all depend upon our water sources for life itself. The short amount of time since the release of the DEIS for PolyMet has NOT allowed sufficient time for serious study by Minnesota's citizens, and proper public input. Right now Americans are facing a not only dwindling water supply throughout our country, but a water crisis. "In the southeast, Georgia, Florida and Alabama are slugging it out in federal court over access to the waters of Lake Lanier outside Atlanta. In the Midwest, states around the Great Lakes have signed an alliance, telling everyone else to keep their hands off Great Lakes water. There is a growing gap between our demand and supply of water." CBS Reports: Where America Stands: January 8, 2010, Mark Strassman. The decisions "the powers that be" make now will affect Minnesota's water supply for the generations to come. The grave decision to even consider giving a permit to allow a proven dangerous type of mining that will pollute and destroy our fragile waters in our state is unfathomable. Our present life style is permitting pesticides, herbicides, pharmaceuticals, plastics and a myriad of industrial chemicals to end up in our water supply. These are believed to be one of, if not the cause of, rapid increases in asthma, Alzheimer's, youth behavioral problems, cancer, autism, and Parkinson's diseases. What more do we need to know about that connection? We cannot afford any further degradation of our water supply and should be doing all that we can to improve it, but we are not. Instead, our politicians have decided that we can tolerate a little pollution of our waters, within regulations (regulations that equal a permit to pollute), for the politically expedient and popular JOBS they promise. Take a look at the pollution on both coasts, The Chesapeake Bay and the Duwamish River in Seattle in "Poisoned Waters" <a href="http://www.pbs.org/wgbh/pages/frontline/poisonedwaters/view/">http://www.pbs.org/wgbh/pages/frontline/poisonedwaters/view/</a> A Boeing environmental engineer stated that he didn't think we should expect to ever again subsistence fish, as the Native Americans attempt to do, in the Duwamish River currently a Federal Mega Fund Site. It seems once we create pollution we cannot clean it up. Minnesota environmental review law provides: Minn. Stat. 116D.04(6). "No state action significantly affecting the quality of the environment shall be allowed, nor shall any permit for natural resources management and development be granted, where such action or permit has caused or is likely to cause pollution, impairment, or destruction of the air, water, land or other natural resources located within the state, so long as there is a feasible and prudent alternative consistent with the reasonable requirements of the public health, safety, and welfare and the state's paramount concern for the protection of its air, water, land and other natural resources from pollution, impairment, or destruction. Economic considerations alone shall not justify such conduct". Both the Indian tribes and the United States	G2A
2002	The DEIS does not adequately address loss of habitat or mining impact on threatened species, including that of lynx, wolves and rapidly diminishing moose populations. Wildlife corridors will be impacted if PolyMet is permitted and the effect that past and future mining projects, including associated roads, etc, has not been adequately addressed in the DEIS.	WI2,WI5
2002	The DEIS does not address the balance within an ecosystem between predator and prey. It does not address bird species and cumulative impacts on habitat of migrational species.	WI2
2002	The DEIS does not address the loss of Superior National Forest land or the legal restrictions against strip mining within Superior National Forest	PD1
2002	The wetlands (peat lands) at PolyMet's mine site have been identified as worthy of protection by the USFS and DNR. The DEIS is inadequate in not addressing this issue.	WE1,WE2

*Alphabetical by sender's first name*

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2002	The DEIS allows the loss of wetlands in St. Louis County and the St. Louis River watershed, and the loss of open and coniferous bogs. The wetlands would be mitigated in Aitkin County, which is in the Mississippi River watershed. (This does not help St. Louis County's loss of wetlands!) This loss of wetlands goes against the Wetland Conservation Act. PolyMet's wetland mitigation plan is inadequate. Most of the wetlands that will be impacted at the mine site are peat lands. Peat lands have been identified as one of the best terrestrial environments for sequestering carbon, a contributor to global warming.	WE3
2002	The loss of 1200 acres of wetlands will have an impact on the local climate, due to destruction of the carbon sequestering ability of wetlands. The DEIS is inadequate in that it does not address how PolyMet's increased greenhouse gas emissions will affect the Arrowhead. The DEIS acknowledges that "project facilities and operations would result in additional greenhouse gas (GHG) emissions in the Arrowhead region" (S-10)	AQ3
2003	Acid rain from the autoclave/hydromet plant must be taken in a cumulative context with sulfates and acid leaching into the ground water as part of the DEIS.	AQ4D
2003	The PolyMet DEIS states that PolyMet would have no significant effect on regional air quality. This conclusion is taken in isolation. Cumulative effects of other proposed mining must be included in order to make the DEIS adequate.	AQ4B
2003	PolyMet's contribution to Regional Haze in the Class 1 airs of the BWCAW and Voyageurs National Park, have not been adequately addressed in the DEIS.	AQ9
2003	PolyMet's ore bodies potential to disperse toxic asbestiform fibers across northeastern Minnesota has not been adequately addressed	AQ4C
2004	Weakness of a mining economy are not adequately addressed in the DEIS. As quoted from the Tom Powers report, "The Economic Role of Metal Mining in Minnesota": Mining inevitably depletes economically viable ores, forcing mines to be abandoned. Usually the very process of mining, concentrating, and refining the metal ores creates relatively permanent environmental damage: huge open pits, massive waste piles, extensive settling ponds, heavy metal pollution, acid mine drainage, etc. These reduce the attractiveness of mined-over areas to new residents and businesses, making it difficult for mining areas to diversify their economies.	SE3
2004	It would have been appropriate had Polymet provided an analogy where this approach has worked.	EOO

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2004	<p>The PolyMet “NorthMet” copper-nickel strip mine project is proposed to be sited on approximately 6,700 acres of United States Forest Service lands in the Superior National Forest. Pursuant to law, the project depends on the completion of a successful land exchange of Superior National Forest lands for non-federal lands. (PDEIS), p. 1-3. The proposed land exchange tracts and the characteristics of such land are not described in the DEIS and have not yet been publicly disclosed. Across Minnesota, there are dozens of applications for permits to prospect for nonferrous metals. Understanding land exchange and mineral rights is critical for the PolyMet Project and for future proposed strip mine development. The need for a land exchange prior to permitting of the PolyMet strip mine project must be transparent to the public and the DEIS, for the PolyMet project must include an analysis of the environmental impacts of the land transfer, including potential impacts on tribal rights. This precludes any possible permitting of the PolyMet DEIS as it stands now. A. PolyMet reserved mineral rights do not support strip mining on Superior Forest Land. PolyMet proposes to develop a copper-sulfide strip mining operation located primarily on Superior National Forest Lands. Although PolyMet has claimed that the mineral rights “reserved” in its 1935 deed authorize mining in any form, the U.S. Forest Service has maintained that the deed does not permit strip mining, so PolyMet must buy land to exchange before obtaining permits for the NorthMet mining project. The analysis conducted by the U.S. Forest Service is consistent with prevailing law. Strip mining necessarily entails massive removal of soil and plant life to access underground minerals. This results in irretrievable loss to the environment as well as a fundamental change in forest land use. Prepared by Bride Seifert, William Mitchell Law School, Intern for WaterLegacy; Paula Maccabee, Counsel for WaterLegacy. Furthermore, why does PolyMet’s DEIS not contain an alternative underground mine option? B. Land exchange process requires equal value and environmental review. In order for PolyMet to purchase Superior National Forest land, a land exchange needs to occur. PDEIS, p. 3-1. Under The Federal Land Policy and Management Act of 1976 § 206, 43 U.S.C. §1716, lands exchanged must be of equal value, in the public interest and in line with the forest land and resource management plans. Public interest assessment examines the needs of State and local community, looking at the economy, recreation, fish and wildlife as well as food, fiber and minerals. 43 U.S.C. § 1716(a). Environmental concerns are clearly included. A critical first step in a public lands exchange is the public interest determination. No land exchange can take place unless it is in the public interest. The public interest determination considers the needs of State and local residents, fish and wildlife habitats, wilderness and recreation values, economic interests and cultural resources, and watershed issues. 36 C.F.R. § 254.3(1). C. Environmental Review – National Environmental Policy Act. The National Environmental Policy Act (NEPA) calls for the preparation of an Environmental Impact Statement (EIS) for any Federal activity that will have a significant impact on the environment. It is clear that the land exchange proposed for the PolyMet strip mine, which would involve approximately 6,700 acres of Superior National Forest land, will require an EIS. Tribal lands and rights will be impacted, with potential environmental justice, as well as Treaty rights implications. Wildlife and wetlands, including pristine areas, would be acquired by PolyMet and disrupted or degraded to develop the NorthMet strip mine and processing facility. Conclusion. Before the PolyMet NorthMet project could proceed, the PolyMet Company would need to find approximately 6,700 acres of land to exchange for the Superior National Forest lands on which the strip m</p>	PRO2,PRO4,PD1,PD3,PD8
2005	<p>The advancement and possibility of PolyMet being permitted has destabilized the real estate market in areas of northeastern Minnesota where the MDNR has leased and offered for lease state mineral leases. People do not want to live near a sulfide mine and property values are already being affected by the possibility of PolyMet's approval.</p>	SE4
2005	<p>I have read most of the Polymet documents and the studies done and their conclusions fall within a plausible range of what has been reported or expected.</p>	EOO
2006	<p>PolyMet’s DEIS is based upon PolyMet using 1/3 of its plant capacity, as purchased from LTVSMC /Cleveland Cliffs. Excess capacity is planned to be utilized by neighboring Teck Cominco, Franconia, Kennecott and Duluth Metals. The Excess Capacity of PolyMet's processing plant is not addressed in the DEIS. The PolyMet DEIS is inadequate in not allowing for public knowledge or participation in the discussion of the creation of a sulfide mining district in the Arrowhead Region of Minnesota.</p>	G9

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2006	The DEIS is remiss in considering the potential impacts of sulfide mining within the Arrowhead Region. The USFS has begun an EIS for Federal Hardrock Minerals Prospecting Permits Project for the Superior National forest. The DNR continues to sell exploratory leases to companies exploring the Duluth Complex of mineralization. Duluth Metals is advertising its Nokomis deposit of copper-nickel-platinum-palladium-gold minerals on its website. The Nokomis deposit is located alongside the Boundary Waters Canoe Area. Franconia Minerals is advertising its Birch Lake, Maturi and Spruce Roads deposits, all within the Boundary Waters Canoe Area watershed. The PolyMet DEIS is inadequate in addressing PolyMet as an isolated copper-nickel mining project.	G8C
2006	Cumulative impacts must address the loss of revenue to the Boundary Waters Canoe Area Wilderness and Superior National Forest tourist industry as part of a sulfide mining district	SE4
2006	The economic analysis of the DEIS must be rewritten to address the above concerns. [see comments 20-21 from this letter]	EOO
2007	At the least, sufficient piezometer nests needed to be installed to determine both the vertical gradients between surficial aquifers and underlying bedrock aquifers, and the extent to which assumptions on isotropic conditions were valid for bedrock aquifers. Without this information, the degree to which the Partridge River could receive future closed mine waste water and whether potential contamination by-passes this river to parts unknown cannot be determined. Perhaps Polymet has this kind of data among the observation wells, but if so, it needs to be presented in a manner easy to review.	WR1E
2007	But using the AMAX stock pile results as a benchmark for the Polymet mine ore, having far less sulfide, seems the prudent and wise approach. Based largely on that, Polymet argues that there should be little, if any, environmental problem with respect to contamination of surface waters at the NorthMet facility closed pits and tailings basin, and probably ground water as well from AMD. I think this conclusion may be right, but to invoke some measure of the precautionary principle, I think a bit more effort needs to be expended as discussed above.	WR1E
2007	I do understand that the proposed PolyMet mine is not in the Boundary Waters watershed. Water from the proposed PolyMet mine (and pollution) would flow through the Embarrass and Partridge Rivers into the St. Louis River, and ultimately Lake Superior. Pollution in those waters is unacceptable; the mine would also set serious precedents for future proposals and all interest, after PolyMet, is focused squarely in the BWCAW watershed.	G7A
2007	The DNR 's exploratory leasing is opening up the entire Arrowhead to become a sulfide mining district. An EIS needs to be completed on the mineralization of the entire Duluth Complex prior to the permitting of any one project.	PRO4
2007	As the owner of both a resort facility and a Boundary Waters canoe outfitting business since 1976, (and it has been in our Koschak family since 1944), I find it unbelievable that the DNR and the Corp of Engineers, have the sole power to determine if northeastern Minnesota will exchange its present sustainable tourism industry (a billion dollar industry— <a href="http://www.exploreminnesota.com">www.exploreminnesota.com</a> ) for a “non-sustainable” sulfide mine (and possible sulfide mining district) that will destroy our natural resources and forever more alter the incredible beauty of the lakes region of northeastern Minnesota for the sake of PolyMet’s 400 short term jobs, and additional spin off jobs for a lifespan of just 20 years. The tourism industry of 34 Minnesota contributes substantially to the tax base-... “Unlike US Steel which paid precious little in property taxes on its 3,000 acres...” Timberjay Newspaper, January, 21, 2010. The questions for you to evaluate are: Is this really what we want for this part of our state? Do we want to forever more change surrounding forests and wetlands as they are today? To no longer count on clean water? To deal a fatal blow to the sustainable economic base of this area? Timberjay Newspaper Editorial, January 21, 2010 “Don’t for a minute discount the value of tourism, as some local officials are often quick to do. Over the past few years, the area’s timber industry has all but collapsed and area mines went through extended layoffs that may not be over yet. Through it all, tourism has held surprisingly steady. It’s been the one leg of our timber, tourism and taconite economic stool that didn’t go wobbly on us when the broader economy went south. Tourism is a sustainable, long term industry for our area. It may not pay the wages of the mining industry, but unlike mining, it doesn’t run out and it doesn’t come with a long list of environmental ills.”	PD1,AQ4B,AQ4D

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2007	But, at the least, Polymet needed to obtain or present the limited data it could get to use it for maximum value in interpreting and evaluating its modeling efforts.	WR1E
2008	The stochastic modeling conducted by Polymet did provide calculated frequency distributions of results, and even "confidence levels" and "probabilities" of which combinations of geochemical and hydrological factors related to transport and reaction can produce common results. But what does this mean? I think it gives no more confidence than back-of-the-envelope calculations might, given all the uncertainty.	EOO
2008	Sufficient piezometers needed to be installed in separate bedrock units to get a sense for hydraulic continuity to the Partridge River, and across the mine site in each bedrock unit considered a hydrogeologic unit. Perhaps the bedrock aquifers are partitioned into small compartments, isolated from each other, because of fractures. If so, then water levels within different parts of a single bedrock unit, say the Duluth Complex, would be hard to evaluate because they would not show a clear trend.	WR2A
2008	Some piezometers were needed in deep formations adjacent to the Partridge River to determine the extent of deep underflow and surface water-groundwater interactions. For example, groundwater chemistry optimally should have been obtained seasonally (if it was, it should be presented as such, graphically, etc.) to see the extent to which snowmelt dilution occurred at depth and if seasonal hydrographs of groundwater elevations agreed with the dilution pulse.	WR2A
2008	These hydrographs, if the data are there, should be prepared to directly calculate estimated recharge rates through the bedrock and surficial materials rather than using estimates from modeling and produce - as Polymet has done - which led to a recharge rate akin to what I see in the arid west. With respect to recharge, the opinion by the tribal cooperating agencies that no recharge can occur to saturated soil near the tailings pond is wrong (DEIS, Vol. I at 4.1-6). Recharge depends on the ground water flow rate horizontally and vertically, and where the precipitation falls. Even peatland ground water is replenished from rain, although though some wetlands have soils with standing water on them in places.	WR2A
2008	Alternatively, Polymet can use analogy to existing mines that have been around for along time to estimate what ground water might do when the mine is opened. It seems unreasonable to me to think that groundwater discharging from the Duluth Complex and Virginia Formations will occur at significantly larger rates than has discharged to deep mines from rocks used for taconite. These metasedimentary rocks, because of bedding planes, would yield more water than fractures in a granite-like rock. However, the discussion of such analogy, and why it would generally apply to the NorthMet site, needs to be very clear, not just citation of an email by Adams and Liljegen (2009).	WR2F
2008	5. Having said the above, Polymet's comparison of their proposed mine to other mines (particularly in their geochemical analysis) does suggest that little acid mine drainage (AMD) should occur from the mine site or tailings basin, assuming that the ore quality and metal concentrations in waste rock will be as presented, and sub-aqueous disposal of it does not lead to unusual conditions of sulfide oxidation. Nevertheless, I think that the DNR should apply the precautionary principle, given the a priori failure of predicting the long-term extent of AMD from many other copper and other heavy metal mines, despite best intentions.	WR1A
2008	The DEIS does not address accumulation of toxic metals in wildlife and fish species used as game.	WI3,FM1
2009	Contaminated discharge from waste rock piles. Water from waste rock pile swill be polluted for up to 2,000 years (DEIS, Table 4.1-45)	WR1E



*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
2009	Any failure of this basin to hold its contents would result in long-lasting and serious contamination. PolyMet should complete a stability analysis of the basin and devise an acceptable design before being able to proceed with the evaluation of this project. The following was announced on January 25, 2010 related to this huge problem: "Cliffs Cited for Extensive Minnesota Iron Mining Pollution: January 25, 2010" "Three groups today announced their intent to file a lawsuit against Cliffs Erie, a subsidiary of Cliffs Natural Resources, for ongoing water pollution from previous taconite iron mining at three sites on Minnesota's Iron Range. PolyMet Mining Co. plans to utilize two of the sites in order to dispose of wastes from its proposed metallic-sulfide NorthMet project. As part of a purchase agreement, Cliffs would maintain a roughly 7% stake in the project. The other Cliffs site, at the old Dunka Mine, is closer to Franconia Minerals and Duluth Metals' proposed sulfide projects. A news release issued by the Center for Biological Diversity noted that, "according to Cliffs Erie's own monitoring reports, there are numerous ongoing violations of water-quality laws relating to management of the former LTV tailings basin. PolyMet's proposal for its copper-nickel mine is to pile its own tailings waste on top of those from a former taconite mine that are still polluting." The Center for Biological Diversity, Save Lake Superior Association, and the Indigenous Environmental Network filed a formal notice letter today that acts as a "prerequisite to filing a citizen enforcement action under the Clean Water Act." The Save Lake Superior Association, a grassroots citizen group, proved instrumental in holding the Reserve Mining Co. to account for dumping iron mining waste into Lake Superior from 1955 into the 1970s. The pollution introduced asbestos-like material into the lake and harmed fishing in the area. "Before the state even considers the approval of a new wave of mining in northeastern Minnesota, it should first require the mining companies to clean up the pollution from past taconite mines," said Marc Fink, an attorney with the Center for Biological Diversity. "As we all learned as kids, you should clean up one mess before making another one." The LTV basin, located six miles north of Hoyt Lakes, was used for taconite tailings from the 1950s until 2001. The unlined basin is the source of numerous seeps and discharges of polluted wastewater into groundwater and surface waters, which eventually reach the Embarrass River. For the proposed NorthMet mine, PolyMet proposes to process more than 225 million tons of ore at the LTV processing facility, and use the same LTV tailings basin already known to be leaking. "While past mining has already polluted these waters, the proposed heavy metals mining would bring severe new threats of pollution to these waters, which ultimately flow into Lake Superior at the Duluth harbor," said Le Lind of the Save Lake Superior Association. "This new threat includes sulfuric acid runoff and higher levels of mercury in waters that are already impaired." <a href="http://lakesuperiorminingnews.net">http://lakesuperiorminingnews.net</a>	GT2
2009	I do not think NorthMet should meaningfully affect the environment with regard to the hydrology and geochemical impacts from the mine except immediately adjacent to it during operation and thereafter, assuming Polymet does what they propose. I am not saying there will be no impacts. In any major industrial activity, local mishaps occur, occasional spills, breaks and so on. But I see no reason why significant, regional, environmental problems should occur related to either geochemistry or hydrology. From surface area and sulfide concentrations alone, the water quality at the mine site after closure cannot be similar to what occurs in ore stockpiles and fluids in the stockpiles, nor can it be similar to that found in open pit mines elsewhere with richer ore. During operation, the leachate from the stock piles will be processed to remove metals and other solutes prior to later use. Indeed, some stockpiles will remain, capped, and continue to produce leachate for many years. But the probability of a catastrophic stockpile failure that would affect the Partridge River or other waters seems very improbable to me. There remains the question of the potential for groundwater flowpaths under the Partridge River. However, I suspect that this potential is low, but it can be evaluated with a few more sites for instrumentation should the decision be made to do so.	EOO
2009	Habitat for wood turtles is not addressed.	WI2
2009	The DEIS does not address loss of wild rice and berries as food crops, or whether plants uptake toxic metals.	PRO4,PD1,PD3
2009	The DEIS does adequately address the instability of the LTCSCM tailings basin, especially considering the large amount of tailings that would be added from mining a less than 1% ore body.	GT2

*Alphabetical by sender's first name*

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2010	Determination of the amount of financial assurance that will be required should be included in the EIS. Bonding is one of the most critical aspects of mine permitting, and one that is least understood and examined by the public. Many of the measures that will be taken to avoid environmental impacts depend on adequate bonding. For instance, the DNR will not be able to assert that a particular remediation plan will be instituted when the mine closes unless bonding is sufficient to ensure the remediation. Bonding is crucial to any determination that potential environmental effects will be avoided	PD4
2010	PolyMet is sited on USFS public lands which have protective covenants against strip mining, yet the DEIS does not contain an alternative underground mine option. Any possible Federal land exchange with PolyMet should be part of PolyMet's EIS. NEPA and MEPA require that all potentially significant impacts be addressed in the EIS (National and Minnesota Environmental Policy Acts)	PRO2
2010	Explain the sense of moving forward with the approval of a permit for a much more dangerous mining operation- PolyMet- when other mining companies have yet to clean up previous pollutions from much more benign mining operations than sulfide mining?	G10
2010	The DEIS does not adequately address the instability of waste rock pile slopes, especially considering the size due to mining less than 1% ores.	GT1
2010	The mitigation approaches seem appropriate, but the monitoring measures appear scant in detail regarding the "what if" question? What if the water in the remaining waste piles or in the closed pits actually becomes far more acidic than we think will happen, for reasons we have not thought of (environmental "surprises")? Or what if some acid mine drainage carrying metals does escape and enters the Partridge River? Then what do the State and Polymet do?	WR1E
2011	S-9—"There is some uncertainty as to whether the West Pit overflow would meet the Lake Superior mercury standard, but this impact could be mitigated if it would occur." Explain how the mercury would be mitigated.	WR4C
2011	DEIS relies too heavily on modeling and predictions that things will go as planned. Uncertainty remains as to whether rock classified as nonreactive will remain nonreactive after fifty years, 100 years, 1,000 years, etc. An impermeable liner will be created under reactive waste rock piles, but some uncertainty will remain as to whether and when that liner will leak; all liners leak. The DEIS does not adequately address the degree of uncertainty involved (for issues that involve uncertainty) and the potential impacts on the environment if assumptions and conclusions prove to be wrong	PD2
2011	The St. Louis River watershed is already contaminated with sulfates, which become part of a biochemical process converting mercury into methylmercury. This methylated form of mercury accumulates in fish, resulting in fish consumption adversaries. Allowing PolyMet to store tailings on top of already leaching LTVSMC tailings would increase the amount of sulfates in the watershed. DEIS: "Relatively high sulfate concentrations in seepage from the Tailings Basin would be released to wetlands north of the Tailings Basin and lakes downstream on the Embarrass River that represent 'high risk situations' for mercury methylation" (S-9) When mercury is "methylated" it can bioaccumulate in fish, making them unsafe to eat. The DEIS is inadequate in not addressing state standards regarding sulfates and methylmercury.	WR3I,WR4B,FM1,FM5
2012	3-34—"LTVSMC coarse tailings layer would be placed to create the covered surface on which vegetation could be sustained." How stable are coarse tailings as a foundation?	RFI
2012	S—11- "If water quality monitoring demonstrated the need, treatment of the pumped seepage could be provided prior to discharge to the Partridge River." What would the treatment consist of and what impacts might the treatment have upon the water quality?	RFI
2012	Who does the monitoring, how often would the monitoring be done, and how would treatment be monitored?	RFI
2012	S-11- under Cumulative Effects—"General increase in air emissions, however, no significant effect on regional air quality." What determines whether an effect is significant?	AQ4

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2013	4.1-135—"PolyMet proposes to mitigate the increased solute load expected in the East Pit from the disposal of the higher sulfide waste rock by pumping East Pit water to the WWTF for additional treatment for approximately 30 years (years 21- 50)." What happens after 30 years? Does the pollution disappear?	RFI,WR1E
2013	What motivation is there for the company to spend money on treatment after the mine is closed and no longer making money?	G4A
2013	When PolyMet gets bought out by another company, how will the transfer of this responsibility occur?	RFI
2014	Does the DNR have enough of a budget to maintain this?	RFI
2014	What role does the DNR have in monitoring the pollution and the treatment?	PD8
2014	Plant closure plans extend to year 50 (30 years after closure) but do not account for acid mine drainage that can last for hundreds to thousands of years, requiring perpetual or near perpetual treatment. The DEIS does not provide adequate plans for monitoring or mitigation. There is no adequate means of enforcement for clean-up or for any financial assurances that the mining company will be responsible. Instead, the MN taxpayers will bear the burden of clean-up cost of toxic wastes for decades—and into perpetuity.	PD3,PD4
2015	4.4-9—"Consultation between the USACE and the USFWS regarding the potential effects on federally –listed species is currently ongoing." Will this go on until those species are extinct? How will this be reported in the FEIS?	RFI
2015	4.1-143—"The deterministic modeling results suggest that three parameters (i.e., arsenic, cobalt, and selenium) could exceed surface water standards, in addition to relatively high sulfate concentrations. The Uncertainty Analysis for the Proposed Action suggests that copper and nickel could be underestimated by the deterministic modeling." What are the cumulative effects of these water quality exceedances?	RFI
2015	4.4-136—"Reservations existed about relying on just the low and average liner leakage rates for groundwater quality predictions, as it may not fully account for the essentially permanent use of the liner (e.g., liner degradation over time, differential settlement, and accidental tears during waste rock placement)." Exactly which liners would be able to be replaced in five years time, or as needed, according to statements made by Joe Scipioni and Frank Ongaro?	PD2
2015	How can we project such costs up to 50 years in the future?	RFI
2015	4.1-137—"It should be noted that aluminum, beryllium, iron, , manganese, and thallium exceeded the groundwater evaluation criteria in the model; however, this was due to high baseline concentrations that were not attributable to the Project and these solutes were not carried forward for detailed transient flow modeling." If the modeling was not attributable to the Project, what is the significance of the modeling?	WR2E
2016	Since this process is based upon a small pilot study done in Canada, what is the economic liability of this plant not operating in an economically efficient of a way as proposed?	AQ3
2016	4.4-10—"The Project would generate approximately 970 (948 vehicle and 22 rail) trips per day, totaling about 3,989 miles, between the Mine and Plant Sites. ..An additional 3,930 miles per day of vehicular traffic are expected within the Mine Site itself, primarily to haul ore to rail siding and waste rock to the stockpiles." Are these miles included in carbon and particulate emissions for the mining operation? What is the economic liability of so heavily relying on equipment that uses expensive fuels while emitting pollutants that contribute to global warming and haze?	AQ3
2016	4.6-32—However, while energy use is reduced by one-half, greenhouse gas emissions do not decline per unit of production from what would be expected...principally because of the large load of non-energy process emissions associated with hydro processing." How could a cap and trade policy or carbon tax affect the economic viability of this plant?	AQ3
2017	Why isn't the cost comparative stated in this DEIS?	RFI
2017	What is the economic liability of transporting crushed rock rather than semi-processed metals?	RFI

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2017	This is unacceptable to me. It is unreasonable to expect that mining companies will be able to maintain water treatment facilities for that amount of time (once they extract the metals and make a ton of money, they will run back to Canada). This is an unfair burden to pass on to future generations of Minnesotans who will inevitably be left to pay for these operations. Additionally, it will be all but impossible to calculate sufficient financial assurance for a mining operation that is going to require such long-term care.	G4A
2017	The hydrometallurgical plant will take approximately two years to construct, after PolyMet comes up with the money to start construction. PolyMet earlier asked for the option of hauling crushed rock from the site, prior to plant construction. Where is this addressed in the DEIS?	PD7
2018	How would the copper be separated from the ore in order to do so?	RFI
2018	4.6-33—What is the cost of using electric drills in comparison to diesel drills? How expensive are Gen-Set locomotives? Has access to the amount of electricity and natural gas required been determined and laid out in this DEIS?	AQ3,AQ4
2018	How would the resulting acid mine drainage trail, especially that of the rail line, be addressed?	HM3
2018	Would copper be able to be electroplated on site without going through the autoclave process?	RFI
2019	4.7-1—“The region has traditionally supported various mining activities as well as logging on federal, state, county, industrial and private forest lands. Review of aerial photography and public records indicate that there are few noise sensitive areas or receptors such as residences, campgrounds, and national wilderness areas within the Project vicinity.” What tests determined that noise won’t be heard in the Boundary Waters 20 miles away?	N1
2019	4.6-33—“This additional mitigation of wetland types other than Type 8 (open and coniferous bog) would contribute to compensating for the Project’s impacts on Type 8 wetlands.” Which agency, and under what laws and rules was it determined that it is ok to lose open and coniferous bogs as long as they are replaced by other types of wetlands?	WE3
2019	How was it determined that wetland replacement for PolyMet could be made out of the county and out of the watershed?	WE3
2020	How do you determine effects of noise by sight rather than by sound (aerial photographs)?	N1
2021	Was it determined that more noise is ok because there has traditionally been noise in the area?	N3
2022	Bill H.F. No. 2560, as introduced-86th Legislative Session (2009-2010). Posted on Jan 08, 2010 is a bill for an act relating to natural resources; providing for financial assurance for nonferrous metallic mineral mining; amending Minnesota Statutes 2008, sections 93.481, by adding a subdivision; 93.49; Minnesota Statutes 2009 Supplement, section 93.481, subdivision 1; proposing coding for new law in Minnesota Statutes, chapter 93. This new bill introduced by Representatives Alice Hausman and Bev Scalze is a first step in providing financial assurances to protect MN taxpayers from the cost of clean up and reclamation resulting from sulfide mining. However, I believe that a total moratorium on mining must occur in Minnesota, the same which presently exists in Wisconsin after their Flambeau sulfide mining disaster. This would allow for time to further evaluate sulfide mining in Minnesota and its expressed dangers with full and transparent disclosure to the public, since current MN laws have plenty of “gaps” in safeguards that expose the state and its citizens to significant risks. Some of these gaps are 1) Only the DNR can make decisions in calculating the amount of financial assurances and in determining the appropriate form of financial assurance. Presently, the Pollution Control Agency and the Dept. of Management and Budget are not involved in this process. 2) Mining could also be allowed up to the very borders of the Boundary Waters Canoe Area Wilderness and adjacent to (or under) water bodies that flow into the wilderness. 3) Mining companies are not required to discuss financial assurance or damage deposit, in the DEIS for their mine proposals, which is a key opportunity for public involvement in the process. These present “gaps” must be addressed and changed for the protection and safety of the state of Minnesota and its citizens.	G2,G12
2023	How does 24 hour a day noise affect the character of the land?	N1

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2024	This doesn't give credibility to the impacts on wildlife.	EOO,N4
2025	4.7-7—"Impacts from blasting are expected to be minimal." How do these impacts affect wildlife? What studies determined use of the word "minimal"?	RFI,N4
2831	4. The same holds true for the waters the mine will use and the waters it will affect. How well will these be regulated? What will the tolerances be? Will run-off water affect streams, rivers and perhaps Lake Superior or more. Since we are located on the Continental Divide, is there a possibility that the discharge waters could affect the BWCA? Will the water tables of the BWCA be affected?	WR1A,WR3B,WR3D
2832	5. What will be the monitoring process for the waste rock, the tailings basin, the ponds and any other things that must be tracked?	RFI
3080	Secondly, how can one justify permitting a mine that in its own DEIS says it will pollute the waters? WATER CONSIDERATIONS: Contaminated discharge from waste rock piles. Water from waste rock pile swill be polluted for up to 2,000 years (DEIS, Table 4.1-45) • The St. Louis River watershed is already contaminated with sulfates, which become part of a biochemical process converting mercury into methylmercury. This methylated form of mercury accumulates in fish, resulting in fish consumption adversaries. Allowing PolyMet to store tailings on top of already leaching LTVSMC tailings would increase the amount of sulfates in the watershed. DEIS: "Relatively high sulfate concentrations in seepage from the Tailings Basin would be released to wetlands north of the Tailings Basin and lakes downstream on the Embarrass River that represent 'high risk situations' for mercury methylation" (S-9) When mercury is "methylated" it can bioaccumulate in fish, making them unsafe to eat. The DEIS is inadequate in not addressing state standards regarding sulfates and methylmercury. • Plant closure plans extend to year 50 (30 years after closure) but do not account for acid mine drainage that can last for hundreds to thousands of years, requiring perpetual or near perpetual treatment. The DEIS does not provide adequate plans for monitoring or mitigation. There is no adequate means of enforcement for clean-up or for any financial assurances that the mining company will be responsible. Instead, the MN taxpayers will bear the burden of clean-up cost of toxic wastes for decades—and into perpetuity.	WR1A,WR1E,WR3I,WR5A
3081	These present "gaps" must be addressed and changed for the protection and safety of the state of Minnesota and its citizens. Representative Rukavina has referenced "tough US environmental laws" in Minnesota that would hold PolyMet accountable in recent newspaper articles. However, the reality is that the leaking tailings ponds in his district are polluting public waters right now from past "benign" mining procedures. These same waters will be more dangerously polluted from the acid mine drainage from the stripping piles and the leaking tailings pond of the proposed PolyMet project. How then can you even consider permitting such a project?	EOO
3082	1. How will the existing tailings pond be stabilized to prevent the sulphuric acid from running out of the bottom of this pit. Wells and dikes will not work. Impossible. The best of the dams out west cannot contain all the water. Some always leaks.	WR3A
3083	2. There is nothing in the DEIS that addresses the future association of PolyMet and other mining companies, such as Franconia Minerals and Duluth Metals, who may want to use the same processing plant that PolyMet will use. How can the magnitude of the waste water be treated under this DEIS?	WR5B
3084	4. How can PolyMet 100% guarantee that there will be no leakage from the stripping piles flowing into the Embarrass River and on into Lake Superior?	WR3A
3085	5. How can the MN DNR and the Army Corp of Engineers even consider that states that the West Pit will overflow with toxic waste water and flow into Lake Superior?	WR3C
3086	• Arsenic, cobalt, selenium, copper, nickel, aluminum, beryllium, iron, manganese, and thallium from PolyMet's operations may all exceed water quality standards. Analysis predicts high sulfate concentrations. (4.1-113) The DEIS would allow this to happen. The DEIS does not address the cumulative or synergistic impacts upon fish, wildlife or humans as we ingest water containing all of these pollutants. It is unacceptable to proceed with a mine that already predicts these kinds of pollution outcomes. Third, will we be trading a lakes district for a mining district in northern Minnesota?	WR4C,WR5A,FM1,FM3,F

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3087	I do understand that the proposed PolyMet mine is not in the Boundary Waters watershed. Water from the proposed PolyMet mine (and pollution) would flow through the Embarrass and Partridge Rivers into the St. Louis River, and ultimately Lake Superior. Pollution in those waters is unacceptable; the mine would also set serious precedents for future sulfide mining proposals and all interest, after PolyMet, will be focused on the Boundary Waters watershed.	WR1E,WR3B
3089	S—11- “If water quality monitoring demonstrated the need, treatment of the pumped seepage could be provided prior to discharge to the Partridge River.” What would the treatment consist of and what impacts might the treatment have upon the water quality? Who does the monitoring, how often would the monitoring be done, and how would treatment be monitored?	WR1A
3090	4.1-135—“PolyMet proposes to mitigate the increased solute load expected in the East Pit from the disposal of the higher sulfide waste rock by pumping East Pit water to the WWTF for additional treatment for approximately 30 years (years 21- 50).” What happens after 30 years? Does the pollution disappear? What motivation is there for the company to spend money on treatment after the mine is closed and no longer making money? When PolyMet gets bought out by another company, how will the transfer of this responsibility occur? What role does the DNR have in monitoring the pollution and the treatment? Does the DNR have enough of a budget to maintain this? How can we project such costs up to 50 years in the future?	RFI,WR1A,WR3I
3091	4.4-136—“Reservations existed about relying on just the low and average liner leakage rates for groundwater quality predictions, as it may not fully account for the essentially permanent use of the liner (e.g., liner degradation over time, differential settlement, and accidental tears during waste rock placement).” Exactly which liners would be able to be replaced in five years time, or as needed, according to statements made by Joe Scipioni and Frank Ongaro?	WR2D
3092	4.1-137—“It should be noted that aluminum, beryllium, iron, , manganese, and thallium exceeded the groundwater evaluation criteria in the model; however, this was due to high baseline concentrations that were not attributable to the Project and these solutes were not carried forward for detailed transient flow modeling.” If the modeling was not attributable to the Project, what is the significance of the modeling?	WR2E
3093	4.1-143—“The deterministic modeling results suggest that three parameters (i.e., arsenic, cobalt, and selenium) could exceed surface water standards, in addition to relatively high sulfate concentrations. The Uncertainty Analysis for the Proposed Action suggests that copper and nickel could be underestimated by the deterministic modeling.” What are the cumulative effects of these water quality exceedances?	WR5A
3245	1. What happens when the mine closes down? Who is responsible for any leakage or potential disasters. The mine is expected to operate for 20 years, but what then? There is not a specific plan for reclamation after the mine site is closed. Is the mining company required to set aside dollars or financial assurance for potential disasters after closing? The citizens of Minnesota do not want to be left holding the bag for potential cleanup for scores of years.	PD3
3246	2. You must make sure that there is protection of wetlands, tribal rights and also the taxpayer's interests if and when the land swap is completed.	PD1

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3511	on the environment. Presently, a lawsuit is pending on Cliffs Erie, a subsidiary of Cliffs Natural Resources, for ongoing water pollution from previous taconite iron mining: “Cliffs Cited for Extensive Minnesota Iron Mining Pollution: January 25, 2010” “Three groups today announced their intent to file a lawsuit against Cliffs Erie, a subsidiary of Cliffs Natural Resources, for ongoing water pollution from previous taconite iron mining at three sites on Minnesota’s Iron Range. PolyMet Mining Co. plans to utilize two of the sites in order to dispose of wastes from its proposed metallic-sulfide NorthMet project. As part of a purchase agreement, Cliffs would maintain a roughly 7% stake in the project. The other Cliffs site, at the old Dunka Mine, is closer to Franconia Minerals and Duluth Metals’ proposed sulfide projects. A news release issued by the Center for Biological Diversity noted that, “according to Cliffs Erie’s own monitoring reports, there are numerous ongoing violations of water-quality laws relating to management of the former LTV tailings basin. PolyMet’s proposal for its copper-nickel mine is to pile its own tailings waste on top of those from a former taconite mine that are still polluting.” The Center for Biological Diversity, Save Lake Superior Association, and the Indigenous Environmental Network filed a formal notice letter today that acts as a “prerequisite to filing a citizen enforcement action under the Clean Water Act.” The Save Lake Superior Association, a grassroots citizen group, proved instrumental in holding the Reserve Mining Co. to account for dumping iron mining waste into Lake Superior from 1955 into the 1970s. The pollution introduced asbestos-like material into the lake and harmed fishing in the area. “Before the state even considers the approval of a new wave of mining in northeastern Minnesota, it should first require the mining companies to clean up the pollution from past taconite mines,” said Marc Fink, an attorney with the Center for Biological Diversity. “As we all learned as kids, you should clean up one mess before making another one.” The LTV basin, located six miles north of Hoyt Lakes, was used for taconite tailings from the 1950s until 2001. The unlined basin is the source of numerous seeps and discharges of polluted wastewater into groundwater and surface waters, which eventually reach the Embarrass River. For the proposed NorthMet mine, PolyMet proposes to process more than 225 million tons of ore at the LTV processing facility, and use the same LTV tailings basin already known to be leaking. “While past mining has already polluted these waters, the proposed heavy metals mining would bring severe new threats of pollution to these waters, which ultimately flow into Lake Superior at the Duluth harbor,” said Le Lind of the Save Lake Superior Association. “This new threat includes sulfuric acid runoff and higher levels of mercury in waters that are already impaired.” <a href="http://lakesuperiorminingnews.net">http://lakesuperiorminingnews.net</a>	G7
3512	Explain the sense of moving forward with the approval of a permit for a much more dangerous mining operation- PolyMet sulfide mining- when other mining companies have yet to clean up previous pollutions from much more benign mining operations than sulfide mining?	G4

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3513	<p>I have extreme concerns about the PolyMet NorthMet mining project Draft Environmental Impact Statement (DEIS) proposed on 6,700 acres of public land in the Superior National Forest, not only for the safety of the proposed project, but for its potential impact on Minnesota’s natural resources, and the future of its present sustainable economy. Minnesota environmental review law provides: Minn. Stat. 116D.04(6). "No state action significantly affecting the quality of the environment shall be allowed, nor shall any permit for natural resources management and development be granted, where such action or permit has caused or is likely to cause pollution, impairment, or destruction of the air, water, land or other natural resources located within the state, so long as there is a feasible and prudent alternative consistent with the reasonable requirements of the public health, safety, and welfare and the state's paramount concern for the protection of its air, water, land and other natural resources from pollution, impairment, or destruction. Economic considerations alone shall not justify such conduct". According to Tom Powers, economic rationality requires that mineral deposits be left in the ground undeveloped. Especially, since according to the Polymet data only 1 to 5 percent of the ore contains the non-ferrous metals, relegating the 95 to 99 percent not used to the tailings area. From my perspective, the environmental risk is one no rational person would take. Please review Comparison of Predicted and Actual Water Quality at Hardrock Mines: The reliability of predictions in Environmental Impact Statements and Predicting Water Quality at Hardrock Mines: Methods and Models, Uncertainties, and State-of-the-Art, Ann Maest and Jim Kuipers. The results of this study are: • 100 percent of sulfide mines predicted compliance with water quality standards before operations began; • 76 percent of mines, studied in detail, exceeded water quality standards due to mining activity; • Mitigation measures predicted to prevent water quality exceedances failed at 64 percent of the mines studied in detail. Other environmentally conscious companies embarked upon “safe” sulfide mining projects with every intention of being environmentally friendly. However, the facts are that three out four ended up be polluters. Statistically, that means that the PolyMet project has a 75% chance of polluting! That risk is untenable and one that should not be taken.</p>	G7A,G14
3514	<p>However, I believe that a total moratorium on mining must occur in Minnesota, the same which presently exists in Wisconsin after their Flambeau sulfide mining disaster. This would allow for time to further evaluate sulfide mining in Minnesota and its expressed dangers with full and transparent disclosure to the public, since current MN laws have plenty of “gaps” in safeguards that expose the state and its citizens to significant risks. Some of these gaps are 1) Only the DNR can make decisions in calculating the amount of financial assurances and in determining the appropriate form of financial assurance. Presently, the Pollution Control Agency and the Dept. of Management and Budget are not involved in this process. 2) Mining could also be allowed up to the very borders of the Boundary Waters Canoe Area Wilderness and adjacent to (or under) water bodies that flow into the wilderness. 3) Mining companies are not required to discuss financial assurance or damage deposit, in the DEIS for their mine proposals, which is a key opportunity for public involvement in the process.</p>	G4A,G12
3515	<p>The DNR ‘s exploratory leasing is opening up the entire Arrowhead to become a sulfide mining district. An EIS needs to be completed on the mineralization of the entire Duluth Complex prior to the permitting of any one project. As the owner of both a resort facility and a Boundary Waters canoe outfitting business, I find it unbelievable that the DNR and the Corp of Engineers, have the sole power to determine if northeastern Minnesota will exchange its present sustainable tourism industry (a billion dollar industry—www.exploreminnesota.com) for a “non-sustainable” sulfide mine (and possible sulfide mining district) that will destroy our natural resources and forever more alter the incredible beauty of the lakes region of northeastern Minnesota for the sake of PolyMet’s 400 short term jobs, and additional spin off jobs for a lifespan of just 20 years. The questions for you to evaluate are: Is this really what we want for this part of our state? Do we want to forever more change surrounding forests and wetlands as they are today? To no longer count on clean water? To deal a fatal blow to the sustainable tourism economic base of this area?</p>	G1,G8C,G11
3517	<p>It my sincere hope that you will give proper evaluation to this landmark controversy facing the state of Minnesota and its citizens. We must learn from the mistakes made across our country in other states that allowed sulfide mining companies, usually from other countries, the opportunity to destroy its natural resources with the promise of lucrative jobs. A degree in engineering, geology or hydrology is not necessary to realize that the landscape changes alone will forever alter this northeastern Minnesota. This would mean centuries or more of potential water pollution left for our grandchildren and future generations. I urge you to not permit this DEIS, as it is flawed and totally unacceptable. Are the precious metals worth more than the value of our precious waters? A response is requested.</p>	G2,G8



*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
3518	Minnesota environmental review law provides: Minn. Stat. 116D.04(6). "No state action significantly affecting the quality of the environment shall be allowed, nor shall any permit for natural resources management and development be granted, where such action or permit has caused or is likely to cause pollution, impairment, or destruction of the air, water, land or other natural resources located within the state, so long as there is a feasible and prudent alternative consistent with the reasonable requirements of the public health, safety, and welfare and the state's paramount concern for the protection of its air, water, land and other natural resources from pollution, impairment, or destruction. Economic considerations alone shall not justify such conduct". I believe that we, as a state, have to follow the environmental review law. In no way are 400 short term mining jobs worth the risk to our environment, especially our precious water and air. We have to start to think about our future generations and not be so easily persuaded to exchange our natural resources for very few jobs now just because of the poor economic conditions. In better times, I doubt we would even consider this drastic proposal. Why are we in Minnesota so gullible to let this happen? Our neighbors to the east in Wisconsin have a moratorium on this type of mining. . . why don't we have this until PolyMet and other hard rock mining companies can prove that there project is a 100 percent clean project which would result in zero damage to the environment?	G2,G12
3519	The DNR 's exploratory leasing is opening up the entire Arrowhead to become a sulfide mining district. An EIS needs to be completed on the mineralization of the entire Duluth Complex prior to the permitting of any one project.	G8C
3520	The questions for you to evaluate are: Is this really what we want for this part of our state? Do we want to forever more change surrounding forests and wetlands as they are today? To no longer count on clean water? To deal a fatal blow to the sustainable economic base of this area?	G1,G2
3546	How can PolyMet be permitted without the land? How can PolyMet be permitted without completing a land exchange for the 6,700 acres? As an Industrial Engineer, every project I have ever developed begins with a solid foundation and from there the project proceeds. There are serious flaws in the PolyMet DEIS because the most important aspect of this project is the need for 6,700 acres of land---the foundation—for the project, and the land has yet to be exchanged with the USFS. Both the Indian tribes and the United States Environmental Protection Agency have pointed out this very serious inadequacy in the PolyMet/NorthMet Draft environmental impact statement. Before PolyMet can even be considered for permits, the following gaps NEED to be filled: The PolyMet "NorthMet" copper-nickel strip mine project is proposed to be sited on approximately 6,700 acres of United States Forest Service lands in the Superior National Forest. Pursuant to law, the project depends on the completion of a successful land exchange of Superior National Forest lands for non-federal lands. (PDEIS), p. 1-3. The proposed land exchange tracts and the characteristics of such land are not described in the DEIS and have not yet been publicly disclosed. Across Minnesota, there are dozens of applications for permits to prospect for nonferrous metals. Understanding land exchange and mineral rights is critical for the PolyMet Project and for future proposed strip mine development. The need for a land exchange prior to permitting of the PolyMet strip mine project must be transparent to the public and the DEIS, for the PolyMet project must include an analysis of the environmental impacts of the land transfer, including potential impacts on tribal rights. This precludes any possible permitting of the PolyMet DEIS as it stands now. A. PolyMet reserved mineral rights do not support strip mining on Superior Forest Land. PolyMet proposes to develop a copper-sulfide strip mining operation located primarily on Superior National Forest Lands. Although PolyMet has claimed that the mineral rights "reserved" in its 1935 deed authorize mining in any form, the U.S. Forest Service has maintained that the deed does not permit strip mining, so PolyMet must buy land to exchange before obtaining permits for the NorthMet mining project. The analysis conducted by the U.S. Forest Service is consistent with prevailing law. Strip mining necessarily entails massive removal of soil and plant life to access underground minerals. This results in irretrievable loss to the environment as well as a fundamental change in forest land use. Prepared by Bride Seifert, William Mitchell Law School, Intern for WaterLegacy; Paula Maccabee,	PD1

*Alphabetical by sender's first name*

<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
3547	<p>B. Land exchange process requires equal value and environmental review. In order for PolyMet to purchase Superior National Forest land, a land exchange needs to occur. PDEIS, p. 3-1. Under The Federal Land Policy and Management Act of 1976 § 206, 43 U.S.C. § 1716, lands exchanged must be of equal value, in the public interest and in line with the forest land and resource management plans. Public interest assessment examines the needs of State and local community, looking at the economy, recreation, fish and wildlife as well as food, fiber and minerals. 43 U.S.C. § 1716(a). Environmental concerns are clearly included. A critical first step in a public lands exchange is the public interest determination. No land exchange can take place unless it is in the public interest. The public interest determination considers the needs of State and local residents, fish and wildlife habitats, wilderness and recreation values, economic interests and cultural resources, and watershed issues. 36 C.F.R. § 254.3(1). C. Environmental Review – National Environmental Policy Act. The National Environmental Policy Act (NEPA) calls for the preparation of an Environmental Impact Statement (EIS) for any Federal activity that will have a significant impact on the environment. It is clear that the land exchange proposed for the PolyMet strip mine, which would involve approximately 6,700 acres of Superior National Forest land, will require an EIS. Tribal lands and rights will be impacted, with potential environmental justice, as well as Treaty rights implications. Wildlife and wetlands, including pristine areas, would be acquired by PolyMet and disrupted or degraded to develop the NorthMet strip mine and processing facility. Conclusion. Before the PolyMet NorthMet project could proceed, the PolyMet Company would need to find approximately 6,700 acres of land to exchange for the Superior National Forest lands on which the strip mine and processing facility would be located. According to the guidance of the U.S. EPA’s NEPA Compliance Office and pursuant to applicable law, the NorthMet proposal and the land exchange are connected actions, requiring environmental review in a single EIS. It is inappropriate to release a draft EIS or commence substantive evaluation of the NorthMet project until an EIS analysis is performed for the proposed land exchange, addressing tribal rights and economic valuation as well as environmental issues. In 2002, my wife and I entered into the final stage of a land exchange involving the US Forest Service, Lake County and us. Our facility was located on federal land on Birch Lake at that time. We had followed the protocol for this land exchange which took nine years and 27 steps. Only after completing all aspects of the land exchange, including an EIS, did the land become ours. It is inappropriate, unfair, and totally unbelievable that a mining company such as PolyMet, could possibly be allowed to circumvent the environmental review, and public input, and the National Environmental Policy Act. In fact, if PolyMet is permitted without following the correct procedures for securing the land they need, we have grounds for a lawsuit. Compliance for the law regarding land exchanges for the “common person” should also be law for a mining company. How can they act and be “above the law?” Because the politicians endorsed it? That does not cut it. We provide jobs, and have not only provided jobs for 34 years to hundreds of people, but have brought thousands of tourists into northern Minnesota whose dollars spent make the tourism industry not only beneficial to merchants, restaurants, gas stations and others, but continue to make it a sustainable, non-polluting industry. We did not get any latitude to circumvent the law for our land exchange. Our economic contribution makes dollars that stay in the area, not like those of a Canadian mining company that extracts the natural resources, makes their money, lay off the workers, closes the plant, an</p>	PD1,G1,CR1
3548	<p>This is unacceptable. It is unreasonable to expect that mining companies will be able to maintain water treatment facilities for that amount of time (once they extract the metals and make a ton of money, they will run back to Canada). This is an unfair burden to pass on to future generations of Minnesotans who will inevitably be left to pay for these operations. Additionally, it will be all but impossible to calculate sufficient financial assurance for a mining operation that is going to require such long-term care. Bill H.F. No. 2560, as introduced-86th Legislative Session (2009-2010). Posted on Jan 08, 2010 is a bill for an act relating to natural resources; providing for financial assurance for nonferrous metallic mineral mining; amending Minnesota Statutes 2008, sections 93.481, by adding a subdivision; 93.49; Minnesota Statutes 2009 Supplement, section 93.481, subdivision 1; proposing coding for new law in Minnesota Statutes, chapter 93. This new bill introduced by Representatives Alice Hausman and Bev Scalze is a first step in providing financial assurances to protect MN taxpayers from the cost of clean up and reclamation resulting from sulfide mining.</p>	PD3,PD4,PD5

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Comment ID	Comment Text	Theme Codes
3549	<p>CUMULATIVE IMPACTS • The DEIS is remiss in considering the potential impacts of sulfide mining within the Arrowhead Region. The USFS has begun an EIS for Federal Hardrock Minerals Prospecting Permits Project for the Superior National forest. The DNR continues to sell exploratory leases to companies exploring the Duluth Complex of mineralization. Duluth Metals is advertising its Nokomis deposit of copper-nickel-platinum-palladium-gold minerals on its website. The Nokomis deposit is located alongside the Boundary Waters Canoe Area. Franconia Minerals is advertising its Birch Lake, Maturi and Spruce Roads deposits, all within the Boundary Waters Canoe Area watershed. The PolyMet DEIS is inadequate in addressing PolyMet as an isolated copper-nickel mining project. • PolyMet’s DEIS is based upon PolyMet using 1/3 of its plant capacity, as purchased from LTVSMC /Cleveland Cliffs. Excess capacity is planned to be utilized by neighboring Teck Cominco, Franconia, Kennecott and Duluth Metals. The Excess Capacity of PolyMet’s processing plant is not addressed in the DEIS. The PolyMet DEIS is inadequate in not allowing for public knowledge or participation in the discussion of the creation of a sulfide mining district in the Arrowhead Region of Minnesota. • Cumulative impacts must address the loss of revenue to the Boundary Waters Canoe Area Wilderness and Superior National Forest tourist industry as part of a sulfide mining district.</p>	PD1,G9,CR1
3553	<p>Contrary to what our short-sighted politicians (Klobuchar, Franken, Bakk, Oberstar, Rukavian, etc.) who endorsed this project without performing their “due diligence”, would like us to believe, there are thousands of concerned Minnesota citizens, and countless vacationers to Minnesota who have serious issues with this proposed mining project. We owe it to our future generations to give a 100% assurance that this politically-touted, 20-year sulfide mining project can be accomplished without irreversible harm to our waterways and our wetlands. Our waters are the most precious of our resources, and we need to seek out sustainable industry for northern Minnesota instead of locking ourselves into a permanent resource-extraction economy—at the price of long-term water pollution from Lake Superior to the Boundary Waters—while driving away other industry and points of view. Too bad our politicians have apparently failed to ask this question.</p>	PD3
3554	<p>Furthermore, the most important fact is that PolyMet does not even own the 6700 acres yet. Explain to me how the state can even consider permitting this mining company without even following the proper protocol for a land exchange? Sounds like you are putting the cart before the horse:</p>	PD1
3555	<p>The PolyMet “NorthMet” copper-nickel strip mine project is proposed to be sited on approximately 6,700 acres of United States Forest Service lands in the Superior National Forest. Pursuant to law, the project depends on the completion of a successful land exchange of Superior National Forest lands for non-federal lands. (PDEIS), p. 1-3. The proposed land exchange tracts and the characteristics of such land are not described in the DEIS and have not yet been publicly disclosed. Across Minnesota, there are dozens of applications for permits to prospect for nonferrous metals. Understanding land exchange and mineral rights is critical for the PolyMet Project and for future proposed strip mine development. The need for a land exchange prior to permitting of the PolyMet strip mine project must be transparent to the public and the DEIS, for the PolyMet project must include an analysis of the environmental impacts of the land transfer, including potential impacts on tribal rights. This precludes any possible permitting of the PolyMet DEIS as it stands now. Thus, before PolyMet can be permitted for the land that is to be exchanged for Superior National Forest land to make this project possible must be analyzed. Include impacts of the land swap on wetlands, endangered species, hydrology, tribal rights, and taxpayers' interests.</p>	PD1
3556	<p>Sulfide mining would be new to Minnesota. In other locations, sulfide mining has resulted in acid mine drainage causing extensive and expensive damage to water quality and the environment. The PolyMet project in Minnesota could degrade water quality, increase mercury in fish, destroy wetlands and peat bogs, fragment the habitat of endangered species, and interfere with tribal treaty rights and tribal resources, like wild rice. The state must analyze ALL of the CUMULATIVE impacts (air and water) of increased mercury in fish from the PolyMet project and other nearby pollution sources. Mercury in accumulates in fish and causes brain damage to children and to fetuses.</p>	WR4C,WR5A,FM1,FM3,C

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
3558	I find it unbelievable that the DNR and the Corp of Engineers, have the sole power to determine if northeastern Minnesota will exchange its present sustainable tourism industry (a billion dollar industry—www.exploreminnesota.com) for a “nonsustainable” sulfide mine (and possible sulfide mining district) that will destroy our natural resources and forever more alter the incredible beauty of the lakes region of northeastern Minnesota for the sake of PolyMet’s 400 short term jobs, and additional spin off jobs for a lifespan of just 20 years. The tourism industry of Minnesota contributes substantially to the tax base-... “Unlike US Steel which paid precious little in property taxes on its 3,000 acres...” Timberjay Newspaper, January, 21, 2010.	G1
<b>Sender Last Name:</b> Koschaka		<b>Submission ID:</b> 2196
342	One thing also that bothers me too that hasn't been talked much about is the air pollution problems with the mining project that is proposed or the ash disposal issue that will occur in Minnesota from the immense amount of electricity that will be needed to operate these proposed sulfide mines. Where will the electricity come from? If the plant includes a new power plant, Minnesota cannot right now meet our air emissions standards. One quarter of the haze presently sitting over Northern Minnesota, including the Boundary Waters and Voyagers National Park, is produced by sources within the State, five power plants and six taconite mining and processing plants, and that comes from the Minneapolis Star and Tribune, December 1, 2009.	AQ4B
999	Irrevocable damage to our environment, sustainable natural resource of water, air, wildlife and wetland greatly, greatly concerns me. PolyMet and their mining efforts always wave the job flag, but as proven by our neighbor to the east, Wisconsin, when it came time to employ people for the Flambeau mining project, people from other places, not Wisconsin, got the high paying jobs; and the low paying jobs, the first to be let go were the people from Wisconsin. Short-term jobs at best 20 years I don't think that is a reason to pollute our natural resources. 400 jobs at best for maybe 20 years, again, I don't think that is a reason to pollute our natural resources. I do have grave concerns about the AMD, the acid mine drainage. The deposits here that we are looking out for the sulfide mines, 99 percent of it will be overburdened, will rot, which will be producing sulfide and the sulfuric acid, and only 1 percent of the ore body has the precious minerals. So it's really not a very high producing property, if you will, that they are talking about.	SE3,SE6,SE7
1811	I do not support PolyMet's efforts. I am totally concerned about protecting clean water. I am very skeptical that since the, how can I say it, the testing site thus far for this mine has been in a lab, if you will. There has been no proven, for-sure sulfide mine that has operated anywhere in the whole world that can do so without polluting the environment.	G7
2005	Also I have grave concerns that once again like most of the mining companies exploring in Minnesota these are Canadian companies. So once they take our precious minerals and tout jobs, make their money for all their investors, they will be gone and leaving us with the big mess to clean up.	PD3,G1
2602	MS. KOSCHAKA: I guess I will just wrap it up right now that I am extremely concerned about the DEIS, the contaminated wastewater discharge from waste rock piles that will be polluting for up 2,000 years, DEIS Table 4.1-45, and the fact about 40 years after the mine is closed the West Pit will overflow and begin discharging polluted water into the Partridge River, drained by the St. Louis River, and ultimately to Lake Superior. And then, of course, the fact that the groundwater at the mine site will be contaminated with heavy metals. I have grave concerns about the tailing basins where the grinding and slurry are going to end up that it's not going to hold. It would be similar to Taconite Harbor when the tailing spewed across Highway 61 when that broke. So, again, I really have grave concerns about this. I strongly oppose sulfide mining in Minnesota until it can be proven to be safe. (At this time the five minutes were up, but	G7

*Alphabetical by sender's first name*

**Comment ID**    **Comment Text** **Theme Codes**

2603 MS. KOSCHAKA: I read a really excellent book called *The Buzzards Have Landed* by Laura Furtman and Roscoe Churchill about the Flambeau Mine in Wisconsin. It talks about how mining companies make inroads into a community, and I have seen this happen in our area. One of the first ones is getting to know those people presumed to be the decision-makers in the community. Mining officials will lure local leaders to become their friends and join the right churches and local clubs. Number 1, learn everything about the political arena affecting the area in which the mine is to be built. All levels of government will be infiltrated, including the Township, the County, the City, and the State, none are ignored. Number 3, claiming its mine will bring jobs and prosperity to the area even though such claims have not been proven to be true in other mining towns. Four, declaring that its project will be its lawyers to sit down at the table with local people and town officials to discuss and clear up any problems or misunderstandings about the mine. This is the company's way of convincing the doubters in the community of how safe the mine will be and how good it will be for the local economy. The officials will be only too happy to explain everything to the local bumpkins. One of the most important ones, sitting in on the drafting of any new rules or laws that will govern the mining project and spending lots of money on lobbying to weaken mining regulations and other environmental laws. I have grave concerns related to all of those and more. I guess the last thing that I want to say is that my sincere hope is that really true proper evaluation is given to the DEIS. I have read it. I have seen many things that are flags to me just as a layperson. We need as citizens of Minnesota to really take a good, hard look at this and learn from the mistakes that have been made across the country by elected officials in other states that allowed sulfide mining companies, usually from other countries, the opportunity to destroy its natural resources with the promise of jobs. You know, there are many other types of jobs such as manufacturing that wouldn't create the environmental pollution that is for certain going to happen with a sulfide mining project like is being proposed. In reality those jobs filter out when the mines are exploited, the companies make a ton of money for their respective companies, and their investors are leaving behind an environmental disasters for our State to attempt to clean up in perpetuity. This would be Minnesota's legacy. I pray not. I am wondering have the Northern Minnesota legislative people, including Al Franken and Amy Klobuchar, convinced themselves that our waters will be fine just because they want jobs at any cost. The facts are clear, sulfide mining cannot be accomplished without polluting our water. We may be Minnesota nice, but we, and I for one, am not Minnesota stupid. Thank you kindly.

**Sender Last Name:**    Koshiol **Submission ID:** 1229

1365 Please accept these comments on the PolyMet Mining Corp. NorthMet mining project Draft Environmental Impact Statement. I have serious concerns about the safety of this project and its potential impacts on Minnesota's natural resources. It didn't work in Wisconsin, and it won't work here.

**Sender Last Name:**    Koskins **Submission ID:** 1184

1299 I and my family are deeply concerned about how our XX XXX will respond to this issue of sulfide mining. It is not worth the short term gain that will be enjoyed by a few corporations and not enough citizens of the area. The water in Minnesota is a key resource that allows its residents to enjoy a high quality of life. Please strongly consider these impacts that effect the natural resources and people of this state. These issues will effect our children and our childrens children. I and my family oppose this kind of mining. Thank You.

**Sender Last Name:**    Kowaliw **Submission ID:** 2683

3165 Please preserve and maintain the wilderness for current and future generations. EOO

**Sender Last Name:**    Kramer **Submission ID:** 173

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
164	My profession occasionally takes me to northern Minnesota, a place of beauty. I also vacation in the area and will be retiring there. I would be the last person who would support any development that would harm the environment. This projects first priority is protection of the environment. I understand the importance of balancing the need for the use of resources and preserving the quality of our air and water. I have been following the development of PolyMet Mining's NorthMet Project. I have read portions of the EIS and have had numerous discussions with those involved in the development. I support this project because I believe that the precautions that this company has taken will prevent any environmental concerns. Not only is the economic impact to the area huge, this project will also increase the supply of needed metals and will decrease our reliance on foreign supply. There will be a substantial increase in tax revenue for the local area, schools and state. Minnesota can become a leader in the production of these metals, several of which are not mined anywhere in the US. I encourage you to support the EIS statement and recommend to the state that PolyMet be given the permit to proceed with this project.	EOO
<b>Sender Last Name:</b> Krause		<b>Submission ID:</b> 1145
1256	We have seen results of copper mining in Canada	EOO
3854	See attached a petition signed by 111 people opposed to copper / sulfide mining in N.E. Minnesota. We would like this public input to be considered as you ponder permitting the Polymet / Northmet mine. This petition was sponsored by the Duluth Area Green Party. I would also personally urge you to consider your agencies' stated responsibilities to ensure environmental integrity while you manage our natural resources . I really don't think that an expanding copper / sulfide mining industry is in line with your environmental protection duties.	EOO
<b>Sender Last Name:</b> Kreis		<b>Submission ID:</b> 1995
2481	Please follow what Wisconsin has done and ban this type of mining until it can be proven safe. I enjoy canoeing and cross country skiing in this area and would hate to see it damaged as stated below.	G14
<b>Sender Last Name:</b> Krumme		<b>Submission ID:</b> 149
12	The other thing that I think we should have is at the -- at these meetings, they issue public comments rather than written, in written form. I think we should be able to hear each other, pros and cons and have -- have a public debate. I think the time needs to be extended for the public comments, and I think it needs to reach a much wider range of audience in Minnesota.	PRO6
24	5) Require the PolyMet Company to show that their waste rock and tailings piles won't collapse and dump uncontrolled pollution into nearby waters and that they will not create water pollution that lasts for thousands of years.	GT2
29	1) Analyze the land that is going to be exchanged for Superior National Forest land to make this project possible. Make sure that the land swap would protect wetlands, tribal rights and taxpayers' interests.	PD1
34	3) Analyze all of the impacts (air and water) on increased mercury in fish from the PolyMet project and other nearby pollution sources. Mercury in fish causes brain damage to children and to the fetus.	WR4B,FM1,AQ6A
35	4) Get better information on the nature of wetlands, endangered species, wild rice stands and other resources that would be affected by the project.	WR1E,WI5,WE1

*Alphabetical by sender's first name*

<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
140	Hello. I am a landowner on Birch Lake from Ely, in Ely, Minnesota, and was born and raised in Ely, Minnesota, so I am very much aware of the BWAC, and the controversy that surrounded that. And also, I am a proponent of our waters in the Boundary Waters Canoe Area. I'm very fearful that if this project goes through, it's going to be a precedent setting for the rest of the other mines that might follow. That being said, in general, any nonferrous mine in that -- in the region proposes a lot of hazards that I don't think are fully -- have fully been addressed by the environmental impact statement. We -- I -- I really am -- have problems thinking about this containment of the waste rock. I don't believe that -- I just don't know how that would work. The -- the sulfur acid, I believe, will still be able to be leached out of that containment system that they're proposing. The other thing that I think that we should bring up into the DNR and the Army Corps of Engineers is the situation in Wisconsin, whereby they have proposed -- no, they have a moratorium on mining until it's proven that it is a safe and effective way to -- until it's proven that they have a safe and effective way to mine. And I really think that Minnesota, Minnesota's legislature should consider the problems that they've had there.	EOO,G7A,G12
293	I am writing to you as a citizen of Minnesota concerned about the PolyMet sulfide mining project proposed on 6,700 acres of public land in the Superior National Forest. Sulfide mining would be new to Minnesota. In other locations, sulfide mining has resulted in acid mine drainage causing extensive and expensive damage to water quality and the environment. Often, taxpayers have been stuck with the costs. The PolyMet project in Minnesota could degrade water quality, increase mercury in fish, destroy wetlands and peat bogs, fragment the habitat of endangered species, interfere with tribal rights guaranteed by Treaty and with tribal resources, like wild rice, increase air pollution that results in regional haze and create a risk of perpetual pollution with no financial assurance that the public won't end up paying the costs. The Indian tribes working on the EIS and the United States Environmental Protection Agency have provided helpful information on the inadequacy of the PolyMet draft EIS. Before this sulfide mining project is even considered for permits, please fill these gaps:	G2B,G2C,G3,G4,G8
<b>Sender Last Name:</b> Kubinek		<b>Submission ID:</b> 1972
2476	To allow this permit process to go forward would be a huge mistake and losing proposition for all of the taxpayers and residents of the state of Minnesota. As it will only open the floodgates to more permit applications such as this From other Carpet Bagging Mining Companies. This is such a process that, really isn't even known if it is safe and far more importantly, what the future impact can or might be to the region's groundwater. By far and above, Minnesota's most valuable resource is it's Watershed. So valuable, That no one should ever even attempt to ever put a Dollar amount on it. Why then, would anyone ever consider to gamble any of it's future? By allowing this permit process to go forward, that is the only thing that will ever happen. As these mining companies don't care about the enviroment, they only care about their profits, at ANY Cost!	G7
<b>Sender Last Name:</b> Kuehl		<b>Submission ID:</b> 1515
1831	As an out-of-stater and regular visitor to Minnesota, I might be considered a tourist. However, I live in northern Wisconsin where the environment is extremely similar to that of the proposed mining project. Please accept these comments on the PolyMet Mining Corp. NorthMet mining project Draft Environmental Impact Statement. I have serious concerns about the safety of this project and its potential impacts on Minnesota's natural resources.	G7B,G11
<b>Sender Last Name:</b> Kueper		<b>Submission ID:</b> 2465

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
2972	As a Graduate student of Conservation Biology at the University of Minnesota, I wanted to take a moment to express my deep concern over the possibility of the PolyMet Mining Corporation implementing their proposed sulfide mining project in Northeastern Minnesota. In terms of impact on water quality, I understand that the water leaching from waste rock piles at the site is expected to exceed water quality standards for up to 2,000 years. This is a completely unacceptable timeframe. Additionally, it is my understanding that heavy metal contaminants from the mining operation would end up in surrounding rivers and streams, and ultimately Lake Superior. Such pollution, among its many impacts on the aquatic ecosystem and the human populations that depend on them, will lead to contamination of the fish populations that Minnesotans have long enjoyed. Minnesota – a state literally named for its water – already suffers greatly from water contamination issues, especially concerning heavy metals. The State should be condoning action that will result in undoing this natural resource problem – not intensifying it. The water quality impacts alone should provide the State with ample reason to prevent this operation, as proposed, from occurring. However, the reach of the consequences will extend even further, including a total loss of 1,454 acres of federally designated critical habitat for two endangered species known to be in the vicinity of the mine site – the Canada lynx and the gray wolf – as well as potentially dire ramifications to nature-based tourism industries in and around proposed mining regions. To allow such an operation to occur would be acting with a complete and utter lack of foresight, not to mention undue selfishness. In addition to the health and economic impacts for current residents and visitors to the area, the short-term gain acquired in this case would result in a long term burden left to millennia of future generations of Minnesotans. As the Native American proverb goes, “We do not inherit the Earth from our Ancestors, we borrow it from our Children.” Let us not leave them with nothing to borrow from their own. Minnesotans are fortunate to live in a state that is rich in a diverse array of both natural and social resources. To fall victim to the tunnel vision of the mining industry by focusing on such a narrow component of this resource base is to risk jeopardizing all of the others. As a recent popular film stated, “The wealth of this world is not in the ground, but all around us.” I ask you to please consider this and the above thoughts when you consider the proposed mining project’s Draft Environmental Impact Statement.	G2C,G7A,G11
<b>Sender Last Name:</b>	Kuhn	<b>Submission ID:</b> 3180
722	Request a time extension of 30 to 45 days for review of the EIS to ensure an adequate response can be developed. Request more public meetings in more places to gather input. The current schedule is too limited.. Request that the public meetings include the option for citizen statements and discussion in the open meeting.	PRO6
<b>Sender Last Name:</b>	Kunz	<b>Submission ID:</b> 1936
2470	Any risk to our natural resources should be weighed extremely carefully - while this project may provide jobs, this is not a project that will be sustained much past 20 years. Are all the risks listed below worth 20 years' of questionable employment?	G6
<b>Sender Last Name:</b>	Lackner	<b>Submission ID:</b> 2354
2835	Please accept these comments on the PolyMet Mining Corp. NorthMet mining project Draft Environmental Impact Statement. I have serious concerns about the safety of this project and its potential impacts on Minnesota’s natural resources. While not a citizen of Minnesota, I do come to the Duluth area and Boundary Waters annually for vacation, and this project clearly represents a threat to the wilderness that I value so highly. I and many others will not come to visit a despoiled vista of open pit mines and tailings ponds.	G2C,G11
<b>Sender Last Name:</b>	Ladewig	<b>Submission ID:</b> 2868
969	The draft EIS did not allow for how the habitat of the Canadian lynx will be protected. They ha-ve a right to be there and cannot just "move next door". Before this mining operates, this needs to be taken care of in an effective manner.	WI1



*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
2742	I no longer live in Minnesta, but recreate there regularly. It appears the water movement through and over bedrock is unknown and may move toward the Boundary Waters watershed. Testing should be done before any mineral extraction is performed. The BWCAW is a unique place on earth, and needs to be preserved. It also draws thousands of visitors anually that have a huge impact on the northeastern Minnestoa economy. I know people who still drink unfiltered lake water there, and i would hate to think they may drink in metals in solution due to mining miles away.	WR2A
3177	I understand there is no financial structure or requirement for funding of mitigation after the mine closes. There needs to be, as any damage done to waters, soils, and habitats should be returned to their original condition. And, should their be leaks or evidence of damage to flora and fauna post closure, funds need to be set aside for damage to correct it. Unintended consequences can easily occur. Here in Green Bay, it has taken 20 years to determine who should pay for the PCB removal and capping in our local Fox River. (Our water source is not the river, happily)	PD3,PD4
3178	I am concerned that the permitting for this mine will be an open door for others who will apply later. There will be material in suspension in the air, dust, that I would not want to breathe. More mines equal more air pollution, pollution that has no place in the BWCAW's magnificent clarity.	G9
3179	A mine needs monitoring of its waste material for water pollution run off, and proper storage and disposal of tailings. This needs to be a requirement of permitting.	PD2

**Sender Last Name:** Laine

**Submission ID:** 3586

3855 I am writing to express my full support for the pending PolyMet project in Aurora. As a construction electrician, I have a special interest in this project due to future job opportunities it will bring. PolyMet will significantly contribute to the state and local economies at a time when we are in need the jobs and economic benefit, especially in the Iron Range area. Given the large number of jobs this project will create (estimated to be 400), I believe that this project will provide local workers an opportunity to secure living-wage jobs at a time when this is needed most. Not only will this project directly impact the workers and their families, but the millions of dollars that PolyMet will provide in local and state taxes will support our communities and schools. PolyMet has demonstrated that it can produce critical metals while following Minnesota's strict environmental regulations that protect our air, water and land. This issue is critical to many of us who enjoy the pristine wilderness in Northeastern Minnesota, especially the Boundary Waters Canoe Area. Based on documentation produced by PolyMet representatives, I believe that impacts to the air and water will be minimal. As you are well aware, this project has been designed to minimize environmental impact; several examples include the reuse of a brown field site, the reuse of existing infrastructure and the minimization of the disturbance of wetlands. I appreciate any support your office may offer to this project. Thank you for your time.

**Sender Last Name:** Lakso

**Submission ID:** 3211

1304 In regards to the structural stability of the tailings basin at the old LTV Mining site. I was an employee at this mine from 1981 to 2000. The company hired an engineering outfit several years before they closed down to determine the stability of the basin. They used drilling and other means to determine the stability. The report the company received said it would be structurally sound and stable for at least 40 years or more. I personally talked to one of the lead employees from the engineering firm and he told me that as far as he was concerned it would be stable for another 100 years. I'm sure you could contact someone from the old LTV plant to verify this and he/she may be able to even produce the report they received from the engineering firm.

**Sender Last Name:** Landa

**Submission ID:** 365

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
405	I support the Polymet Mining proposal. The jobs that will be created are sorely needed for a region that has been seriously depressed economically for years. The tax revenue that will be created for the region and State of Minnesota as a whole will be very beneficial. The size of the metal deposits in the Duluth Complex will generate a significant source of revenue for the State of Minnesota for many years to come. In addition, Polymet has demonstrated that they will be able to mine without significant detriment to the environment, and they have set aside sufficient funding to address any environmental issues that may arise. With this improved mining technology, Minnesota can lead the way in showing the world how to mine with minimal environmental damage.	EOO
1144	I support Polymet Mining for numerous reasons and feel the DNR should find the DEIS document adequate so that Polymet can begin mining operations as soon as possible. First of all, Polymet offers our state self respect, pride, honor and happiness, all these human qualities are key to building a healthy community. Also, Good paying jobs which will last for multiple generations are what we need in Minnesota. I have read the Draft EIS statement and I believe Polymet in coordination with the DNR and supporting agencies have put together a document so complete and detailed that I highly doubt there is anything like it in the country to date. I believe environmental protections are in place to ensure the minimum amount of seepage of sulfates into the ground water, lakes, rivers and wetlands. The cost vs benefit are such that it imperative we expand this industry to include Non Ferrous minerals, it is this State's duty to initiate and assist the creation of future business growth in the mining sector that helps to protect the world's environment from further degradation by all the bad actors who practice careless and irresponsible mining ethics. These unethical practices continue to increase the global carbon footprint and present the world with a moral hazard that we (Minnesotans) as good stewards of the environment worldwide can not, and should not ignore. Further more, the state of Minnesota has discovered by way of business cycles, that it is now clear our mining sector needs additional diversification to include these strategic metals which are increasingly important to our national security. Moreover, when it comes to ethical practices I believe that the executive and managerial team that Polymet has assembled is a world class team beyond a doubt. I have reviewed their backgrounds and expertise levels respective to their roles and found them all extremely qualified and motivated to do the job of mining these metal safely and responsibly according to state regulations. I also believe when the time does come for closure, that Polymet has and will have in place financial assurances that are sufficient to cover all aspects of mine closure so as not to cause any public financial burden.	EOO,G4
<b>Sender Last Name:</b> Langford		<b>Submission ID:</b> 2317
2768	The PolyMet DEIS describes significant environmental issues associated with this proposed mine. These issues should be resolved before this mine is approved by the Minnesota Department of Natural Resources and the U.S. Army Corps of Engineers. Our family enjoys this area of Minnesota quite a bit in the summer. It is tranquil and provides our children with the ability to learn life skills, while enjoying, and learning how to respect nature. We are so lucky to have this gem of nature so close to us. Please take the time to make sure there is no impact to the BWCA from this mining project BEFORE hand. We have seen too many projects like this proposed, and the outcome has had a much greater impact on the environment than promised. This BWCA area is an asset to Minnesota and, and is worth protecting in every way possible.	G6
<b>Sender Last Name:</b> Languth		<b>Submission ID:</b> 3559
3822	To whom, I support PolyMetMining's NorthMet Project. I feel it would be a great benefit to our area financially and would protect our environment. I hope you will move this project forward. Tim Langguth DDS 324 W Superior St, Duluth, MN 55802	EOO
<b>Sender Last Name:</b> Langr		<b>Submission ID:</b> 3210

*Alphabetical by sender's first name*

**Comment ID    Comment Text** **Theme Codes**

3589 have not equated to environmentally responsible mining, or to clean-up afterwards. It is therefore imperative that the DNR require very large surety bonds from Polymet, to be paid before mining and from profits during each year of mining, so that foreseen and unforeseen environmental problems due to the mine may be cleaned up. These funds must remain in escrow, in safe investments, for decades or longer, so that when some containment measure fails (as is common), the funding to start the cleanup is quickly available and will not fall on taxpayers. Also, these funds can be used for the very long-term monitoring of the mine waste that will be necessary. After decades have passed, if these funds have not been used, they may begin to be repaid to Polymet. PD4

**Sender Last Name:**    Larkin **Submission ID:** 2106

2495 I am writing to voice my objection to the proposed hard rock mining in the Hoyt Lakes district of Minnesota by Polymet or any other, similar mining enterprise. My concern is, of course, environmental. The exposure of these rocks will cause leaching of sulphide into the nearby streams, affecting the water quality of those adjacent streams and rivers and, ultimately, Lake Superior. Sulphide pollution will also affect the wild rice grown in the region. Even more significant for fish and, therefore, humans is the leaching of mercury which has poisonous effect. The Izaak Walton League notes, in addition, the disruption of wildlife corridors across the Mesabi Iron Range due to the size and location of such mining. The need for jobs is, I understand, severe. Adding to the tax base is important. None the less, because of the importance of water, I urge you to look for solutions that are environmentally secure; this type of mining is not. As I'm sure you are aware, our natural resources are limited; water quality is the most important. Diminish water quality, and you diminish the amount (quantity) available for consumption, irrigation, recreation. Contaminated waters translate into poor health. Stewardship of our water is essential to life. It's my understanding the local American Indian tribes focus on actions that will benefit the seventh generation. If not for the environment, please act for the health of our children and work to deny this type of mining in Minnesota, land of sky-blue waters. Many thanks for your consideration. G3B,G7A,G15

2717 Please accept these comments on the PolyMet Mining Corp. NorthMet mining project Draft Environmental Impact Statement. I believe the environmental impact of hard rock mining/sulfide mining proposed by Polymet and Franconia Minerals will be deleterious and severe. The exposure of the rocks and the fracturing of the rocks that will occur as a result of this type of mining inevitably signifies pollution. The history of similar mines points to this effect. There is no way of avoiding such pollution. Our Boundary Waters, a resource for humans as well as wildlife, need permanent protection from such assault. Once contaminated by the acidic result of this mining, the local rivers & streams, and ultimately Lake superior, will be contaminated; aquatic life will be much compromised if not terminated. That result will affect wildlife that ingests those waters. The environment is a resource and treasure every citizen, including those promoting this ravage of the land, should not only understand but also fight to protect. The devastation of our natural resources is approaching crisis levels; water quality is particularly important to the sustenance of life and health. Hard rock mining in the proposed areas IS NOT safe. I believe the Environment and the quality of our Minnesota waters are far more important than the proportionately small amount (compared to the quantity of rock removed) of mineral that can be extracted. G2C,G7A

**Sender Last Name:**    Larsen **Submission ID:** 3664

- 1 The Friends of the Cloquet Valley State Forest supports and hereby incorporates by reference all comments submitted by the Tribal cooperating agencies, as set forth in Appendix D to the Draft EIS, and also set forth within footnotes throughout Volume I of the Draft EIS, and the comments the League of Women Voters, and the comments and observations provided by on the chapter's behalf Minnesota; Izaak Walton League, as prepared by Len Andersen; and those of the Friends of the Boundary Waters. G15
- 2 1. The time period allotted for feedback has not been sufficient for us to respond fully. We will send additional comments as soon as we are able and again request an extension of time for public review. PRO6

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
3	2. We believe the area impacted by the Polymet Northmet project is much larger than the area studied, that the project will negatively impact waters more than 100 miles away and for hundreds, perhaps thousands of years. We believe that even if plans were present to mitigate / render clean the waste anticipated to stream from the plant in perpetuity no calculations exist for anticipating such action.	WR1A,WR3B
4	3. Adding massive amounts of tailings waste to the existing problem of the existing leaking LTV tailings basin is only one example of how this project heaps insult upon injury – waters near the taconite dumps have been impacted by sulfide leaching from the pits with increased levels of sulfide as the waters are closer to the mines and pits.	G9
5	4. The company states the level of sulfate released from the tailings basin will exceed the secondary drinking water standard during the operational period and again at year 60. What about year 90? Year 200? It is a well known fact that drinking waters standards have not been updated to include all harmful substances, and are not appropriate measures to equate animal and plant habitat.	WR3A
6	5. Allowing companies that come to Minnesota to use our waters in ways that leave it harmed is unlawful and flies in the face of the economic realities extant in the world today – water is THE most precious resource.	G7
7	6. Wetlands in one watershed cannot be replaced by “creating wetlands” in another watershed. The watershed is impacted and changing another watershed does not fix the impact. The plants and animals impacted by destruction of one watershed are harmed or rendered extinct or kept from reviving regardless of what happens in another watershed or habitat. There is a proposal to divert waters seeping into the great wetlands surrounding the area of the Northmet Polymet existing dumps which would pull water seeping from the dumps and divert it to other waters – the Partridge River is one consideration. The idea that you can have an existing problem, add to it, take away an unquantified amount, dilute it and presume that this equates to no net gain is absurd on it’s face.	WE2,WE3
8	7. Human health impacts have not been quantified nor calculated in the EIS. In this video it is made clear that increased methylated Mercury will harm infants in utero. Each human being gets one chance to develop a healthy nervous system in the womb and the increased methylated mercury in our water will affect every living thing that comes into contact with it and by the process of bioaccumulation humans will be grievously impacted. In the EIS it is presumed that methylated mercury will increase but it is not quantified in the increased amounts coming from this project’s impact on humans. In addition the report states there will be increases	WR4B,FM1,AQ6
9	8. There is a prudent alternative to the Northmet Polymet strip mine project which may substantially reduce many of the concerns. This alternative has been rejected as not being economical without any investigation or study. It may be assumed that underground mining will be substantially less profitable however the statute says that economic considerations alone shall not justify pollution, impairment or destruction of the environment. A fair look at underground vs strip mining should be undertaken and should be coupled with the cost of underground mining remediation vs the cost of strip mining remediation and ensuing impacts. One mining company has announced it intends to mine underground. Underground mining is NOT out of the question.	ALT8
10	9. The northmet mine site surface rights are owned by the federal government and the mineral rights are subject to covenants agreed to by the holder of the mineral rights when the surface rights were sold to the federal government. The covenants are designed to protect the wetlands and were required by the Weeks Act <a href="http://www.foresthistor.org/Publications/*weeks*%20*act*.pdf">www.foresthistor.org/Publications/*weeks*%20*act*.pdf</a> as a condition of the sale of the surface lands to the federal government. The Weeks Act is a long standing law which is intended to protect wetlands and the environment. Both the DNR and the USFS have acknowledged that the Northmet mine site wetlands are worthy of protection are worthy of protection. The EIS is inadequate in that it merely assumes that the only type of mining possible is strip mining and this is based solely upon assumed economic considerations, the EIS does not adequately	WE7

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
11	10. The EIS is incomplete in that it does not address the remedial costs after closure and establish estimated costs including treatment of water for perhaps hundreds or thousands of years. It has to be a type of cash deposit or bond that is realistic for such estimation. Treatment in perpetuity is on its face incalculable. Even with a finite time of 100 years there must be specific planning in place to establish and maintain adequate water treatment. One can only surmise the reason Polymet says one must wait for the actual design is to get the permit, get the money, and leave a situation where the waste of resources invested and the socio economic impact is such that the political element will dominate and decree continuation and exceptions to the permit and law. In the common vernacular “too big to fail”.	ALT8,G9
744	The weather is so bad today, Weds Dec 9th that I do not want to be out on the roads tonight driving back home from Aurora. Is it possible you will reschedule the meeting?	PRO6
764	The Friends of the Cloquet Valley also submits the following comments and concerns: 1. The time period allotted for feedback has not been sufficient for us to respond fully. We will send additional comments as soon as we are able and again request an extension of time for public review. 2. We believe the area impacted by the Polymet Northmet project is much larger than the area studied, that the project will negatively impact waters more than 100 miles away and for hundreds, perhaps thousands of years. We believe that even if plans were present to mitigate / render clean the waste anticipated to stream from the plant in perpetuity no calculations exist for anticipating such action. 3. Adding massive amounts of tailings waste to the existing problem of the existing leaking LTV tailings basin is only one example of how this project heaps insult upon injury – waters near the taconite dumps have been impacted by sulfide leaching from the pits with increased levels of sulfide as the waters are closer to the mines and pits. 4. The company states the level of sulfate released from the tailings basin will exceed the secondary drinking water standard during the operational period and again at year 60. What about year 90? Year 200? It is a well known fact that drinking waters standards have not been updated to include all harmful substances, and are not appropriate measures to equate animal and plant habitat. 5. Allowing companies that come to Minnesota to use our waters in ways that leave it harmed is unlawful and flies in the face of the economic realities extant in the world today – water is THE most precious resource. 6. Wetlands in one watershed cannot be replaced by “creating wetlands” in another watershed. The watershed is impacted and changing another watershed does not fix the impact. The plants and animals impacted by destruction of one watershed are harmed or rendered extinct or kept from reviving regardless of what happens in another watershed or habitat. There is a proposal to divert waters seeping into the great wetlands surrounding the area of the Northmet Polymet existing dumps which would pull water seeping from the dumps and divert it to other waters – the Partridge River is one consideration. The idea that you can have an existing problem, add to it, take away an unquantified amount, dilute it and presume that this equates to no net gain is absurd on it’s face. 7. Human health impacts have not been quantified nor calculated in the EIS. In this video it is made clear that increased methylated Mercury will harm infants in utero. Each human being gets one chance to develop a healthy nervous system in the womb and the increased methylated mercury in our water will affect every living thing that comes into contact with it and by the process of bioaccumulation humans will be grievously impacted. In the EIS it is presumed that methylated mercury will increase but it is not quantified in the increased amounts coming from this project’s impact on humans. In addition the report	WR3B,WR3I,WR4B,WE2,
2592	STEVEN LARSEN: My name is Steven Larsen. I live in Esko, Minnesota, and I'm an electrician. I've been an electrician for 30 some years. And at this time, with the possibilities of jobs being created by this project, as well as for construction people and with the -- for people to work at the plant as it comes online, it would be great for northern Minnesota, as well as the whole state, both as an increase in tax base and also for the economy for the immediate area as well as other areas. The economy has kind of been shaken up with all the problems around the world, but I believe at this time Minnesota has a lot of opportunities to continue its tradition of creating jobs and being creative at the same time. And I'm running out of words. At this time, in Minnesota, there is a high unemployment rate among all the construction people. There has been work that has been done on the range recently that have employed construction people from both the immediate area as well as the greater parts of Minnesota and the metro area Blaine Steno Atkinson-Baker pt E because work has frankly been really curtailed because of the way of the economy and has helped a lot of people keep their homes and pay their bills and keep the way of life here in Minnesota, which has been a great tradition. And I ran out again.	EOO

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
2633	My name is Steven Larsen, and I live in Esko, Minnesota. I've been an electrician for 30-some years, and I believe this project is going to be good for northern Minnesota and as well as work for construction people but also for the communities that are around it and good for Minnesota and increase tax funds to help the tax base, which they're finding that we have a dwindling one at this time with so many people unemployed. And I think the more jobs we create in northern Minnesota, the better it is for the whole state and for the communities that have been losing their children to move elsewhere to find work and -- when there has been none, and it's quite a few years since they closed the original LTV site where PolyMet will be at. And I've run out of words.	EOO
3730	Feb 3, 2009 The Friends of the Cloquet Valley State Forest supports and hereby incorporates by reference all comments submitted by the Tribal cooperating agencies, as set forth in Appendix D to the Draft EIS, and also set forth within footnotes throughout Volume I of the Draft EIS, and the comments the League of Women Voters, and the comments and observations provided by on the chapter's behalf Minnesota; Izaak Walton League, as prepared by Len Andersen; and those of the Friends of the Boundary Waters.	G15

**Sender Last Name:** Larson

**Submission ID:** 1088

1192	[have been to most seminars put on by PolyMet Mining. I believe PolyMet has viable products produced safely for the environment. We need to get this project moving for our economic well being! Please support this project and move: it forward.	EOO
3176	This project cannot be started unless there is an absolute guarantee that toxins will not be released into our environment.	EOO
3470	Please accept these comments on the PolyMet Mining Corp. NorthMet mining project Draft Environmental Impact Statement. I have grave concerns about this project's potential impacts on Minnesota's natural resources and public health. I fell in love with the Boundary Waters Canoe Area years ago when I experienced it for the first time at the age of 6. My parents took me and my 4 year old brother because they had a strong desire for me to experience the same wonder they had when they camped there. I have been there many times since and still cannot get over the awe I feel for such a beautiful place. It is truly a unique treasure! I have never been to a place that is anything like it. As a Minnesota resident and college student in Minneapolis, I feel I have a duty to speak out against the possibility of mining away the northern area of my home state and polluting our sensitive air and waters. I love living in Minnesota because I believe it has a commitment to sustainability and strives to protect the environment of our citizens and natural world. Historical evidence shows that sulfide mining has a tremendous negative impact on the surrounding areas, including the land, water habitats, and air quality. I thank you for offering to use to best technology available to protect the environment with regard to this mining project, however, I do not believe that it will be enough to protect the land, water, and air around the area. I will not stay silent as proposals are put forward to pollute my home, and undoubtedly corrupt the level of purity of the BWCA, with noise, evidence of human impact, and toxins. I ask you to cease all project proposals and activity for sulfide mining in northern Minnesota. I am not in support of the proposals for mining near the Boundary Waters Canoe Area in northern Minnesota because it is heavily invasive effort near an irreplaceable area of protected land. I will continue to respectfully speak out against such a mining project in every way I can. As a college student majoring in environmental science, I am also asking my fellow students and professors to rally around this issue and speak out against this mining. Please do not take away my dream of taking my children and grandchildren to the BWCA to experience the incredible clean air, land, and water it has to offer. I want them to be able to drink from a lake and eat freshly caught fish. I want them to see what the environment can be like when we respect it and choose to make decisions that promote sustainability. I do not exaggerate when I say I believe the pollution of this area in any way is an utter tragedy. The PolyMet DEIS describes serious environmental issues associated with this proposed mine. These issues should be addressed and resolved before this mine is approved by the U.S. Army Corps of Engineers and the Minnesota Department of Natural Resources.	EOO,G2,G7

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
3570	I think the Northmet project would be a good project for northern Minnesota. I think they have looked at operating this project with the environment as there first priority. It would also give some needed work to the iron range in these times. Thanks for being able to comment on this project.	EOO
<b>Sender Last Name:</b>	Lasky	<b>Submission ID:</b> 3454
3734	After reviewing the extensive work done by PolyMet, MDNR and the Federal Corps of Engineers and associated regulatory agencies, I commend the agencies and the company for this very thorough assessmet of the potential impacts of the proposed project. The determinations and mitigation alternatives highlighted seemed reasonable and appropriate given this proposed new non-ferrous mining activity. I stongly support the approval of this draft EIS and the ongoing permitting of the project. It represents a sound economic development venture for Minnesota, has addressed potential environmental impacts with appropriate mitigation measures and alternatives given its location in the eastern Iron Range. These are stratgic minerals important to the country and our homeland security and also needs to be taken into consideration as we look to balance environemntal protection needs, economic development and jobs and the basic strategic needs of our country and the state. Thank you for the oppourtunity to provide these brief comments and support.	EOO
<b>Sender Last Name:</b>	Latimer	<b>Submission ID:</b> 2584
3140	•Sulfide mining proposals threaten our clean waters and tax dollars • Please support legislation that provides needed safeguards for this kind of mining • Pollution almost always occurs with sulfide mining, despite industry predictions that it won't • Future generations of Minnesotans deserve to inherit clean waters and a healthy environment. • I am a concerned lakeshore property owner in northern Minnesota	G5,G7
<b>Sender Last Name:</b>	Lauth	<b>Submission ID:</b> 2529
3096	I am anxious to submit a comment regarding the PolyMet Corp. NorthMet mining project Draft Environmental Impact Statement. I am concerned about the consequences this project will have on Minnesota's economy and precious natural resources. I am certain you have received a number of responses outlining concerns about 1) safety, 2) impacts on water quality, including water leaching from waste rock piles, 3) long-term responsibility for clean-up, 4) subsequent tax burdens, 5) high sulfate (and therefore mercury) levels, 6) stability of tailings basins, 7) long-lasting contamination. I share these concerns, and I urge the DNR and the U.S. Army Corps of Engineers to more carefully examine the DEIS, working with PolyMet to complete stability analyses and create a realistic long-term plan for containing pollutants and striving for minimal impact. I am encouraged by the relationships which have been set up in Wisconsin between the DNR and potential mining companies, because I value the care and thought put into permit grants. I would appreciate a similar prudence and critical eye from the Minnesota DNR. I understand the value of increased economic opportunity in northern Minnesota. I am a Minnesota resident and have spent significant time in the ecosystems under consideration for these PolyMet mines. I know the economy could use a boost. However, I know that the pristine nature of these ecosystems is a huge part of their appeal, both for tourism and for agriculture and for industry. For these reasons, I strongly urge the DNR to not only reconsider the PolyMet proposal but to implement a creative problem solving team to move towards sustainable innovation in northern Minnesota. The solution is not simply to abandon all mining prospects. I see the solution situated somewhere within a compromise, one that protects Minnesota's natural resources so they can continue to build an economy with vibrant tourism, fish and wildlife opportunities, and safe communities. I have grave concerns about the PolyMet proposal as it stands, and I fervently hope the DNR will reconsider before approval.	G4,G6,G7A,G11,G14
<b>Sender Last Name:</b>	Lazaryan	<b>Submission ID:</b> 2224

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
1813	And I started asking the people at the different tables very simple questions about what's going to happen and getting this explanation about the water and the water from -- that's going to be used in the old ponds from the old mine, and they're already leaky ponds and they're already causing a leakage problem, but they don't feel like that's a big deal and could not get a straight answer as to what's going to happen with the water and with the water quality. When you're using an old site that's already causing environmental problems, now you're going to add more problems to that, and it was suggested, so that it wouldn't leak out into -- and bubble up and create mercury, that the water would be recycled, and when you recycle and reuse water, it's going to be higher and higher concentrations. Well, at what point do you get rid of that very highly-concentrated water, and where does it go? Well, it was going to go down the Partridge River. Well, what happens? I said, "What happens?" Well, it goes down the Partridge River into the St. Louis River into Lake Superior. But my question had been, what's the impact of that? What happens to the environment when you're putting that kind of chemicals into the river?	WR1E,WR2D
2008	And, really, that's -- that's foundational law, and I think it is a high violation of our law when a company can be allowed to pollute and to not come up with solutions and not -- I could not get a question answered as to the amount of bond that this company is going to be required to post. I think it's very important that the worst-case-scenario-time-shell bomb of an environmental problem be analyzed and that this company be required to post a bond for that so if it does happen, that everything falls apart and their equipment fails or whatever happens, we, the people of the state of Minnesota, are not left with the mess to clean up.	PD3,PD4
2632	I guess, foundationally, I have a really serious problem with this project and with the -- I don't believe the Environmental Impact Statement is adequate; I don't think it's strong enough. I believe that every person has the right to their property; they have the right to their mineral rights on their property, but I also have the right to my body and that my water doesn't get polluted and that my neighbor's water doesn't get polluted. So that's my concern on this. I think that there should be no tolerance whatsoever and that they can do whatever they want with their property as long as it does not affect other people.	G2,G8
<b>Sender Last Name:</b> Lecocq		<b>Submission ID:</b> 1452
1706	I was born and raised in MN, and have always been proud to come from such a beautiful state full of amazing wildlife. I now make my home in IL, but I still have family and many friends who live in MN and I frequently return to visit. The natural resources in MN are still very important to me, and for my daughter's and my future children's sakes, I hope that great care is taken in the decisions being made concerning the proposed mine. I want my children to be able to experience the beauty of MN that I knew growing up.	G11
<b>Sender Last Name:</b> Lee		<b>Submission ID:</b> 1206
215	4) Get better information on existing pollution, the nature of wetlands, endangered species, wild rice stands and other resources that would be affected by the project.	WR1E,WI2,WE1
274	5) Require the PolyMet Company to show that its waste rock and tailings piles won't collapse and dump uncontrolled pollution into nearby waters and that they will not create water pollution that lasts for hundreds or thousands of years.	GT2
511	1) Analyze the land that is to be exchanged for Superior National Forest land to make this project possible. Include impacts of the land swap on wetlands, endangered species, hydrology, tribal rights, and taxpayers' interests.	PD1
512	2) As the U.S. EPA suggested, financial assurances for the public MUST be included in the EIS long before any permitting process gets underway.	PD4
547	3) Analyze ALL of the CUMULATIVE impacts (air and water) of increased mercury in fish from the PolyMet project and other nearby pollution sources. Mercury in accumulates in fish and causes brain damage to children and to fetuses.	WR5A,FM3,AQ4B,AQ6A



*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
1321	I am writing to you as a citizen of Minnesota concerned about the PolyMet sulfide mining project proposed on 6,700 acres of public land in the Superior National Forest. Sulfide mining would be new to Minnesota. In other locations, sulfide mining has resulted in acid mine drainage causing extensive and expensive damage to water quality and the environment. Often, taxpayers have been stuck with the costs. The PolyMet project in Minnesota could degrade water quality, increase mercury in fish, destroy wetlands and peat bogs, fragment the habitat of endangered species, and interfere with tribal treaty rights and tribal resources, like wild rice. The project could also increase air pollution that results in regional haze and create a risk of perpetual pollution without adequate financial assurance that the public won't end up paying the costs. Both the Indian tribes and the United States Environmental Protection Agency have pointed out serious inadequacies in the PolyMet/NorthMet Draft environmental impact statement (EIS). Before Polymet can be considered for permits, the following gaps NEED to be filled:	G2B,G2C,G3A,G4A,G7A,G
3134	I am very concerned about how this mine will affect the quality of the BWCA. It is concerned that the study notes that 36 days of the year there will be a haze associated with this project. I hope we can think long term impact, long after the materials are taken.	G2
3575	The PolyMet Mining Corp's intentions to rape and slaughter the majestic north-minnesotan wilderness are fueled by greed and heartlessness. Giving your support to these corporate slanderers would be a direct assault against mother nature, and all which she has given to man as a race.	EOO,G2
<b>Sender Last Name:</b> Lehmann		<b>Submission ID:</b> 2272
2687	We have reviewed the subject Draft EIS and find that it is thorough and competently prepared by the agencies concerned and by the consultants for the DNR and the Corps. We fully understand that an EIS needs to fairly present the project being proposed and the range of possible impacts, both positive and negative. We note that the lengthy EIS is supported by about 600 reference and reports. We believe that the draft, as prepared makes a fair and scientifically support assessment of the project and its impacts except perhaps not sufficiently as to the positive social and economic impacts of the proposed project. It is always important to keep in mind that an EIS is not a decision or permitting document. We view the footnotes which mainly set out issues apparently raised by some tribal representatives, as being based on weak science and faulty thinking. We support the project as being well conceived and using the latest technology for mining and processing of these geologically complex ores and for handling waste materials from the proposed operations. We also believe that the project will substantially benefit the region and the state by creating well paying, long term, direct jobs and many indirect jobs, as well as tax revenues for the state and the region. The project also will reduce, in an environmentally responsible manner, the nation's import dependence for the strategic and critical materials that will be the products of the mine.	EOO,G6
<b>Sender Last Name:</b> Lehnert		<b>Submission ID:</b> 2033
2487	Wisconsin has banned this type of mining until it can be proven safe. Let's do the same here in Minnesota.	G14
<b>Sender Last Name:</b> Leitz		<b>Submission ID:</b> 3665

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
1	The proposed project has numerous effects on groundwater levels and quality, which are summarized in Table 4.1-68 (page 4.1-129). This table and the accompanying summary make it clear that both at the proposed mine site and at the proposed project's tailings basin significant environmental degradation of groundwater resources is expected to occur. At the mine site, storage of chemically reactive waste rock is predicted to result in long-term exceedances of USEPA and MDH limits for antimony, manganese, and nickel. Further, long-term exceedances of groundwater evaluation criteria for sulfates are also predicted. The failure of the proposed project to meet these standards means that long-term, active treatment of residual seepage from the mine site would be required to reduce the impacts of these pollutants on the surrounding environment. The State of Minnesota has established the goal of closed mines being maintenance free, and this project fails to meet that goal. The perpetual treatment of mine site wastes that this project would require constitutes an unacceptable financial and environmental risk to the State of Minnesota. At the tailings basin, the DEIS establishes that greatly increased groundwater seepage rates will inundate wetlands and introduce high concentrations of sulfates to wetlands and water bodies in the area. These sulfates will acidify the area, causing the familiar and well-documented problems associated with acid mine drainage, including damage to aquatic life and increased methylization of	WR1A
2	pumping and drainage. The No Action Alternative for the tailings basin would not result in elevated concentrations of sulfates in groundwater, and thus avoids the serious long-term problems associated with acid mine drainage.	PD3
3	The proposed project has numerous effects on surface water levels and quality, which are summarized in Table 4.1-68 (page 4.1-129, 130). This table and the accompanying summary make it clear that both the proposed mine site and the proposed project's tailings basin will cause significant environmental degradation of surface waters in the watershed. Both the West Pit (upon mine closure) and the Tailings Basin (during mine operation and upon mine closure) are expected to pollute surrounding waters. The West Pit overflow is predicted to fail to meet water quality standards upon closure, thus impacting the Partridge River and downstream waters to Lake Superior. Release of sulfates and the resulting acid mine drainage are unacceptable long-term impacts of the proposed project's plan for the West Pit. At the Tailings Basin, increased groundwater seepage will result in upwelling that will affect surface waters, including the Embarrass River. Table 4.1 shows that sulfate concentrations at Embarrass River PM-13 are expected to increase from 33 mg/L to 53 mg/L, a jump of 60%. Increased sulfate levels will result in acid mine drainage, which will damage the watershed's biota. This environmental degradation is an unacceptable risk of the proposed project.	WR2C
4	Further, the DEIS shows that numerous groups have serious concerns about the geotechnical stability of the Tailings Basin (4.13-2). Failure of the Tailings Basin, either during mine operation or after closure, would result in catastrophic releases of sulfates and heavy metals into surrounding waters. The DEIS says that "further design and analysis would occur during permitting to ensure that construction meets acceptable design standards" (4.13-2). It is unconscionable to approve a project that has not yet determined that construction of the Tailings Basin can safely mitigate risk of basin failure. The scale of the environmental disaster that would result from such a failure makes it imperative that a full structural and design analysis of the Tailings Basin be part of the DEIS, to comply with NEPA and to allow the public to fully review, understand, and comment upon the environmental risks associated with the proposed project.	GT1
5	C. Methylmercury formation The releases of sulfates generated by the proposed project will significantly increase methylization of mercury in downstream waters. This methylmercury will bioaccumulate in aquatic life, further impairing a watershed that is already severely impacted by mercury. The proposed project will exacerbate mercury contamination by destroying peat wetlands (which sequester mercury), by releasing mercury from peat excavated from these wetlands, by causing atmospheric emissions of mercury, by releasing sulfate ions from the proposed mine site, and by releasing sulfate ions from the Tailings Basin. Many people consume fish from waters that will be affected by the proposed project, and most of these waters are already impaired by mercury. The St. Louis River is already too polluted by mercury for the State of Minnesota's mercury TMDL process to remedy, and thus is excluded from that process. The proposed project will severely impact the river all the way down to the St. Louis River Estuary, which supports world-class populations of walleye, muskellunge, and sturgeon. The DEIS fails to assess the proposed project's impacts on fisheries in the St. Louis River, fisheries that are of huge regional importance. These impacts will have social and economic as well as environmental consequences, none of which are analyzed in the DEIS.	WR4B,WE8,FM1,FM5,AQ4

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
6	The proposed project would directly and indirectly affect 1,522.9 acres of wetlands, which are detailed in Table 4.2-3 (pp. 4.2-11 through 4.2-15). The PolyMet company's current proposal for mitigating the destruction of these wetlands includes on-site mitigation totaling 175 acres of wetland creation and off-site restoration of 1,123.2 acres. Further, 202 acres of off-site upland buffer zones would be preserved, leading to an assumed total of 1,287 wetland mitigation credits. This total "may not be sufficient to satisfy the compensatory mitigation requirements" for the total acreage of wetlands affected directly and indirectly (4.2-38). The enormous scale of the proposed destruction of wetlands places great importance on the quality and quantity of the wetlands to be restored or created. Leaving aside the fact that human-made wetlands cannot approach the quality of natural wetlands, at least on a human time scale, the fact that a significant portion of the wetlands mitigation plan is left undetermined by the DEIS violates the public's right to understand, review, and comment on specific details of the proposed project.	WE2,WE3,WE7
<b>Sender Last Name:</b> Leningang		<b>Submission ID:</b> 157
148	I just want to say I think it would be good for the economy -- so -- because it's suppose to provide up to 400 jobs. And then I'm in construction so that part is good for us in our Local 647 because we're kind of slowing down because of the economy now. This would be a good project for us to be on. And that's it.	EOO
<b>Sender Last Name:</b> Leoni		<b>Submission ID:</b> 30
28	I've been following PolyMet's progress for the last five years. I've been to a number of the DNR presentations. I understand exactly what the safeguards are, and it's totally different than any of the concerns that the environmentalists have regarding seepage or leakage of contaminated processes that they fear is going to go into the environment and/or into the Boundary Waters. This is a totally different mining system than any of the environmentalists are contesting. They're publicizing false information on what PolyMet is actually doing. They're basing it on phosphorus mining from different areas of our country and different areas of the world where sulfur and -- and minerals like this are mined. They haven't taken a true analysis of all of the environmental protections that PolyMet has done, and, therefore, the -- what they're projecting and what they're publicizing is incorrect. Now, on the positive sides of PolyMet, I truly believe that the economic position of not only Northern Minnesota but the state of Minnesota and the United States calls for a project like this. It will only benefit all of the workers in Northern Minnesota, the state of Minnesota, and the United States. It develops jobs, it is safe for the economy, and it also is necessary for the minerals that we will need in the future. We shouldn't rely on the minerals that are projected to be down in Brazil and also that are anticipated or they're trying to find in China. We have a resource here that is identified. It's going to be built on a preexisting mine that will never be reclaimed. Nothing will be done with it. It will always be a abandoned mine. And it's -- it's only a win-win situation for the state of Minnesota and for the United States.	EOO
<b>Sender Last Name:</b> Leplatt		<b>Submission ID:</b> 141
132	My name is Herb LePlatt and we have a cabin in Ely, Minnesota. I believe that the sulphide mining project that PolyMet is anticipating putting in will be a tremendous disaster for the entire area. It would eliminate not only the wilderness and the things that northern Minnesota is known for, but it would eliminate fresh water, fresh fish. It would take hundreds of years to clean up the mess and our grandchildren's children will be working with this same project when they're alive, trying to fix what we've allowed to happen, so I believe it's a real travesty to let this go through.	EOO,G2,G7
141	We have a cabin, which we hope to retire to, on Kawishiwi River in Ely, Minnesota, and we're very concerned for the water quality, for the forest, for the boundary waters, with the potential of sulfide mining. So I think that's the extent of it. We're just very concerned for the environment up there.	G2,G7

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
379	The loss of recreational jobs will offset any gains planned by mining. Plus there are no assurances that PolyMet will hire and maintain a Minnesota work force. They could bring in Canadians or Mexican miners that will work for less in the very near future. Please don't allow this travesty to happen.	EOO,G1,G11
<b>Sender Last Name:</b> Leppala		<b>Submission ID:</b> 5
5	My family is from up here, third generation working in the mines or working on them. I have a family of three and really need the work. I believe that the Iron Range was built on mines and mining natural resources, so I feel it's really important for the economy and families around this area in general.	EOO
<b>Sender Last Name:</b> Lermon		<b>Submission ID:</b> 3217
3547	I don't believe the extraction industry when they say there will be no environmental effects from this mine. As a frequent vacationer in the northern Mn areas I see no evidence from the past mining operations that the future will be better. There are scores of abandoned pits and mines all over Minnesota, and there will always be ways for mine owners to skip out on their obligations to take care of the mines once they are played out. The material they intend to mine has only a 1% value of the materials they want, and 99% waste rock. The companies would do better to mine municipal landfills, the metals content there is estimated at 10% or more! Using hazardous materials to get a 1% yield while destroying clean water for the sake of jobs makes no sense.	EOO,G4A
<b>Sender Last Name:</b> Leschak		<b>Submission ID:</b> 330
351	1. Peatlands Cannot Be Replaced in Any Practical Manner. To remove peat and stockpile it for restoration seems dubious at best. On page 4.2-38 we read: "Due to both on-site and offsite limitations and technical feasibility, it was not found practicable to replace all impacted wetland types with an equivalent area of in-kind wetlands." The PolyMet mining project would destroy (not damage) approximately 2000 acres of natural area that was identified as special habitat worthy of protection in ecological assessments done by the US Forest Service and the MNDNR a decade ago. About 1000 acres of this is peatland, and Governor Pawlenty's "Minnesota Climate Change Advisory Group" stated in 2008 that, "Protecting these enormous carbon resources (peatlands)...is critical." Furthermore, in a report (2008) requested by the Minnesota Legislature, the "Minnesota Terrestrial Carbon Sequestration Project" presented as its primary recommendation: "Preserve the existing large carbon stocks in peatlands and forests by identifying and protecting peatlands and forests vulnerable to conversion, fire, and other preventable threats." In an era when mitigating negative effects of climate change is a global priority, the PolyMet mine, due to the destruction of forest/peatland, would increase Minnesota's overall emission of greenhouse gas carbon dioxide by 2%. That alone is good reason to scrap this project.	G2A,G7C
352	2. History Tells the Tale. From the perspective of human health and environmental safety, there has never been an effective metallic sulfide mining operation on this continent - not a single one. PolyMet has not offered a significant modification to the customary sulfide mining process that would prevent what history demonstrates is inevitable poisoning of water resources longterm. The disasters at Butte, Montana and Sudbury, Ontario spring readily to mind. The astronomically expensive clean-up of the inevitable mess will fall to the taxpayer. It is likely that water escaping from the tailings basin will deliver excessive sulfates to the Embarrass River (and beyond), thus facilitating the conversion of natural mercury to the deadlier methyl mercury. All cap and liner systems leak. There is no reason to expect that typical acid mine drainage will not spread from the site, dissolving heavy metals such as copper and lead, and contaminating ground and surface waters. The "No Action Alternative" seems the most prudent course for this project.	G4A,G7A,G7B
<b>Sender Last Name:</b> Levin		<b>Submission ID:</b> 335

*Alphabetical by sender's first name*

<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
42	I am writing on behalf of the Sierra Club and its members to request a minimum thirty (30) day extension of the public comment period for the draft Environmental Impact Statement (“DEIS”) for PolyMet’s proposed NorthMet open pit sulfide mine project, located within the Superior National	PRO6
43	Forest in Minnesota and to request that the U.S. Army Corps of Engineers and Minnesota Department of Natural Resources hold three (3) additional public hearings regarding this DEIS so that all members of the public who wish to participate are afforded an opportunity to do so.	PRO6
44	through 4:30 p.m. on Wednesday, February 3, 2010. Given the enormous size and technically complex nature of this DEIS, the Sierra Club respectfully submits that an extension of the comment period so that it is no less than 120 days will allow the public and other agency stakeholders the opportunity to make complete, accurate and meaningful comments on this DEIS.	PRO6
45	More time is needed for the public comment period to provide a sufficient opportunity for meaningful comments regarding the environmental impacts of this project for numerous reasons. First, the DEIS and its accompanying appendices are a staggering 1,800 pages, many of which discuss complex technical material. Given the technical nature of this material, Sierra Club and other public stakeholders wish to retain expert assistance to help analyze the DEIS. However, since the current comment period straddles a few major holidays (Thanksgiving, Christmas, and Hanukah), Sierra Club is having a difficult time finding experts with availability. In addition, this project is very controversial. It is the first large-scale cooper mine in Minnesota’s history and it is proposed on a portion of the Superior National Forest.	PRO6
46	The Sierra Club, therefore, requests that the U.S. Army Corps of Engineers and Minnesota Department of Natural Resources extend the public comment period on the DEIS by 30 days. This reasonable and necessary extension would set the comment period to close on Monday, March 8, 2010.	PRO6
47	Sierra Club is not alone in its request to have a 120-day comment period. The U.S. EPA has also recognized that an expanded review period is needed to provide the public and agency stakeholders adequate time to review and comment on the DEIS. On August 25, 2009, the U.S. Environmental Protection Agency submitted comments on “red flag” issues concerning the proposed Northmet mine and urged the U.S. Army Corps of Engineers to adopt a 120-day comment period stating: The complexity and potential impacts of this project warrant a longer public review period than the 45-day minimum for a DEIS published in the Federal Register. Recent similar projects elsewhere in the country . . . have similar 120-day review periods . . . We observe that public interest in copper mines in the Upper Midwest is high. Decisions made for this project may be precedent-setting, as it is the first large-scale copper mine in Minnesota. We have consistently urged USACE to adopt a realistic comment period for this project over the past two years and will address this concern regarding the comment period with the USACE St. Paul District Colonel separately. Letter from Kenneth Westlake, Supervisor of NEPA Implementation, U.S. Environmental Protection Agency, to Tamara Cameron, Chief, St. Paul District Regulatory Branch U.S. Army Corps of Engineers (Aug. 25, 2009) (attached hereto).	PRO6
48	In addition to requesting an extension of the public comment period, Sierra Club also requests that the agencies schedule three (3) additional public meetings on the Fond du Lac Chippewa reservation and in the cities of Ely and Duluth.	PRO6
49	The residents of cities of Ely and Duluth and on the Fond du Lac Chippewa reservation have a considerable interest in this proposed project – the project may adversely affect the Fond du Lac Chippewa reservation and its residents; Ely, the entry point to the Boundary Waters Canoe Area Wilderness, is surrounded by metallic mineral exploration bordering the PolyMet site; and Duluth is the St. Louis County seat and is located at the mouth of the St. Louis River. By holding public meetings only in Aurora and Blaine, a vast majority of interested and concerned members of the public would not have the opportunity to participate in the public hearings. This is unfair for the public and does not further the policies behind public hearings.	PRO6
50	Therefore, Sierra Club requests that the agencies schedule three additional public meetings to accommodate all of those who wish to attend. Moreover, these hearings should have at least thirty (30) days notice and allow for the open exchange of information by permitting the public to pose questions to agency representatives.	PRO6

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
355	The U.S. Army Corps of Engineers and Minnesota Department of Natural Resources will benefit from more public input, because your agencies will have a better understanding on a host of issues before issuance of the final environmental impact statement. The Sierra Club, along with other public and agency stakeholders, will address numerous important, highly complex technical issues in its comments, which call for additional expert input and a more thorough analysis than it can accomplish in the current limited comment period. Just a handful of these issues are listed below: <ul style="list-style-type: none"> <li>o Water quality impacts, including impacts to surface waters, ground water, tailings basin seeps, and changes in hydrology are an immense issue for public and agency consideration, and these impacts are related directly to the proposed action, and alternatives and mitigation measures thereto.</li> <li>o Financial assurances and the implications that inadequate financial assurances would have on environmental impacts of the proposed project with regard to reclamation and closure.</li> <li>o Impacts to endangered species, such as the Canada Lynx and grey wolf, including but not limited to habitat loss, fragmentation, and degradation and impacts from disease and environmental contaminants. As you can see, a complete analysis of the enormous proposed sulfide mine and its accompanying environmental impacts will require extensive analysis, and the list above is in no way exhaustive.</li> </ul>	G2C,G4A,G7,G10
<b>Sender Last Name:</b> Libbey		<b>Submission ID:</b> 2568
2407	Why don't you require a lining on the old tailings basin?	PD5
<b>Sender Last Name:</b> Licari		<b>Submission ID:</b> 280
294	I am writing to you to pledge my suppOJ1 for the PolyMet Mining Co. 's NorthMet Project. Having grown-up on the Iron Range in Biwabik, MN, I know first hand the impact the Mining Industry has had on NE Minnesota. I have seen the good times in the 1970's and the down times in the 1980's and 1990's. This project would add 400 full-time jobs as well as 500 spin-off jobs to our area! It would also add millions of dollars in state and local taxes that help support our communities and education system. But more than that, the PolyMet Mining Co.'s NorthMet Project, along with the Mesaba Nugget Project has brought renewed hope to the Eastern Iron Range. This renewed hope propelled the citizens of the Mesabi East School District to approve a multi million dollar expansion and up grade of their schools. PolyMet Mining Co.'s NorthMet Project would go a long way in re-energizing an area of Minnesota that has seen its share of downturn and hard times. As impressive as the employment numbers are, what is also very encouraging to all of us is the commitment from PolyMet Mining Co. to be a good citizen with respect to technology and environmental controls. I was even more impressed with how PolyMet Mining Co.'s NorthMet Project is going to reuse the mining infrastructure from the old LTV site. As an added bonus for our state, the NorthMet Project would be the first to mine and produce several metals not currently mined anywhere else in the United States. This is not surprising as Minnesota has always found a way to be a leader in many areas, including proper environmental stewardship. Being an employee of AmeriPride Services Inc., I know first hand the commitment needed to maintain a healthy environment. This is very important to all of us who live in NE Minnesota. I know and understand there is allot to consider with this project. The leadership at PolyMet Mining Co. is Minnesotans who know and understand the commitment needed to complete a project in a responsible and environmentally friendly way. I congratulate the DNR and MPCA for doing their due diligence in making sure this project is done right. But I am also a firm believer that if we work together, we can come to solutions that will benefit everyone. This project is very important to the entire state of Minnesota. Please see to it that it moves forward to completion. Thank you very much for your time and consideration.	EOO
<b>Sender Last Name:</b> Liebo		<b>Submission ID:</b> 1205

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
1320	As a concerned citizen, frequent user of BWCA and cabin owner near Spruce Road, I would appeal to decision makers to carefully consider longer term effects of externalizing all the sulfide waste (99% of rock mined), in a nature preserve area of our state. That is the part of our state that is supported by conservation and nature protection. Short term monetary gain will destroy this. Shame on you – DNR!	G2A
2748	Please accept these comments on the PolyMet Mining Corp. NorthMet mining project Draft Environmental Impact Statement. I cannot express my disappointment enough that the DNR of this great state would even consider potentially spoiling that which it is bound to protect. It would be ludicrous to allow sulfide mining adjacent to such a magnificent water park, as the boundary waters. With its track record around the world, it seems likely it will spoil the water shed and leave the public with the clean up. I agree that the people of the Iron Range need new jobs and industry, but the nature of this industry is obviously incompatible with the region it is currently proposed. The tourist industry in northern Minnesota is viable. The world is trying to become 'greener', so why spoil this area of the state for short term goals?	EOO,G7A,G11
<b>Sender Last Name:</b> Light		<b>Submission ID:</b> 3181
3127	Dear Sir or Madam, I am concerned for the welfare of the water quality not only on the St. Louis River but also Lake Superior. No matter how careful the mining could be conducted in this region, there will be acid drainage from the open pits and therefore the water pH will change. I know that most species live within a very specific range of tolerance of the change of environmental conditions such as pH. I hope that the impact study would include a lab review of the speices present in the aquatic environments and there ability to survive the change in pH that will occur no matter how careful the copper will be extracted. I feel that this study is being finished too quickly. It seems that the ultimate decision should be postponed until a more involved and extensive study can be conducted. I mean this is the Lake Superior watershed which is one of our largest sources of surface fresh water we have available to us. It would be a shame if we acted in haste to grab up what resources we could while impacting an even more vital and important resource in the process.	WR3D,PRO3,FM2
<b>Sender Last Name:</b> Lillemo		<b>Submission ID:</b> 3502
3693	Polymet has been unable to stop current seeping from their tailings pit. How can anyone trust what the people at Polymet are saying when they tell us they won't add any more pollution to the watershed. They have an incentive to minimize the environmental impact of their operations. The DNR has a responsibility to the citizens of Minnesota to counter that incentive with strong, ironclad, legally binding, financially backed assurances that any operations going forward do not add to the pollution they are currently generating and that they will go back and clean up the pollution that is already occurring. Without that COMMITMENT, they should be denied any new permitting. Cleaning up there current mess would also provide jobs. I also note that other states more concerned with their water resources than Minnesota have banned the type of mining that Polymet is proposing. That should cause the Minnesota DNR to be extra cautious when it comes to taking Polymet's words at face value since Polymet has no incentive to be honest about scope of the problem they will be creating. Polymet should clean up their current pollution before being allowed to go forward with any other projects.	PD4,G9
<b>Sender Last Name:</b> Lind		<b>Submission ID:</b> 3696

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
1	Acid generation potential The DEIS underestimates the potential for waste rock to generate ARD. We are aware that mine plans have changed since the tests to evaluate waste rock chemistry and acid generation potential were completed, and it is not clear if relative proportions of the waste rock in the current mine plan will be the same as those used in the waste rock characterization. We question whether the waste rock analyses are still representative of the waste rock that will be generated by the project. For example, we note from supporting technical documents that Unit 7 was not included in the analysis, although it will contribute to the waste rock. In addition, the DEIS states that more extensive characterization of the overburden is needed. (Page 4.1-65, Section 4.1.3.1). Recommendation: The revised/supplemental DEIS should evaluate whether the waste rock chemistry predictions, waste rock management plans and post-closure needs are taken into consideration in the current mining plans. We further recommend that USACE and the applicant determine what additional tests may be necessary to reflect the current mine plan, then complete those tests.	WR1E,PD2
2	Hydrogeology/hydrology assessment and impacts: plant site The Partridge and Embarrass Rivers already exceed or are close to exceeding water quality standards for some constituents. Section 4.1 of the DEIS describes storm water discharges from the Plant Site (excluding the Tailings Basin). These discharges would be routed to Second Creek, a tributary to the Partridge River. However, the DEIS has not adequately assessed these rivers. For example, the Partridge River flow-data summarized on page 4.1-21 and Table 4.1-12 is outdated (1980 to 1988). The Embarrass River flow data summarized in Table 4.1-17 is extremely old (1942-1964) and for this reason alone is not appropriate for characterizing existing flow conditions. Recommendations: More information is necessary to evaluate impacts to these rivers. We recommend the following. The revised/supplemental DEIS should provide a complete impact analysis of the Partridge River and Embarrass River based on an accurate characterization of their flow and assimilative capacity, under current and project conditions. More data is needed to describe conditions in the downstream lakes. Where current data is lacking, data collection may be warranted. Where historical data is not available, we recommend considering reference data from other similar streams in the area.	WR3J
2	The DEIS lacks an adequate groundwater characterization at the tailings basin. There are information gaps related to the extent of existing contamination, potential releases from the project, the groundwater pathway of potential releases, and the potential for contaminated groundwater to impact surface water. As evidence for inadequate analysis, EPA points out the following data deficiencies that should be addressed:	WR2A
2	Tailings basin stability The DEIS does not include a recent, detailed engineering analyses on the structural stability and integrity of the existing LTV tailings basin. Consequently, the stability of the existing tailings basin and its ability to retain the project's additional tailings and processing residues is not known, and this is an unacceptable data gap. The DEIS notes that geotechnical stability studies will be conducted during permitting (Section 4.1.3). These issues should be addressed in the revised/supplemental DEIS. The following issues should be addressed: • The tailings basins are already leaking. • The effect of the additional weight of new tailings and process wastes has not been estimated or analyzed. • The understanding of water flow through the waste is not well understood or described. • Groundwater data surrounding the tailings basin is scant; the groundwater flow regime is poorly characterized here, as is the potential for groundwater to impact surface water down gradient of the tailings basin. • NorthMet proposes to dispose of hydrometallurgical wastes in lined cells on top of existing tailing ponds - the integrity of the tailings basin to accommodate this management option is not described. Recommendation: EPA believes that analyzing tailing basin stability is important as part of informed decision-making for this project; clearly, the basin's ability to retain additional mine tailings and hydrometallurgical wastes is crucial to preventing releases to the environment. The revised/supplemental DEIS should include a stability analysis of the tailings basin in its current state and under the project's operating and post-closure conditions. Furthermore, if the basin is found potentially unusable as proposed, another disposal area would need to be evaluated as an alternative as part of the revised/supplemental DEIS.	GT1
3	Recommendation: Additional support is necessary to confirm the conclusions regarding improved water quality when NorthMet tailings are added to the LTVSMC tailings. We note that these experimental results cannot be interpreted further unless it can be established that the experiments that form the basis of this conclusion accurately simulate long-term behavior of the tailings under in situ conditions (i.e., pH, redox conditions, microbial effects, etc.).	WR1E



*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
3	The DEIS' finding that the addition of NorthMet tailings to the LTVSMC tailings basin would improve leachate quality is not well supported. The DEIS concludes the effects of interaction between the NorthMet seepage and underlying LTVSMC tailings suggest that the latter will remove certain constituents from the NorthMet leachate. These column experiments were conducted for a limited period of time (~35 weeks; RS46); long-term results may differ significantly. In addition, the results of these experiments assumes that solutes from the NorthMet seepage are sorbed onto hydrous ferric oxide, manganese oxide, and aluminum oxides surfaces, but these are stable only under oxidizing conditions (assumed to be the experimental conditions, as no details of redox controls in the experimental columns were provided). Under the subaqueous conditions that are expected to prevail in the long term at the Mine Site, depletion of oxygen and the onset of reducing conditions will result in dissolution of oxides and the release of sorbed metals. This scenario should be reconciled with the conclusions drawn from the column experiments.	WR1E
3	Proposed seepage trench placement should be based on or adjusted to provide a more complete understanding or model of area hydrogeology. We recommend more comprehensive monitoring, including installation/expansion of a monitoring well network, around the tailings basin.	WR1B
4	The proposed hydrometallurgical plant would use selective leaching and precipitation to collect target metals out of solution. While hydrometallurgical processes are currently being used in both the gold and copper sectors, the DEIS states that the proposed hydro metallurgical plant process has not previously been employed on a commercial scale (p. 4.1-95) and that predictions of residue chemistry, settling times, and consolidation are uncertain. The DEIS, however, assumes for all the modeled environmental impacts that this plant will operate as proposed and that all of its wastes or discharges into the environment will meet the expected design parameters. The DEIS does not address the scenario of the plant not operating as designed and if the process may generate an unanticipated range of wastes and discharges that are not described in the DEIS, requiring treatment.	WR1E,PD11
5	II. Wetlands Synopsis: Insofar as the USACE is using the DEIS to support the CWA Section 404 wetlands fill permit decision, the revised/supplemental DEIS needs to address several wetlands permitting issues, including alternative mine plans, an assessment of wetlands functions, mitigation ratios, and a complete analysis of and mitigation for the indirect impacts to wetlands. EPA has determined that the DEIS does not contain sufficient information to demonstrate compliance with the CWA 404(b)(1) Guidelines (Guidelines). Pursuant to the Guidelines, the applicant bears the burden of clearly demonstrating that the preferred alternative is the least environmentally damaging practicable alternative (LEDPA) that achieves the overall project purpose, minimizes impacts to the aquatic environment to the maximum extent practicable, and does not cause or contribute to significant degradation of waters of the U.S. The Guidelines contain four main requirements (40 CFR 230.10(a) through (d)) and each must be satisfied to comply with Section 404.	WE2,WE3,WE4
5	In our June 9, 2005 letter the to the District Engineer, EPA reserved its right to elevate our objections to the individual wetlands fill permit for this project, under CWA Section 404(q) due to the potential that this project may result in substantial and unacceptable impacts to aquatic resources of national importance (ARNI). The proposed Mine Site contains approximately 1,300 wetland acres, which are within the Partridge River Watershed, which flows through Colby Lake to the Embarrass River and then to the St. Louis River and Lake Superior. Of these, 73% of the more than 1,100 wetlands acres proposed to be impacted consist of open bog and coniferous bog communities. Other wetland types at the Mine Site are coniferous swamp, alder thicket, hardwood swamp, wet meadow, and some shallow marsh. The wetland functional assessment included in the DEIS indicates that more than 90% of the wetlands to be impacted have Minnesota Rapid Assessment Method (MnRAM) scores corresponding to high vegetative diversity and high overall wetland quality. The DEIS also states that the Minnesota County Biological Survey (MCBS) has identified the Mine Site as having High Biodiversity Significance. For the above reasons, EPA believes the coniferous and open bogs, comprising a large percentage of the approximately 33,880 total wetland acres within the Partridge River Watershed to be an ARNI due to the values they provide in terms of unique habitat, biodiversity, downstream water quality, and flood control.	WE1,WE2,WE4
6	Recommendation: EPA recommends that additional ground water data be collected to adequately evaluate the interconnection between bedrock and the surficial aquifers and wetlands.	WR2A,WR2I,WE2

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Comment ID	Comment Text	Theme Codes
7	Proposed actions are connected if they are interdependent parts of a larger action and depend on the larger action for their justification (CFR 1508.25). The National Forest land in question would not be transferred out of USFS ownership if not for the nature of the proposed mining project, making the proposed land transfer a connected action. As a connected action, impacts associated with the land transfer should be identified and analyzed as part of this DEIS. EPA finds the DEIS incomplete without the following: 1) a discussion of USFS regulations governing land transfers, 2) an analysis focused on the trade-offs between the two parcels, and 3) information explaining that any decision made by USACE is conditioned upon a successful land exchange between the USFS and PolyMet. Effects to threatened and endangered species, timber production, and recreation are among the issues that should be identified and analyzed for both parcels.	PRO4
7	Impacts along rail lines We recommend quantifying the potential for releases of ore and other mine debris along rail lines between the mine site and processing plant. The revised/supplemental DEIS should describe and address any consequent impacts to soil, surface water, groundwater, and wetlands along the rail lines.	PD4
7	Asbestos-like minerals The DEIS does not evaluate the potential for asbestos-like minerals to be released in water effluent or air emissions, although asbestos-like minerals and their health effects are emerging concerns on the Iron Range. Section 4.6.5.1 of the DEIS indicates that asbestos and asbestos-like fibers may be found in the ore deposit. The DEIS concluded that "impact [from asbestos fibers] is of uncertain magnitude." This conclusion is not supported by the analysis, and the potential impacts to air and water quality from this source bear further discussion and quantification. Recommendation: EPA recommends that the revised/supplemental DEIS include an appendix that reevaluates the potential for asbestos-like minerals to be found in the ore deposit. It should discuss an adaptive management approach that includes how the company proposes to monitor, and if necessary, address the potential release of asbestos-like minerals into the environment during operation, closure, and post-closure.	WR3I,AQ4C
8	Recommendation: We recommend the revised/supplemental DEIS address analysis pertaining to the land transfer with the USFS and impacts to tribal trust resources. The subsequent Final EIS would encompass impacts from all aspects of the proposed project and present a comprehensive, cumulative impacts analysis. This information is necessary to make an informed decision regarding the proposed project.	PRO4
8	Federal trust responsibilities should also be addressed since the land proposed for the Mine Site is part of tribal 1854 Treaty Ceded Territory. The DEIS should be revised to identify and analyze all impacts to tribes and Tribal trust resources that would result from a land transfer. Issues related to tribal resource availability and tribal access will be particularly important. The following questions should be addressed: • What will this new parcel(s) contribute to treaty rights or resources? • What impacts to quality and quantity of tribal trust resources will occur due to a potential land transfer? • What cumulative impacts to 1854 Treaty Ceded Territory trust resources will occur as a result of this land transfer (for example, impacts to moose movement and habitat quantity and quality over the entire 1854 Treaty Ceded Territory)? As federal agencies, USACE, USFS, and EPA need to ensure that federal trust responsibilities are adequately addressed in this analysis.	CR4
9	Recommendation: We recommend the revised/supplemental DEIS evaluate and disclose impacts to all media collectively across the 1854 Ceded Territory as a whole. We also recommend removing references to the draft work known as "the Protocol to Assess Expanded Cumulative Impacts to Native Americans." The referenced work is a draft document in development and is neither published by EPA nor publicly available.	CR4,CR5
9	Impacts in the 1854 Ceded Territory and to tribes practicing reserved rights in the Territory Insofar as a cumulative impacts study's geographic area need to reflect the geographic range of an individual resource outside a project property line, so should it reflect the geographic range of uses. In this case, the 1854 Ceded Territory functions as a single geographic area of legal jurisdiction in which tribes may engage in certain practices of cultural heritage and subsistence.	CR4

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Comment ID	Comment Text	Theme Codes
10	<p>Potential mercury generation from waste rock EP A supports the goals of the 1991 "Binational Program to Restore and Protect the Lake Superior Basin" to establish a Zero Discharge Demonstration Program for critical pollutants (of which mercury is one), and we question whether the waste rock and the project overall have been adequately evaluated for their potential to introduce mercury into the Lake Superior watershed. The DEIS states that results from 36-day batch tests suggest that mercury will be absorbed by minerals in the waste rock (p. 4.1-122). Details of these experiments are not provided, but it is not clear that conditions expected to occur under field conditions were accurately simulated in the batch tests, nor is it established that the time scale under which these tests were conducted is adequate for predictions of long-term mercury behavior. In addition, EPA does not agree that "scientific understanding of mercury methylation and bioaccumulation is limited" (p. 4.1-122). A large body of work has been done on this topic (see, e.g., the references cited in the section discussing mercury methylation beginning on p. 4.1-125). Recommendation: The revised/supplemental DEIS should include information upon which conclusions regarding mercury behavior at the site were based. Depending on this information, EPA may suggest that the applicant perform additional or more appropriate studies on potential for mercury mobilization.</p>	WR4B,WR4E
10	<p>The DEIS analysis relies on unproven measures to limit oxidation of waste rock and assumes full success of these measures. EPA does not believe this assumption is supported, in part because several of the approaches proposed to control ARD (such as compaction, membrane covers, and lining of pit walls) have not been demonstrated as effective. For example, the East Pit closure cover includes ARD reduction measures that the DEIS admits have not been demonstrated successfully in the U.S. (Section 4.1-16). In addition, the plan to isolate the Category 4 in-situ material (Virginia formation) in the final backfill is not clear, inasmuch as the narrative indicates that four inches of limestone will be placed over this material that will be developed in a steep face. The DEIS also notes that waste rock oxidation will be limited by compaction measures, another unproven approach. Subsequent management plans based on these assumptions may lead to potential water quality impacts. Therefore, EPA believes the DEIS should assume that waste rock will in fact be oxidized and the extent should be predicted. Recommendation: EPA suggests that the revised/supplemental DEIS model ARD inflows assuming various degrees of effectiveness of covers and other designs. We further recommend analyzing other management strategies to prevent ARD and developing adaptive management options that can address the likely situation that ARD will be generated post-closure from pit walls. Regarding the stockpile liners, we recommend the revised/supplemental DEIS consider measures to protect the permanent stockpile liners from erosion or other surface impacts that could occur over the long term. These liners have potential to be damaged if they are exposed.</p>	WR1E,WR2D,PD2
11	<p>Waste rock management According to the DEIS, all waste rock at the site is acid generating. The proponent's plan to segregate waste rock into four categories (based on potential to generate ARD) is a key management approach in reducing the potential for acid generation. Supporting documentation has noted that acid generation in Category 2 waste rock is sensitive to the inclusion of Category 3 and 4 waste rock, meaning that if some proportion of the latter category rock is included in the Category 2 rock, the resulting overall drainage could be acidic and result in increased metal solubility (Report RS53/42). The DEIS explains that no sampling of the overburden will take place during stripping; instead, field determinations will be relied on for assessing overburden type (p. 4.1-66). Once acid generation begins, it cannot be reversed and will require more extensive management to minimize environmental risks. The DEIS does not describe how successful segregation will be achieved on a real-time basis; therefore, EPA does not have confidence that segregation will happen so as to assure that waste rock is stored properly according to its reactivity in a real-time operational timeframe. EPA is very concerned about the possibility that segregation would fail to separate reactive waste categories effectively to prevent eventual ARD. Recommendation: Waste rock management needs to be described thoroughly to allow decision-makers to evaluate whether it will sufficiently prevent ARD from entering the aquatic environment. EPA recommends the revised/supplemental DEIS describe how waste rock would be sorted during operation, and how the success of segregation will be determined. We also recommend a discussion of criteria for the field determinations and any plans for quality assurance in these field decisions. We also recommend the revised/supplemental DEIS describe how waste rock management and pits would be adaptively managed should segregation be compromised or ineffective in preventing ARD.</p>	WR1E,PD2

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Comment ID	Comment Text	Theme Codes
12	The DEIS proposes an artificial wetland to treat contaminated water at the mine site in perpetuity. Artificial wetlands have successfully treated low flows of acid waters; however, their success has been quite limited in treating flows containing a range of metals. The DEIS does not demonstrate that this treatment option will be successful in the severe winter environment found at the site or that if the artificial wetland fails how treatment will be accomplished. Other management decisions are contingent on the success of this proposed mitigation measure. Recommendation: The revised/supplemental DEIS should include information about the operation of the treatment wetlands. The information should include a long-term adaptive management plan for the treatment wetlands, especially with regard to plant maintenance, removal of accumulated metals in the wetland plants and sediment, and monitoring for effectiveness. Given that the performance history on treatment wetlands of this size and scope is limited, EPA further recommends the revised/supplemental DEIS explore additional alternatives for treating this wastewater.	WR3L
12	The DEIS does not offer supporting data that the proposed wastewater treatment facility (WWTF) has the capacity to treat all ARD effluent and will be sufficient to address waste rock pile drainage over a long-term timeframe. The proposed WWTF is intended to capture and treat all drainage from waste rock piles and recycle the water into the processing plant, or to discharge treated water into the Partridge River, in the event that process water is not needed. WWTF capacity is not described; therefore, there is inadequate information to know whether it could process all the contaminated stormwater flows during a maximum spring snow melt situation. In addition, the design capacity of the WWTF may be inadequate, since the project plan assumes that pit walls will not generate ARD. Recommendation: We recommend describing the WWTF further, in particular its capacity relative to anticipated flows. We also recommend using revised ARD assumptions (as described in above comments) to evaluate loading to the WWTF. Management plans should recognize that long-term treatment and discharge will likely be necessary in the post-closure period.	WR2G
12	EPA believes Category 1 waste rock should not be used for construction material since it has ARD potential, which could be increased if segregation techniques are not sufficient to prevent mixing.	PD2
13	West Pit overflows The predicted West Pit overflows to an unnamed tributary of the Partridge River will cause serious water quality impacts. The DEIS indicates that arsenic, cobalt, copper, nickel, and selenium would exceed water quality standards (p. 4.1-113). The DEIS notes uncertainty as to whether the West Pit overflow would meet the Great Lakes Initiative standard for mercury (p. 4.1-124). The presumption that the unnamed tributary would "essentially function as a mixing zone" is questionable. Considering that the Partridge River ambient levels for several of these parameters are already high (Table 4.1-24) and, in the case of aluminum, exceed the water quality standard, dilution is not a feasible solution to any West Pit overflows. In addition, many of these constituents will accumulate over time, especially in sediment. Sediment is where the majority of mercury methylation will occur. The results of the deterministic modeling and follow-up uncertainty analysis suggest that "as many as five parameters (i.e., arsenic, cobalt, copper, nickel, and selenium) could exceed surface water quality standards, in addition to relatively high sulfate concentrations." Recommendation: EPA recommends the revised/supplemental DEIS develop operations and closure alternatives that will avoid or prevent pit overflow. The overflow scenario should include measures that will protect water quality downstream, among them treatment alternatives, a monitoring plan, and adaptive management plans for the overflow. We also recommend further evaluation of whether overflow from the West Pit will meet Lake Superior mercury standards.	WR3C
14	Our issues fall into the following categories: Inadequate data collection Neither the number of wells (3) nor the frequency of monitoring (once a year in 2005, 2006, and 2009) constitutes adequate characterization of the surficial aquifer.	WR1E

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Comment ID	Comment Text	Theme Codes
14	Inadequate model assumptions The DEIS states "The MODFLOW model was not developed to accurately predict drawdown in the surficial aquifer or the impact, if any, such drawdown would have on adjacent wetlands and surface waters" (p. 4.1-60). Consequently, its use and ability to represent potential impacts due to pit dewatering and maintenance pumping are very limited. Furthermore, given this caveat to using MODFLOW to evaluate the effects of mine pit dewatering on the Partridge River flows, it is not the optimal tool for predicting this information. The DEIS assumes the complete effectiveness of unproven anti-oxidation measures for groundwater modeling purposes (see above comments). This is not a conservative approach, and, therefore, modeling results based on this assumption are not credible. Several conclusions are provided that refer to groundwater elevation recovery following the closure of the mine. However, the DEIS states, "MnDNR believes that actual hydrogeological characteristics of the project site do not fit the model assumptions of homogeneous porous media flow (uniform vertical and horizontal conductivity) for the bedrock and till layers" (p. 4.1-57). With the potential deficiencies of the model, it is not consistent to provide relatively precise post-closure groundwater recovery elevations and dates of recovery based on the MODFLOW model.	WR2A
14	Hydrogeology/hydrology assessment and impacts: mine site The model assumptions and the amount of data used for groundwater modeling at the mine site are inadequate and may not be protective of water quality. The DEIS states that concentrations of several solutes could exceed water quality standards at mine site boundaries. In addition, the DEIS states that firm conclusions cannot be drawn due to conflicts between the results from deterministic modeling and the Uncertainty Analysis at the mine site (p. 4.1-84). Given the DEIS-stated potential for long-term (> 2000 yrs) leaching of solutes from waste rock to groundwater, further evaluation is necessary.	WR2A
15	Insufficient discussion/disclosure of empirical and reference data The revised/supplemental DEIS needs to present the available empirical or reference data that was used to assess potential impacts to the adjacent wetlands and surface water bodies. Based on comments in the DEIS, this data appears to include groundwater information and maps from dewatered mines in the area.	WR2I
16	Recommendations: The revised/supplemental DEIS should include an adequate hydrogeological and hydrological evaluation of the mine site. EPA maintains that additional data gathering is crucial to assessing impacts. Additional field data may be necessary. Furthermore, the revised/supplemental DEIS should clarify how and why the MODFLOW model is appropriate for use in the mine pit area.	WR2A
17	We also believe model assumptions should be re-assessed to take into account previous comments on the potential for ARD and less-than-complete success of untested anti-oxidation measures. If models continue to prove uncertain in this area, we suggest reevaluating groundwater analysis and developing more protective management and mitigation measures. The same applies to the use of the model for evaluating mine dewatering impacts on the Partridge River.	EOO
18	Mine pit water quality and wildlife EPA recommends that the revised/supplemental DEIS further evaluate the impacts of mine pit water quality on wildlife. The DEIS indicates fencing will be used as a deterrent for potentially sensitive wildlife species; however, aquatic-dependent migratory birds may use the pit lakes as a stopover, exposing wildlife to contaminants. The Endangered Species Act of 1973 (ESA) mandates all federal departments and agencies to conserve listed species and to utilize their authorities in furtherance of the purposes of the ESA. Given the potential for exposure near or at the West Pit, migration potential through the project area should also be considered for endangered species typically using this migration path (e.g., piping plover). Section 4.4.1.1 on page 4.4-1 only addresses federally- and state-listed endangered, threatened and species of special concern that are potentially present in the project area. Recommendation: We suggest the revised/supplemental DEIS discuss mine pit impacts to migratory birds, whether Federally-listed or not, as well as opportunities to reduce the risk of adverse impacts to tribal members' health due to subsistence consumption of potentially contaminated trust resources.	WR3C,WI2,WI3
19	Plant site storm water management Although the DEIS states that the lack of stormwater management facilities could result in increased pollutant loadings to the Partridge River, none are described. The nature of this discharge (construction, industrial) is not described nor is the method of conveyance to surface waters. Recommendation: We recommend that the revised/supplemental DEIS include information to determine whether and what type of NPDES permit coverage is required at the plant site.	WR3C

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Comment ID	Comment Text	Theme Codes
19	The DEIS needs to evaluate how ground water exceedences from the mine site may affect downstream fish populations. Groundwater sampling and modeling at the mine site (noted in Table 4.1-5) indicate that data from 9 bedrock wells exceed water quality standards for aluminum, iron, and manganese with occasional exceedences of beryllium, nickel and sulfate. Fish populations located in areas with high metal concentrations often adapt to a water quality level that allows for decent sustained population stability. Often, however, slight increases or decreases in metal loadings can have serious adverse affects. Recommendation: We recommend the revised/supplemental DEIS determine potential impacts to fish populations in waters downstream of the Mine Site. Water quality standard exceedences that may ultimately affect fish populations should be mitigated.	WR2C,FM1,FM2,FM4
20	• Some groundwater quality constituents were monitored only one to three times (p. 4.1-12 and 4.1-13, Tables 4.1-6 and 4.1-7), which we believe resulted in an extremely large range of concentrations.	WR1E
21	• Some constituents in water from the Tailings Basin and Tailings Basin area have only been measured a few times in the period reported (2001-2004), and this monitoring period and sampling frequency do not constitute adequate characterization (pp. 4.1-12 to 4.1-13, Section 4.1.1.2, Tables 4.1-6 and 4.1-7).	WR1E
22	• The number of monitoring points and the sampling frequency of wells downgradient from the LTVSMC Tailings Basin are not adequate to characterize groundwater in this area (p. 4.1-15, Section 4.1.1.2, Table 4.1-8).	WR1E
23	• The tailings basin model did not address the potential fate and transport of constituents that would mobilize at higher pH (e.g. antimony and arsenic), of particular concern because the current effluent is higher pH than proposed acidic tailings and mixing effects aren't evaluated.	WR2E
24	• Monitoring data relating to the LTVSMC Tailings Basin seeps was not available in the DEIS.	WR1E
25	• The extent of on-site contamination from previous operations is not characterized.	WR1E
26	Upwelling groundwater beyond the tailings basin barrier will potentially cause exceedences of water quality standards in waters receiving flow from the tailings basin. The DEIS suggests a connection between the tailings basin and surface water. In addition, upwelling flow at the tailings basin may continue past the closure of the tailings basin, requiring continued monitoring and management of surplus water. The DEIS states that current groundwater seepage from the tailings basin to the north toward the Embarrass River exceeds the aquifer flux capacity, resulting in upwelling of groundwater to the surface. This upwelling, in conjunction with the surface seeps, has inundated some wetlands immediately down gradient of the tailings basin. This seepage contains high levels of contaminants, such as aluminum, manganese, lead, and total dissolved solids. Under the proposed action, seepage from the tailings basin and long-term groundwater upwelling will continue. In addition, the surface seepage to Second Creek is expected to continue indefinitely (p. 4.1-56). This upwelling would inundate portions of the wetlands north of the tailings basin and potentially introduce high sulfate concentrations to the wetlands and downstream lakes on the Embarrass River. The Closure Plan does not propose any remediation of groundwater seepage from the tailings basin.	WR1A
27	Recommendations: We recommend that a revised/supplemental DEIS include adequate information about groundwater flow at the tailings basin and about the contribution of upwelling groundwater to surface water. Adequate information will also include an analysis of existing contamination. We recommend the revised/supplemental DEIS address the potential for metals or other contaminants to mobilize at higher pH (antimony and arsenic) and evaluate how mixing current and project-related tailings may affect contaminant mobility.	RFI

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Comment ID	Comment Text	Theme Codes
28	Tailings basin seepage The DEIS states that surface seeps will continue at the tailings basin during operation and following the closure of the mine. The DEIS does not provide adequate data on the anticipated amount of surface seepage at the tailings basin, because it appears the anticipated surface seepage conditions are based on conditions present in October 2008 (measurements made about seven years after the closure of the LTVSMC mine). DEIS predictions of basin seepage does not account for additional tailings loadings and different chemistry. Furthermore, the expectation that most seeps will dry out is unlikely given the addition of NorthMet's project tailings and process water and changes to the topographic and hydraulic features. Based on the continued seepage over seven years following the closure of the LTVSMC Tailings basin, without additional mitigation, probable seepage will continue following the closure of the NorthMet operations. Recommendation: Further study and justification is needed to validate the conclusion that conditions present in October 2008 will represent conditions when the NorthMet mine is active. EPA believes that a revised/supplemental DEIS should re-evaluate the estimated flow, location or duration of existing and potential future seeps. We also recommend the revised/supplemental DEIS describe the monitoring program that would address seeps, and the alternative remedies needed in the event that continued postclosure seepage does not meet water quality standards.	WR3A
28	If the contaminated flow is directly hydrologically connected to surface water, a NPDES permit would be required for the discharge. The DEIS should evaluate this possibility.	WR3C
29	Data supporting predictions that the proposed seepage collection system would be adequate to capture tailings basin seepage is inadequate. Table 4.1-35 indicates that 2 to 4 percent of the total seepage toward the Embarrass River will be recovered. In addition, the collection system places wells mainly in the area of current seeps, which may not be protective, given that past seepage occurred on the western tailings basin face and that the potential exists for additional seeps on other basin faces. Regarding the seepage recovery trench located to the south of the tailings basin, we note that the tailings basin MODFLOW was not prepared to evaluate the impact of seepage on the adjacent unconsolidated sediments. The proposed location of the recovery trench does not include groundwater monitoring points, so model calibration in this area was not possible. Recommendation: Additional justification needs to be provided ensuring that future mining operations will not result in the west side surface seeps to again become active. Depending on the results of this work, the seepage collection system may need to be enhanced to address these potential seeps. Any potential groundwater recovery system will also need to be evaluated for use along the western boundary of the tailings basin.	WR1A
29	EPA recommends further evaluation of the plan to use LTVSMC tailings as embankment material. The LTVSMC tailings are thought to be a source of sulfates and arsenic; we recommend modeling the chemical interaction between the chemically-different old and new tailings and evaluating other inert materials.	WR1E
30	Tailings Basin Alternative The DEIS should include adequate information on the efficacy of the Tailings Basin Alternative to prevent water quality impacts, particularly because hydrogeological information and analysis are inadequate. In addition, the DEIS indicates that this alternative would not remove the possibility of significant groundwater upwelling, particularly after closure.	WR1E
31	While the DEIS describes that pumping will occur until no longer needed, it also acknowledges that the total groundwater seepage rate (NorthMet seepage plus residual seepage from Cell 2W) would still significantly exceed aquifer flux capacity during operations and would approximately be four times the aquifer capacity during the post-closure period. Section 4.1-64 states that the total unrecovered groundwater seepage from tailings would be 1600 gallons per minute (gpm) in year 1 and up to 2900 gpm in year 20. A maximum seepage rate of 3800 gpm could be reached in year 20. The DEIS inadequately described how groundwater modeling on unrecovered seepage was conducted and whether unrecovered seepage exceed water quality standards. The levels of sulfate are well above levels that are considered protective of wild rice and will generally lead to increased mercury methylation and higher fish tissue levels of mercury in downstream waters. The Tailings Basin Alternative mitigation measures, as summarized on Page 4.1-162 and in Table 4.1-88, indicates that this option would still significantly increase sulfate loading and reduce assimilative capacity.	WR2F,WR4A,WR4F

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Comment ID	Comment Text	Theme Codes
32	The placement of collection wells appears to be based on existing or past seepage incidents, without modeling for future project conditions, and, therefore, may not adequately address seepage. Furthermore, it is unclear whether this alternative would address long-term discharges to groundwater occurring post-closure. The DEIS description of the duration of pumping and long-term goals is open-ended.	WR1A
33	Recommendations: The revised/supplemental DEIS should also include a discussion of adaptive placement of collection wells, a discussion of long-term performance goals for this alternative, and an analysis of how this alternative will achieve water quality standards. We also suggest including a year-by-year modeling of this seepage to determine if its metal loadings increase over time.	WR1A
34	The DEIS indicates that PolyMet is conducting additional sampling to better understand mercury behavior in the Project Area. EPA recommends completing this study and presenting the results and conclusions in the revised/supplemental DEIS, prior to formulating conclusions regarding potential mercury impacts associated with the Tailings Basin Alternative.	WR1E
35	Under the Tailings Basin Alternative, groundwater seepage captured by the groundwater recovery system would be discharged, untreated, to the Partridge River. While the DEIS states that the effluent would meet water quality standards, adequate supporting data is not included and this discharge may need to be treated.	WR1A
36	Recommendation: The Tailings Basin Alternative should include a water quality monitoring program to assess groundwater quality prior to its discharge.	WR1B
37	EPA recommends the revised/supplemental DEIS evaluate using a non-discharge alternative for storm water runoff, if it can be carried out without increasing ground water flow to the pit, as opposed to the direct discharge of stormwater to the river. Benefits can include enhanced recharge to wetland areas, as well as providing groundwater storage and increased base flow during drought periods.	EOO
38	Recommendation: The revised/supplemental DEIS should provide more information on the PRB aspect of this alternative, including the proposed design of the PRB and a discussion of the mechanisms invoked for the simultaneous removal of sulfate, arsenic, and selenium. Given the uncertainty of this approach, we recommend the revised/supplemental DEIS evaluate contingency treatment alternatives for metals-contaminated water if the barrier system were to fail to meet its operating design and describe an approach for adaptive management.	ALT5,WR2D
38	The Tailings Basin Alternative would use a permeable reactive barrier (PRB) to reduce metals loadings (e.g., arsenic, sulfate and antimony). While there is published research on how such barriers may operate, EPA had found no data for the proposed barrier at the commercial scale. EPA also believes the proposed PRB would not address all contaminants because, while microbial sulfate reduction (with added organic substrate) is presented in the DEIS as "the only viable alternative for sulfate removal" (pp 4.1-169 through 4.1-171), the use of zero-valent iron does not appear to address the removal of arsenic and selenium (both oxyanions).	WR2D
39	Hydrometallurgical plant and wastes The uncertainties associated with the design and operation of the hydrometallurgical plant and with management of the hydrometallurgical processing waste disposal cells within the existing tailings basin cell 2W must be addressed.	PD11
40	Hydrometallurgical waste disposal into cells within the existing tailings basin are assumed to be fully contained and to cease drainage after 34 years. The project description does not adequately discuss where the drainage is occurring relative to the cells or how it is captured. It appears to indicate some drainage is exiting the cells on a regular basis, but will cease 34 years after operations begin. This assumption seems unlikely, since the area has a positive water balance. In addition, we understand that a lime mixture will be added to reduce process waste acidity. Since the hydrometallurgical waste cell units would be lined but not covered until closed, rain water and snow melt will accumulate in the units, and flows may continue for many years.	WR1E,PD2
40	Recommendation: The revised/supplemental DEIS needs to further clarify information on hydrometallurgical waste drainage, and we recommend adopting a management plan to monitor for drainage and, as necessary, manage drainage beyond year 34 from these cells. The revised/supplemental DEIS should more fully explain how the 34-year limit would be appropriate for hydrometallurgical cell drainage.	WR1E,PD2



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Comment ID	Comment Text	Theme Codes
41	Downstream lakes and drinking water sources The limited amount of monitoring data for Colby Lake and the Whitewater Reservoir are inadequate to accurately evaluate water quality (p. 4.1-37 and Table 4.1-25). The existing high levels of aluminum and mercury in Colby Lake are a concern. Mean levels at this site from available monitoring data exceed the chronic Class 2Bd water quality standard for aluminum, which is 125 ug/L, and the range of data shows significantly high values. Even given the lack of sufficient data, the modeling results show concentrations for several contaminants in Colby Lake in excess of the water quality standards. Furthermore, the modeling does not appear to evaluate potential mercury impacts. The DEIS acknowledges that there is little water quality information on Whitewater Reservoir. Our review finds the evaluation of water quality impacts in the DEIS to be inadequate.	WR3F
41	Recommendation: We recommend collecting adequate additional data for Colby Lake and the Whitewater Reservoir that will support the proposed action will meet water quality standards.	WR3F
42	The amount of arsenic predicted to be in Colby Lake is 4.9 ug/L; the standard is 2.0 ug/L (p. 4.1-141). The text describes adjusting the model to achieve lower concentrations, but does not offer the data and reasoning behind the adjustment. Readjusting variables to less conservative inputs still produced a highest predicted arsenic concentration of 1.9 ug/L.	WR3F
42	Predicted concentrations of other constituents in Colby Lake may call for long-term prevention or management. Predicted elevations of iron, manganese, thallium and sulfate will exceed the wild rice standard of 10 mg/L. Colby Lake is classified as a Class 1 B water which only requires disinfection as a treatment for use as a public water supply. This treatment would not successfully address the constituents mentioned above.	WR3F
42	Recommendation: We recommend the revised/supplemental DEIS evaluate mitigation options that will reduce arsenic levels from the proposed action.	WR3F
43	Regarding manganese, there are sufficient studies and data currently available to generate a water quality criterion for this chemical. While this has not been done by EPA at the national level, or by the Minnesota Pollution Control Agency at the state level to date, the data are available and are being used by other states to develop criteria. For example, Illinois EPA has a proposed acute aquatic life water quality standard for manganese before the Illinois Pollution Control Board; the proposed standard (which is below 10 mg/l) has a hardness relationship and was developed for 50 mg/L hardness. (At higher hardness levels, the toxicity of manganese is lower and the resulting criterion would therefore be higher.) The hardness in Colby Lake seems to be within a range of 50 mg/L, and manganese would be elevated under project conditions. This information is mentioned here for consideration when discussing possible impacts on aquatic life.	WR3F
44	Recommendation: We recommend the revised/supplemental DEIS address the potential for additional management to prevent contamination to Colby Lake, or additional treatment at the Colby Lake Public Water Supply.	WR3F
45	There is no Safe Drinking Water Act maximum contaminant limit (MCL) for aluminum, however, several studies have shown various health effects related to aluminum. Aluminum, iron and manganese are easily removed by certain treatment technologies; however, the DEIS does not specify whether these technologies are in use in the Hoyt Lake public water system (PWS). We understand that the Hoyt Lake PWS uses open basin sedimentation, gravity sand filtration and some form of corrosion control. Although these techniques will help reduce the concentration of these metals, they are not the most effective at making significant reductions. A discussion of metals removal is needed to determine impacts on the public water systems of Hoyt Lake. It may be adequate to cite the American Water Works Association 2006 survey of 52 utilities that primarily used "conventional treatment" and the effectiveness of this treatment on manganese removal. The average manganese removal was 86%.	WR3F
46	Recommendation: The revised/supplemental DEIS should include information to support the DEIS conclusion that there will not be any impacts to the public water system in Hoyt Lakes. An analysis of the water systems treatment removal capabilities, especially for aluminum, should be included to ensure that these contaminants will not be an issue.	WR3F

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
47	Tribal water quality standards Reservation lands of the Fond du Lac Band of Minnesota Chippewa are located directly downstream from the mining site along the St. Louis River and have EPA-approved tribal water quality standards. Many of the Tribe's water quality standards are more stringent than Minnesota's standards because the Tribe uses a higher fish consumption rate in the numeric criteria calculations (i.e. 60 grams/day compared to 30 grams/day for Minnesota). The project's potential to affect water quality on the reservation needs to be evaluated. Recommendation: The revised/supplemental DEIS should include the Fond du Lac downstream water quality standards in its discussion of applicable water quality standards and how the standards will be met (pp. 4.1-30 - 4.1-32).	WR3I,CR1
47	Wild rice The DEIS does not clearly address whether the Minnesota water quality criterion of 10 mg/L for wild rice waters will apply to the project. The DEIS acknowledges that isolated patches of wild rice were found in the Upper Partridge River, a tributary of the St. Louis River. Minn. R. Ch. 7050.0470 designates the St. Louis River as a wild rice water. The DEIS concludes, however, that both the proposed action and the Mine Site Alternative would comply with all surface water quality standards along the Partridge River, though the project may cause sulfates to exceed 10 mg/L. Recommendation: The revised/supplemental DEIS should clarify the application of the Minnesota wild rice sulfate water quality standards in Minn. R.Ch. 7050.0220 and 7050.0224, given that the DEIS acknowledges the presence of isolated patches of wild rice in the Upper Partridge River, and describe whether sulfates from the project will impact the St. Louis River. We recommend the revised/supplemental DEIS include the 10 mg/L sulfate number within the tables of lists of applicable standards and predicted water quality (Page 4.1-141) and include a discussion of how it applies to on-site and downstream waters potentially affected.	WR3I,WR4F
48	Recommendation: The revised/supplemental DEIS should define the subsistence fish consumption levels used to support the DEIS conclusions. It should also consider other Tribes located on Lake Superior that may also be adversely affected by higher mercury levels in fish tissue due to consumption rates higher than the general population (e.g., the Bad River and Red Cliff Reservations in Wisconsin, and the Keweenaw Bay Indian Community's Ontonagon Reservation on the Upper Peninsula of Michigan). We recommend the revised/supplemental DEIS describe how the NorthMet project may contribute to exceedance of the Grand Portage Band's water quality standards for wildlife.	WR4B,WR5C,FM1,FM2,W
48	The Grand Portage Band of Minnesota Chippewa, whose reservation is located northeast of the project site, has EPA-approved water quality standards. Many of that Tribe's human health numeric criteria, for example mercury, are calculated using a subsistence fish consumption rate of 142 grams/day, so any additional mercury (either direct discharges, or indirectly through the sulfate influence on methylation) to Lake Superior may have indirect impacts on the Grand Portage Band and their subsistence resources due to the bioaccumulation of mercury through the food chain. Page 4.5-20 of the DEIS concludes that there will be no incremental risks to recreational or subsistence fishers; however, the fish consumption levels for "recreational" and "subsistence fishers" are not defined. The Grand Portage Band has wildlife mercury standards to protect fish-eating birds (e.g., bald eagles, kingfishers, mergansers, etc.), as well as fish-eating mammals (e.g., otter and mink). The DEIS acknowledges that mercury will be discharged to the Partridge River and may eventually end up in Lake Superior.	WR4B,FM1,CR1,WR5C,CR
49	Cumulative Impacts to Water Quality The water quality analyses in the DEIS mentions existing high constituent baselines (for example, arsenic in Colby Lake) when discussing the reasons that the project will potentially bring the water body nearer to exceeding water quality standards. EPA points out that the purpose of the cumulative impacts assessment is to identify just these instances. However high the baseline, a new project should not contribute an increment that brings the water body to the point of exceeding water quality standards. Recommendation: We recommend re-evaluating cumulative impacts based on relevant data on project impacts, as noted in the comments in the water quality section above.	WR3I,WR5A
50	The lack of information on mining alternatives could be an issue in determining if the proposed mine plan is practicable based on 40 CFR 230.10(a) of the Guidelines. EPA believes that the DEIS does not support the Proposed Action as the least environmentally damaging practicable alternative (LEDP A). EPA is concerned that alternatives exist that would have less adverse impacts to the aquatic environment. The DEIS states that underground mining is not a feasible alternative because it would not be economically viable (Table 3.2-4: Alternatives E7 Underground Mining and Footnote 22), but the DEIS lacks information to justify this statement.	WE2,WE4

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<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
51	As detailed above, the water quality impacts are also a concern with regard to the Guidelines. In particular, 40 CFR Section 230.10(b), prohibits "discharges that will result in a violation of the water quality standards." If water quality standards cannot be met in conjunction with this project as described within the DEIS (e.g. West Pit Overflow-Page 4.1-113), we would not support the issuance of a permit for this project.	WR3C
51	The DEIS lacks information to justify that the project will not cause or contribute to significant degradation of aquatic resources because (1) even with mitigation some of the proposed mitigation options are unlikely to replace lost aquatic resource functions, and (2) the DEIS underestimates the amount of indirect wetland impacts.	WE2,WE3,FM1
52	Because much of the wetland impact monitoring and mitigation will be finalized during the permitting process, the revised/supplemental DEIS should include a description of the status of the 404 permit review and, if applicable, further 401 certification review (such as timeline, agency and public participation).	WR3I,WE4
52	Recommendations: We recommend the revised/supplemental DEIS include information about the feasibility and economic viability of underground mining for this project.	PD5
52	We recommend resolving water quality concerns prior to the 404 permit review.	WR5A,WE4
53	Wetland compensation and mitigation EPA recommends that mitigation for forested and bog wetland types have a minimum ratio of 2:1 for restoration due to the quality of the wetlands, the relative uncertainty of mitigation success, and the extended period of time (decades) that functions associated with forested/bog wetland types will be lost while mitigation areas are establishing themselves. The DEIS presumes a ratio of 1.5:1 and states that the actual replacement ratios required in permitting may exceed the minimum allowed, based on wetland functions and values (Page 4.2- 29). Pursuant to 40 CFR Part 230.94, Compensatory Mitigation for Losses of Aquatic Resources (Mitigation Rule), a compensatory mitigation plan must be submitted and approved by the Corps before the District Engineer can issue an Individual CWA section 404 permit. This plan must address a number of critical details regarding mitigation including: clearly articulated project goals and objectives; project site selection criteria; site protection instruments (e.g., conservation easements); detailed quantitative and qualitative baseline information describing both the impact and compensation sites; a detailed discussion of the mitigation project's credit determination methodology and results; a maintenance plan; ecological performance standards used to evaluate the degree to which the compensation projects are replacing lost functions and area; detailed monitoring requirements; a long-term management plan describing necessary long-term stewardship of the compensation sites and who is responsible for performing this stewardship; an adaptive management plan; and financial assurances to ensure project construction, implementation, and long-term management. Compensatory mitigation is intended only for unavoidable impacts after the LEDPA has been determined.	WE3
53	Given the magnitude of direct and indirect impacts, we believe that the revised/supplemental DEIS should include specific information on the wetland mitigation plan for all impacts and describe how the wetlands mitigation plan will address functional replacement. More information is also needed on the proposed on-site wetland mitigation, as well. Currently, the mitigation plan described in the DEIS does not account for functional replacement of the impacted wetlands, which include high quality forested wetland types. The DEIS projects that 175 acres of on-site wetlands will be used for compensation, but few details are outlined in either the DEIS or the referenced Wetlands Mitigation Plan Supplement. The DEIS also states that 40 acres of created wetlands would be established within the East Pit, separate from treatment wetlands created to treat effluent from the WWTF. It is not clear how the treatment wetlands would be separated from the mitigation wetlands.	WE2,WE3
54	The mitigation plan does not include compensation for the additional 475 acres of wetlands impacts at the mine site that were identified in the DEIS.	WE3
55	Recommendations: • EPA recommends adopting a 2:1 mitigation ratio for restoration, given the relative uncertainty of success and the extended period of time (decades) that functions associated with forested/bog wetland types will be lost while mitigation areas are establishing themselves.	WE3

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
56	• EPA recommends adding the following in the revised/supplemental DEIS regarding the wetland monitoring plan: when the plan will be developed, how long monitoring will be required, and who will have the opportunity to review the plan.	WE3
57	• We recommend the revised/supplemental DEIS describe how the wetlands mitigation plan will address functional replacement.	WE3
57	• We recommend that the wetland mitigation and monitoring plan also include a description of financial assurances that will be established to ensure adequate long-term implementation.	PD5
58	The procedure used to estimate the area of indirect wetland impacts north of the tailings basin needs further support. The use of this methodology should be supported by its use at other similar open pit mine sites or cited by its use in scientific literature.	WE2
58	• We recommend using native seed mixes and weed-free mulch in the on-site wetland mitigation site. (This approach is described only for minimizing direct wetland impacts in the DEIS.)	WE3
58	The potential for releases of ore and other mine debris and consequent impacts to soil, surface water, groundwater, and wetlands along the rail lines should be quantified and addressed in this document. On page 4.2-21, the text asserts that spillage of ore from rail cars is difficult to estimate. If so, the DEIS should offer information to support the conclusion that predicted impacts to wetlands along the transportation corridor are likely to be insignificant. The discussion of predicted indirect wetland impacts to areas beyond the mine site is based in part on empirical evidence from taconite mines in the area (p. 4.2-20, Section 4.2.3.1). Before the conclusion that little indirect impact is anticipated at the Mine Site can be accepted, additional support should be provided with details of the experience at other sites and in particular how those sites compare to the proposed project.	WR1E,WE2
58	• The revised/supplemental DEIS should include additional information on the 175-acre on-site compensation (such as wetland type, soil characteristics, and past history of wetland creation on copper mine spoils) to assess its viability.	WE3
58	• We recommend the DEIS address mitigation for the remaining potential 475 acres of wetlands impacts.	WE3
59	The assessments of indirect impacts at the tailings basin and along rail lines should be supported by specific information from other sites, if they are referenced, or by a discussion of methodologies. We recommend describing proposed monitoring.	WE2,WE3
59	Recommendations: EPA recommends the revised/supplemental DEIS include a complete discussion of indirect impacts to wetlands along rail lines and at the mine site.	WE2
59	Page 4.1-21, Section 4.1.1.3, 3rd paragraph: The DEIS states that base flow to the Partridge River is low during winter months because of reduced groundwater recharge. This statement appears accurate; however, on page 4.1-5, 1st paragraph, the DEIS cites extremely low seepage rates from wetlands to the underlying surficial aquifer. Does the low base flow during winter, as opposed to more steady base flow conditions, reflect a closer interactive between wetlands, unconsolidated aquifer underlying wetlands, and surface water than expected?	WE2
59	Page 4.1-5, Section 4.1.1.2, 3rd paragraph: While information gained from the aquifer tests will be important to evaluate potential interaction between the wetlands and the deeper aquifers, these tests may not provide direct evidence on whether wetlands adjacent to the mine pits will be indirectly impacted by mine dewatering activities. The pumping test methodology is not provided in the DEIS. The pumped well will affect groundwater heads in the pumped aquifer; this stress mayor may not influence groundwater heads in the wetland sediments. However, conceptually, the ability of the pumping test to evaluate future mining dewatering conditions is not clear. The project is proposed to be an open pit mine, with the overlying unconsolidated material removed to extract the ore - this is conceptually different from the presumed pumping tests where the overlying wetland sediments were present. The open pit would then provide a direct conduit for potential infiltration of wetland sediments adjacent to the pit.	WE2

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
59	Page 4.2-19, Section 4.2.3.1, 1st and 2nd paragraphs: The distinction between wetlands that are bogs (precipitation-supported) and other communities dependent on groundwater (e.g., swamps) is critical. The assertions in this section regarding the lack of communication between perched bogs and the underlying groundwater require additional support with data from the project area before the conclusion that "no indirect wetland impacts are anticipated at the Mine Site from groundwater quality" can be accepted. Some data and analysis from the site suggests a connection between bedrock aquifers and surficial aquifers, such as the presence of ammonia and nitrates in the deeper aquifer.	WR2I,WE1,WE2
60	Mercury emissions The DEIS states that the facility could emit up to 8.3 pounds of mercury per year (p. 4.6- 34). Minnesota's Statewide Mercury Total Maximum Daily Load (TMDL) recognizes mercury air emissions as a chief source of depositional mercury to surface waters. In the TMDL implementation plan, MPCA notes a need for mercury emission reductions overall. The DEIS does not, however, discuss plans to control mercury emissions. Current gold mining operations in Nevada currently employ either activated carbon filters or the Boliden chlorine treatment method to essentially remove all elemental mercury from the gas exhaust streams. Nevada gold mines also effectively treat mercury emissions from autoclaves using activated carbon filtration.	AQ5,AQ6A
61	Recommendation: We recommend the revised/supplemental DEIS describe mercury mitigation measures for the project.	AQ5,AQ6A
62	Cumulative impacts modeling EPA notes that the air quality modeling presented in the DEIS excluded emissions from the Keetac Taconite Mine and Processing Expansion Project and other proposed projects in the vicinity of the NorthMet project. Tribal cooperating agencies have noted this in several comments in the DEIS. Recommendation: The air quality modeling to assess cumulative impacts should consider all current and reasonably foreseeable projects in the area. We recommend adding these sources into the model and including the new information in the revised/supplemental DEIS.	AQ4B
63	IV. Financial Assurance Financial assurance should be discussed in a revised or supplemental Draft EIS because it is critical to determining whether all funding will be available and adequate for proper closure, reclamation, and post-closure care can be met by the mining company. Because the amount and viability of financial assurance are critical factors in determining the effectiveness of these activities, EPA believes it is necessary to analyze these factors in the revised/supplemental DEIS to determine the significance of potential impacts and the feasibility of long-term mitigation measures. For example, if appropriate closure, reclamation, and post-closure care measures are significantly under-funded, contamination of surface water and groundwater may not be controlled. EPA believes the adequacy of financial assurance for these activities could make the difference between a project sufficiently managed over the long-term by the site operator, or an unfunded or underfunded contaminated site that becomes a liability for the Federal government and the public, e.g., under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). Recommendation: We recommend USACE ask the mining company to describe adequate financial assurance as part of a revised/supplemental DEIS so that the information on the feasibility and commitment to long-term controls and/or treatment can be evaluated during the decision-making process. The State requirements for financial assurance should be described in the revised/supplemental DEIS, as well. We recommend that the revised or supplemental DEIS identify the estimated bond amounts needed for each closure and reclamation activity for the proposed project facilities and also discuss whether and how the state can modify the bond during the course of operations if temporary, long-term, or perpetual treatment and/or remediation needs are discovered during operations. We recommend identifying responsible parties for any post-closure cleanup actions should they be necessary, as part of financial assurance.	ALT8,PD4
64	We recommend the DEIS estimate contingency reclamation cost. While the DEIS acknowledges that Minnesota Rule 6132.1200 requires the mining company to establish financial assurance one year after the beginning of operations, this information is not included in the DEIS. There is no discussion of how NorthMet intends to meet the Minnesota contingency rule, except that it pledges to comply.	PD4
64	EPA suggests the revised/supplemental DEIS include a reasonable determination of contingency closure cost estimates based on the plan of operations.	PD3

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
281	This letter is a declaration of my support for PolyMet Mining's Northmet Project. Not since the early 1960's when the Taconite Amendment provided for the beginning of a major construction boom era and a stabilization of the Iron Range economy have we had an opportunity like this. The economic impact, especially in view of the current economic and employment conditions in Minnesota and this country, would provide a lasting bright spot with far reaching benefits, not only to the local area, but the entire State of Minnesota and beyond. We have been mining here for over 120 years, which means, we have the knowledge, natural resources, strict state and federal environmental laws, and the experienced workforce to do it better than any place else in the world. I believe that PolyMet Mining has demonstrated that they will produce precious metal products needed in this world, especially in this country and the State of Minnesota, in an environmentally sound manner that protects our air, water and land, while providing the much needed economic benefits. PolyMet Mining has done a thorough job of plan development for this project and has spent many millions of dollars ensuring that its process and facilities will comply with the highest environmental standards known. It is now time to proceed with the permitting process.	EOO,G1,G6
282	PS: Please email any status updates to me at: aalind@msn.com	RFI
3576	Specify plans for funding long-term treatment of polluted groundwater.	PD4
<b>Sender Last Name:</b> Lindahl		<b>Submission ID:</b> 285
299	Re: My Support of PolyMet Mining's NorthMet Project • I have been a resident of Northern Minnesota my entire life. • I do not want my environment destroyed. • I believe that the technology exists to allow PolyMet to proceed. • PolyMet has met or exceeded all requirements. • As citizens of the United States we cannot allow projects like PolyMet to go elsewhere in the world. • We have the most stringent environmental requirements in the world. If you build the PolyMet project in other countries where there is very low environmental protection in place, the world will be a far worse place to live. (We must remember that we are in a world environment not just a local one). • In order for the United States to remain strong, we need to be a producer not just a consumer. • If PolyMet is not allowed to proceed, where will we be? Where will you find companies to invest \$25M or more in permitting and have it denied a permit to mine at the end? • This is our chance to set the seeds for the nonferrous industry to bloom. This is very much like the importance of the passage of the "Taconite Amendment" without which there would be no taconite industry. • We cannot become CAVE Men. CAVE = Citizens Against Virtually Everything As citizens of Northern Minnesota we should consider ourselves lucky that PolyMet has pursued this project whereas most companies would go elsewhere. PolyMet has gone above and beyond what has been required by federal, state and tribal agencies. As opponents voice their concerns, we must see through the smokescreen and see reality. Therefore, I support PolyMet's NorthMet project.	EOO
<b>Sender Last Name:</b> Lindgren and Dale		<b>Submission ID:</b> 331
1	The Forum is informing the Minnesota Department of Natural Resources about the Lake Superior Binational Program to ask that any decisions made about the permitting of the PolyMet Mining in Hoyt Lakes, MN, will be consistent with the recommendations in the Lakewide Management Plan, especially where the mines' operations will affect air, water, habitat and soil quality.	EOO
<b>Sender Last Name:</b> Lindroos		<b>Submission ID:</b> 3252

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
3572	While reviewing the Draft EIS summary I was dissappointed not to find a benchmark to which to compare the proposed precious metal mining operation. Without this comparison it is difficult to decide the merits of this undertaking. There was also no estimate of the of the long term impact upon the lives and well being of the residents (human and otherwise) of northeastern Minnesota. My solution is to decide support/opposition for such mining on the response to the following two questions: What are the positive/negative comparisons of the proposed mining operation to existing precious metal mining operations in the United States? Is the anticipated negative environmental impact of precious metal mining in northeast Minnesota expected to be less than/equal to/greater than the known impact from past iron ore/taconite mining and logging activities? If greater, how much greater? These answers will enable state/environmental agencies and local residents to more confidently decide what is best for the long term benefit of the area.	G8
<b>Sender Last Name:</b> Liquard		<b>Submission ID:</b> 3523
535	AIR QUALITY IN PRISTINE BOUNDARY WATERS: The DEIS does not approach the most important question of cumulative impacts of this mine and the others that are proposed in the district. Polymet can not be looked at as a single, one-time event in N.E. Minnesota. With permitting of Polymet will come at least 2, perhaps 4 or more new applications for permitting from other mining companies. What will be the total impact on the environment by all these potential mines and how will the EIS deal with mitigation of all these in concert? Specifically the Boundary Waters, which is down wind of all these projects, will be negatively impacted in terms of atmospheric haze from dust particles and other emissions blown into the air. According to the U.S. Forest Service, the Polymet project alone will cause significant haze impairments in the Boundary Waters 36 days each year! Tell us how this cumulative effect on air quality must be dealt with for Polymet and all future applications. In addition how is global warming affected by this mining operation and the combinations of all potential mines in the future?	AQ3,AQ4B
1127	WILDLIFE: The mine site disrupts natural corridors for the movement of wildlife. Specifically the Canada lynx which is a federally-listed threatened species that requires large territories and benefits from undisturbed forest corridors. No provision is made for mitigating this loss of habitat in the DEIS.	WI5
2849	The PolyMet DEIS describes significant environmental issues associated with this proposed mine. These issues should be resolved before this mine is approved by the Minnesota Department of Natural Resources and the U.S. Army Corps of Engineers. In addition a 30-45 day time extension is needed for review of the EIS; as well as more public meetings in more places to gather input. The current schedule is too limited. Public meetings should include the option for citizen statements and discussion in an open meeting.	G10
3254	BOUNDARY WATERS WATERSHED: There was little or no field sampling done on the movement of ground water through the bedrock. Since the mine and its waste storage site sits nearly on the continental divide it should have been determined if there is any chance that polluted mine drainage (including acids, metals, or sulfates) could move in the rock over time to the north and into the Boundary Waters watershed. This was not done and should be before permitting.	WR1E
3255	SULFATES IMPACT: Sulfates are a problem that are not dealt with rigorously in the DEIS. Sulfates in surface water demonstrably impact aquatic vegetation, specifically wild rice. In addition sulfates react with elemental mercury in a process known as mercury methylation. Methylmercury is the form that bio-accumulates in fish and animals that eat fish, including humans. What process has been identified to detect and mitigate methyl mercury in the environment and how will community health be dealt with and paid for? The Boundary Waters is a very unique National Park that deserves to be fiercely protected. Developing open mine pits without the proper monitoring and regulations spells doom for this pristine paradise - if not in our generation, certainly in our grandchildren's time. Please do the right thing and protect this national treasure by addressing the above issues.	WR1E,WR4B,FM1

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<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
3705	RECLAMATION: The DEIS does not outline any specific plan for reclamation after the mine site is closed. In the same vein there is no specific mention of the method or amount of financial assurance that the mining company will need to set aside for the potential disasters after closing. Because acid mitigation is difficult to predict and long term treatment after closing is necessary, there needs to be a large sum of cash held in escrow as a damage deposit and that amount should be specific and included in the final EIS.	PD3
3706	MONITORING PLAN?: Where is the plan for constant monitoring of the mining operation by the DNR? Waste rock needs to be sorted by sulfide content, tailings basins need to be inspected for leaks, and waste piles need to be sampled for pH in runoff water regularly. Do we just depend on the mining company to do its own monitoring? There should be a program set up in the EIS for constant monitoring of operations by an independent environmental concern or the DNR.	PD8
<b>Sender Last Name:</b> List		<b>Submission ID:</b> 3742
1	3-50. (3.2.1 No Action Alternative)—Tribal cooperating agencies disagree with the assumption that the proposed project would only result in social and economic benefits. The environmental impacts of the project on the 100 Mile Swamp, an undisturbed and very high quality wetland complex, would constitute a social impact. Furthermore, economic development that is not centered on heavy industry (tourism for example) would be adversely impacted by the project. How will these social and economic problems be dealt with: the social impact of the 100 Mile Swamp and the loss of tourism revenue to dependent businesses?	RFI
1	The DEIS is premature. It should not have been released until the required land exchange between the US Forest Service and PolyMet has been completed. The DEIS is required to examine all potential environmental impacts associated with the Project. The land exchange may well introduce substantial impacts and these may in turn interact with other aspects of the Project which should be examined in the DEIS.	PRO4



*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
2	<p>The PolyMet DEIS describes significant environmental issues and other issues associated with this proposed mine. These issues should be resolved before this mine is approved by the Minnesota Department of Natural Resources and the U.S. Army Corps of Engineers. Unfortunately, the continued “poisoning” of our waterways and watersheds is what we Americans are almost getting used to: Poisoned Waters by Hedrick Smith, April 21, 2009: “More than three decades after the Clean Water Act, iconic American waterways like the Chesapeake Bay and Puget Sound are in perilous condition and facing new sources of contamination. With polluted runoff still flowing in from industry, agriculture and massive suburban development, scientists note...that these toxins are being found in drinking water of millions of people across the country and pose a threat to fish, wildlife, and potentially, human health...” “the environment has slipped off the radar screen because it’s not a hot crisis like the financial meltdown, war or terrorism, but pollution is a ticking time bomb. It’s a chronic cancer that is slowly eating away the natural resources that are vital to our very lives.” Sulfide mining industry in the great state of Minnesota must not become reality....if it does...the same ticking time bomb of polluted water seen on the east and west coast with be the new reality in water-rich Minnesota. Let us not experiment with our natural resources. I have asked myself: If I was told that there is a new vaccine, but it has never been used successfully on a human yet, would I be first in line to try it? Highly doubtful. Mr. Arkley and Mr. Ahlness, you both would probably answer in the same manner. One can use the same analogy with the PolyMet project. Water rich Minnesota is being told to be first in line to try it...to be a large-scale experiment for sulfide mining. With the scope of the exploratory mining being done right now throughout MN, no area with minerals beneath its soil will be immune from the possible effect of sulfide mining and damage to the precious waters for all to live, and to recreate on...and that are the lifeblood of Minnesota’s tourism industry. Water is undervalued Water is undeniably scarce Water boasts unrivaled demand Water is priceless Water is our most precious resource If you have not already done so, I urge you to consider what this project could mean to the generations to follow our decisions of today. What will be the consequences of the decisions made you? Will those decisions safeguard our “natural world” for the future, or will those decisions simply provide a few jobs for a few “lucky” Minnesota citizens for the short-term of 20 years. Let’s work toward other sustainable industries in addition to tourism, for northern Minnesota that protect our waters. Let’s not lock Minnesota into a “permanent resource-extraction economy” at the price of long term pollution to our waterways---while driving away other industry and points of view. Contrary to what our short-sighted politicians (Klobuchar, Franken, Bakk, Oberstar, Rukavian, etc.) who endorsed this project without performing their “due diligence”, would like us to believe, there are thousands of concerned Minnesota citizens, and countless vacationers to Minnesota who have serious issues with this proposed mining project. We owe it to our future generations to give a 100% assurance that this politically-touted, 20-year sulfide mining project can be accomplished without irreversible harm to our waterways and our wetlands. It my sincere hope that you will give proper evaluation to this landmark controversy facing the state of Minnesota and its citizens. We must learn from the mistakes made across our country in other states that allowed sulfide mining companies, usually from other countries, the opportunity to destroy its natural resources with the promise of lucrative jobs. A degree in engineering, geology or hydrology is not necessary to realize that the landscape changes alone will fore</p>	G2C
2	<p>Factual evidence from mining projects in other parts of the USA demonstrates that clean up and restoration of most mine sites “do not work.” A. Reference the Flambeau mine (with lawsuit pending over it “reclamation”). B. Reference the Appalachian Mountains where mountain top coal mining parallels some of the same concerns with sulfide mining as would exist in Minnesota if PolyMet mining is permitted: “ According to Margaret Palmer of the University of Maryland Center for Environmental Science, “clean up laws may not be working. Federal and state laws require mining companies to clean up and restore mined areas. But Palmer and 11 other scientists who published their review in the journal Science say that's not working. "Even after a site has been reclaimed and attempts have been made to re-vegetate it," says Palmer, a biologist, "the streams that remain below that, that weren't filled, have high levels of all sorts of nasty things." Things, she says, like selenium, which in high amounts can harm fish and other aquatic life; and sulfates, which alter the water chemistry. Palmer and her colleagues say many animals in these valley streams — from algae to fish and birds — could be seriously harmed. ““““Experts Urge Official To End Mountaintop Mining” by Christopher Joyce, January 7, 2010</p>	PD3,PD4

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
3	Contaminated overflow from the West Pit The DEIS predicts that at year 65, the West Pit will begin discharging polluted water • Arsenic, cobalt, selenium, copper, nickel, aluminum, beryllium, iron, manganese, and thallium from PolyMet’s operations may all exceed water quality standards. Analysis predicts high sulfate concentrations. (4.1-113) The DEIS would allow this to happen. The DEIS does not address the cumulative or synergistic impacts upon fish, wildlife or humans as we ingest water containing all of these pollutants. It is unacceptable to proceed with a mine that already predicts these kinds of pollution outcomes.	WR3I,WR5A,WI5,FM3
<b>Sender Last Name:</b> Lloyd		<b>Submission ID:</b> 163
153	Please see that the mine gets a fair chance to hire people and startup production. My family and I live withing 10 miles of the mine and feel perfectly safe with Poly Met producing there products. The vast majority of the nay sayers are not local people. They have never lived on the Iron Range and seen that mining is the basis for this area. I think the various government agencies have jerked Poly Met around long enough..... Let them begin. bob lloyd aurora, mn	EOO
<b>Sender Last Name:</b> Lockhart		<b>Submission ID:</b> 1780
2340	I can't say I'm an expert on mining, but I've heard a bit about the PolyMet mines being proposed in Northern Minnesota and I haven't heard anything good. Especially about the impact this could have on the environment. I grew up in Northern Minnesota. I grew up practically in the water of Lake Superior. I spent most of my summers up in the Boundary Waters Canoe Area Wilderness. I want to take my children and grandchildren there to have the same experiences I had. If this mine goes up they won't have that chance. The effect this mine could have on the environment is devastating to even think about. The river and lake eco-systems could be destroyed for hundreds of years by the by-products made by the mine. I understand that there are treatments that can be undertaken to prevent the pollution by the waste products, but I highly doubt these can reasonably be maintained for the length of time it would take for the by products to lose their toxicity. This mine doesn't just threaten one area, it threatens a huge part of our state - a state which is known for it's clear waters, fishing, canoeing and outdoor recreational activities. Any possibility of damage to the environment should be eliminated to the absolute best ability of both the state and the company proposing the mine. I don't want to lose the state I love to pollution and short-term economic gain. Please think about the future. What a mine now could mean to the environment ten years from now, twenty years, thirty.	G7,G11
<b>Sender Last Name:</b> Loney		<b>Submission ID:</b> 3743
20795	The board, staff and members of the Friends seek the protection of the Boundary Waters Canoe Area Wilderness and the larger Quetico-Superior ecosystem. The organization values healthy ecosystems, clean water, wilderness character, and primitive recreation. Our members from all over Minnesota and the country enjoy the area for its canoeing, camping, fishing, hunting, birdwatching, and many other reasons, as well as the region’s natural, largely-undeveloped character. The risks presented to many of these activities and attributes by nonferrous mining have been a significant concern for our organization for many years.	G11

*Alphabetical by sender's first name*

**Comment ID    Comment Text**

**Theme Codes**

20795 A. Financial Assurance 1.) The DEIS fails to provide information about the amount of financial assurance that will be required for the project. This is a fundamental problem with the DEIS. “Any additional detail regarding the amount of financial assurance associated with reclamation actions cannot be estimated until these actions are understood at a deeper level of design detail. This detail is more typically made available during the permitting process. Therefore, further discussion of financial assurance figures and instruments are not included in the DEIS” (DEIS pg. 3-48). But the inclusion of information regarding financial assurance is key if the public is to understand and assess the potential effectiveness of reclamation and closure activities. Financial assurance and a reclamation closure plan inform the public about the potential long-term environmental impacts of the mine and their absence in the DEIS is glaring. Financial assurance should be fully explored in the EIS. The DEIS outlines the possibility that long-term water treatment, monitoring, and maintenance may be required for the Proposed Action, making a timely analysis of financial assurance essential in fully appreciating the potential impacts. It is unclear, after years of design preparation by PolyMet, what new information regarding design details will become available between the release of the DEIS and permitting that would dictate that financial assurance calculations cannot be determined and outlined in the EIS. The U.S. Environmental Protection Agency (EPA) has also urged that financial assurance disclosure occur during the NEPA process. In an August 2009 letter regarding the NorthMet project, the EPA stated regarding the lack of financial disclosure for this project: “The EPA recommends including financial assurance information because one key component to determining the environmental impacts of a mine is the effectiveness of reclamation and closure activities...EPA has recognized the importance of disclosing financial assurance in EISs...” (U.S. EPA August 2009). The EPA’s National Hardrock Mining Framework recommends that the: “EPA should evaluate the adequacy of EISs for mining operations in predicting the long-term environmental impacts of mining operations. Assessment of financial assurance mechanisms that will be utilized to provide funding of required long term environmental management systems is critical to this analysis” (U.S. EPA 1997). Dr. David Chambers has also highlighted the omission of financial assurance calculation as a major flaw in the document. “...the financial surety for the project could easily be in excess of \$100 million. This is a very significant potential impact to the public, who is ultimately accountable should the mine operators go bankrupt without an adequate financial surety to close the mine and treat waste water” (Chambers 2010). Recommendation: Including financial assurance information in Environmental Impact Statements has become standard practice, especially for mining projects in which long-term water treatment is expected. The PolyMet project anticipates long-term water treatment needs, and its EIS must include the necessary financial assurance calculations for the public to assess risks and impacts. Financial assurance calculations must be included in the EIS. It is critical to fully understanding the potential environmental impacts from this project. The lack of financial assurance in the DEIS renders the analysis incomplete and inaccurate. This analysis should not be delayed until permitting.

PD3

20796 A. Cultural Impacts The NorthMet project would impact resources with cultural significance to the Ojibwa. Significant impacts to water resources, wetlands, wild rice and wildlife are possible from the project, and would affect natural resources available for Ojibwe use. Compensatory wetlands are proposed for outside the 1854 Ceded Territory and would result in a loss of these lands to the Ojibwa Bands. If the land exchange occurs, giving PolyMet ownership of the mine site lands, this area would be removed from public ownership and would diminish both Ojibwa Band members’ and the general public’s access to these lands. The potential impacts to wild rice beds from increased sulfate concentrations, and the potential impacts to fish consumption from methylmercury contamination pose significant cultural impacts to the Ojibwa Bands. Recommendation: The EIS must include the identification of land to be exchanged and the potential cultural resource impacts associated with this exchange.

G3,CR1,CR2,CR3,CR4

**Sender Last Name:**    Lorentz

**Submission ID:** 1773

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
2327	I feel that the impact on the BWCA, based on the fact that the water from the rivers will leak to the BWCA, is unacceptable. This is our only earth, home to the humans, animals, and all walks of life that we know of. To pollute our home on purpose, for the sole luxury of economic success, is not a balanced action. luxury does not outweigh environmental hazard. Our planet has already begun the downfall of human's impact based on the evidence of the Arctic melting away: (Global Warming). To drive the point across, to pollute our earth is like polluting a household, since earth is a home to humans and a house is a home to families. We would not sacrifice the safety of our loved ones for profit. Therefore one can conclude that it is unacceptable to pollute one's earth.	G2,G7
<b>Sender Last Name:</b>	Lorig	<b>Submission ID:</b> 1242
1391	One of Minnesotas greatest resorces is our fresh water. Please take a minuet and think how this will forever change the wadershed in northern MN and the great lakes. It might not effect it in this life time but think about the children and the next generation. We can not aford to distroy this recorces.	G7A
<b>Sender Last Name:</b>	Lowe	<b>Submission ID:</b> 3489
3763	To whom it may concern, This message is in regards to the pending PolyMet Mining Corporation's NorthMet Mining Project Draft Environmental Impact Statement. This proposed plan is counter to the interests of Minnesotans, both current and future. The environmental impacts will be felt for 50 generations, long after PolyMet Mining is no longer around to cover the tab. Minnesota has already converted or lost so much of its natural heritage; I strongly feel that this is an unwise use of some of its remaining natural areas. The proposed site is on National Forest land. Trees can be harvested from this land sustainably for perpetuity while providing habitat for endangered and otherwise threatened species; once the open pit mine is created, that's it. Please do the responsible thing and tell these folks to go elsewhere; Minnesota's better than this. Sincerely, Ben Lowe PhD Candidate University of Minnesota's Dept. of Ecology, Evolution, and Behavior 1987 Upper Buford Circle, Ecology 100 St Paul, MN 55108 Lowe0160@umn.edu	G2A,G2C
<b>Sender Last Name:</b>	Luck	<b>Submission ID:</b> 2248
2941	To whom it may concern, Approve the DEIS! MN economy needs it!	EOO
<b>Sender Last Name:</b>	Lundgren	<b>Submission ID:</b> 2261
2671	I have been a resident of the Iron Range since my birth in 1929, which is the same year my father started the Ford dealership in Eveleth. For the last four generations, our family business has been successful largely due to local mining. We have sold and serviced hundreds ofvehic les to the mining companies and their employees over 81 years. I strongly urge you to accept the PolyMet project as it would not only allow our family traditions to continue, but it would greatly benefit the entire Iron Range. The PolyMet project would provide jobs for many struggling families in our area and would help to rebuild the prosperity our communities once had. PolyMet would be the best project the Iron Range could hope for.	EOO
<b>Sender Last Name:</b>	Lunz	<b>Submission ID:</b> 3230
1317	I am concerned that the discharge water will contain arsenic and it will find it's way into surface and downstream drinking water.	WR1A
<b>Sender Last Name:</b>	Lustig	<b>Submission ID:</b> 1045

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
1148	What In the world are 'we waiting for? Polymet to scrap to whole project so we can sit around and look at the trees and wonder why no one on the Iron Range can find a job or why have all the young people left: Give Polymet their permit. They have met the set forth existing requirements. The: government agencies have done 'there job and have much more knowledge about the project then the g,eneral public and the special interest groups trying to block the project. The have followed all the rules and deserve to be gIven their permits.	EOO
<b>Sender Last Name:</b> Lynch		<b>Submission ID:</b> 1194
1309	Minnesota's lakes, rivers & streams are a huge part of what makes our quality of life so good & is part of who we are. I'm extremely concerned that the proposed mine by Polymet cannot prove that there is sufficient technology to clean up after itself. These mines have cause pollution everywhere else they've been tried. Don't let Minnesota's precious waters be the guinea pig they are far too important too fragile to mess with. Short term profits in exchange for long-term debt is unacceptable.	EOO,G7B
3480	I am a U Mn grad with a student there now. I drive from St Louis to the BWCA and other Northern Mn sites for an environmental experience that is difficult to find. I am strongly opposed to the establishment of another threat to that experience and to those Minnesota rresidents whose lives and livelihood may be damaged by another inadequately studied and unnecessary Environmental crap game. The welfare of the state and the people who care for the state depends upon responsible action by the DNR. Please take the long term view and protect what is left.	EOO
<b>Sender Last Name:</b> M.G.		<b>Submission ID:</b> 3356
3647	The earth provides enough for every man's need... Not for every man's greed! Preserve the Boundary Waters.	EOO
<b>Sender Last Name:</b> Maccabee		<b>Submission ID:</b> 3666
1	For purposes of potential future litigation, these comments explicitly include by reference the positions of tribal cooperating agencies reflected in Appendix D of the Draft Environmental Impact Statement (DEIS), additional comments on the DEIS submitted by the tribal cooperating agencies, comments made by the United States Environmental Protection Agency (U.S. EPA) on the preliminary draft environmental impact statement (PDEIS) released for agency review in July 2009 and comments of other environmental organizations regarding the DEIS, specifically Minnesota Center for Environmental Advocacy, Friends of the Boundary Waters Wilderness, Center for Biologic Diversity, Sierra Club North Star Chapter. WaterLegacy also incorporates by reference for purposes of future litigation any and all individual comments submitted pertaining to the PolyMet NorthMet DEIS by WaterLegacy members and by other attorneys who may represent individual WaterLegacy members, including but not limited to comments of Bruce Johnson, Len Anderson, Joel Roberts, Alphonse Gerhardstein and Matt Tyler, whether or not such comments are specifically cited in these Comments. Although some legal citations are provided in the succeeding pages, WaterLegacy's comments focus primarily on scientific, factual and analytic deficiencies of the DEIS. WaterLegacy expressly reserves the right, in any potential future litigation related to this matter to raise any and all legal issues raised by the asserted deficiencies, whether or not the specific argument is made in the succeeding comments or comments incorporated by reference.	G15
2	The final EIS for the PolyMet NorthMet project must be deferred until a comprehensive supplement to the DEIS has been prepared, with appropriate scoping, notice and public comment, which supplement would perform a detailed analysis of the specific lands proposed to be exchanged for the NorthMet mine site and the impact of this exchange on the public interest, the environment and cultural resources of affected tribes with usufructuary rights in the 1854 Ceded Territory.	PRO1

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
3	Based on the EPA’s recommendations, the post-closure activities required by the project and the characteristics of its proponent, it would be irresponsible to prepare a final EIS for the PolyMet NorthMet project without a clear and specific financial assurance analysis based on a schedule and costs for closure and post-closure reclamation, maintenance and treatment. If no such specific assurance is provided, the final EIS should provide a detailed analysis of adverse environmental impacts assuming that no closure or post-closure reclamation can or will be sustained.	ALT8,PD2,PD3
4	The final EIS must specifically analyze how the closure and post closure activities required by the PolyMet project comply with Minnesota statutes and rules requiring stable and maintenance free closure and reclamation. For at least the following, the EIS should specify how 8 maintenance or treatment at closure and post-closure would meet water quality standards and comply with non-ferrous mining reclamation rules: • Waste Rock Stockpiles. Pollutants in drainage from stockpiles have the potential to exceed groundwater criteria for up to 2000 years after the mine is opened under the Proposed (DEIS, p. 4.1-84).1 Maintenance, collection of drainage and potential treatment should be discussed in terms of water quality and conformity with post-closure rules. • West Pit Lake. The west pit lake will overflow post-closure, discharging water predicted to exceed water quality standards for arsenic, cobalt, copper and nickel and containing significant sulfate levels. West pit lake overflow is also likely to exceed mercury water quality standards. Tribal agencies have noted the likelihood that the west pit lake will remain at the site “in perpetuity and will exceed water quality standards” (DEIS, Tribal Positions p. 3-19). The EIS requires a plan to prevent long-term water quality exceedances, not just a monitoring plan. • East Pit Wetland. The DEIS has not characterized water quality of east pit outflow or overflow. (DEIS, p. 4.1-72) or what measures would be taken to address potential inefficacy of constructed wetlands reduction of pollutants. • Tailings Basin. Maintenance of tailings saturation to reduce oxidation, maintenance of embankments to prevent catastrophic dam failure, treatment of seepage collected from the toe of the tailings basin and treatment of discharge once the seepage barrier is removed from Second Creek all require explicit discussion in terms of post-closure costs and legal compliance. • Hydrometallurgical Residue Cell Closure. Maintenance of a geomembrane barrier, geosynthetic clay barrier cover and liner system to control impacts over highly contaminated material over time should be discussed in terms of activities, costs, and the potential need to replace containment materials.	PD2,PD3,PD5
5	For these reasons, an EIS may not defer fundamental questions of design to a potential permitting process. As explained by tribal cooperating agencies, “The lack of a stability analysis for the stockpiles is a serious data gap given the serious environmental consequences of a structural failure of a stockpile.” (DEIS, p. 4.13-2).	GT1
6	The DEIS notes that the Minnesota Department of Natural Resources recommends that a “Dam Break analysis and risk assessment” be done, but suggests that the analysis could be deferred until permitting. If the design is still deemed unstable, the DEIS suggests that additional rock buttress and dewatering of tailings could be evaluated. (DEIS, p. 4.13-4). However, reducing the saturation of tailings may increase acid and leachate generation within the tailings basin, creating adverse water quality impacts. In addition, there is no indication that either of these mitigation measures would be sufficient to prevent a dam break at the tailings basin, with potentially catastrophic consequences for water quality in the Embarrass and Partridge Rivers and in groundwater impacting residential drinking wells. This long-standing concern must be solved before a final EIS is released. Explain tribal agencies:	GT1
7	The DEIS proposes no measures that might provide assurance of hazardous waste containment if the hydrometallurgical facility is found to be located on slimes 11 and suggests no alternative methods of dealing with these waste materials if unstable materials underlie the disposal site. Tribal agencies stressed the need for data on stability of this hazardous facility:	EOO

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
8	The PolyMet NorthMet project should not proceed to release of a final EIS unless and until objective and reasonable engineering demonstrates that there is a design or set of designs capable of demonstrating geotechnical stability under all reasonably predicted conditions, including water saturation. Among the mitigation measures and designs that should be considered to provide reasonable assurance that there would be no catastrophic release of contaminants should be at least the following: <ul style="list-style-type: none"> <li>• Storage of waste rock in an off-site location (proposed in Final Scoping Decision);</li> <li>• Reduction in the scope of the project;</li> <li>• Construction of a new fully lined and structurally sound basin for tailings;</li> <li>• Construction of a new structurally sound hazardous waste facility for hydrometallurgical residues.</li> </ul> Even once a design has been developed that meets requirements for geotechnical stability, the final EIS should analyze a “worst case” scenario categorizing the risk that each of these structures will fail catastrophically. This analysis should both be specific to each major source of contaminants and cumulative, if there is a multiple failure. Historic information on slope instability and dam breaks at other mines should be used to identify factors, whether related to weather or maintenance issues, that increase or decrease the risks so that members of the public as well as regulators can better appreciate the degree to which uncontrolled release of pollutants may or may not be controlled.	GT2
10	The EIS must include a thorough analysis of the extent of contamination from the LTVSMC site, a 60,000 acre contaminated brownfield site proposed for the PolyMet NorthMet plant and for disposal of polluted water, sludge and residue from the PolyMet NorthMet project. The LTVSMC tailings basin continues to contaminate groundwater and surface water more than 20 years after operations have ceased. In the wells that do exist near the tailings basin, pollutants including iron, manganese, and aluminum exceed drinking water standards, while mercury exceeds Great Lakes Initiative limits. (DEIS, Table 4.1-7, p. 4.1-13) Wells near the northern property line show substantial contamination of the groundwater aquifer, and recent well data show that the plume extends in some areas at least as far as private wells along the Embarrass River. (DEIS, Tribal Positions, pp. 4.1-2 to 4.1-3) Surface water discharges at the tailings basin also demonstrate exceedances of mercury, pH and hardness as well as several metals. (DEIS, Table 4.1-30, p. 4.1-43).	WR1E,WR3I,PD2
11	The EIS must fully characterize the existing contamination plume, including impacts on wells, aquifers and surface waters and evaluate the cumulative impacts of existing contamination along with the additional loadings proposed by the PolyMet project. As recommended by tribal cooperating agencies, the EIS must at least do the following: <ul style="list-style-type: none"> <li>• Develop a groundwater flow model to show the direction and rate of groundwater flow;</li> <li>• Provide a complete characterization of contaminant plumes to groundwater, including impacts on private wells along the Embarrass River;</li> <li>• Provide a detailed characterization of background contamination and an accurate prediction of groundwater water quality including the PolyMet inputs;</li> <li>• Conduct water samples from lakes near the tailings basin (Hiekillilla, Mud, Kaunonen, or Hay Lakes) to determine if the pollutants at the existing tailings pile have caused contamination;</li> <li>• Provide a detailed characterization of background contamination and an accurate prediction of surface water quality including the PolyMet inputs;</li> <li>• Develop an up to date closure plan, including remediation of groundwater seepage from the tailings basin. (DEIS, Tribal Positions, pp. 4.1-2, 4.1-3, 4.1-118)</li> </ul>	WR1E
12	The gaps in information are more striking because the PolyMet plant and tailings basin site are proposed to be located on a contaminated brownfield that, for the most part, has neither been investigated nor remediated. The DEIS states that PolyMet has “acquired surface ownership of approximately 7,000 acres of real property and portions of the taconite processing facility formerly owned by LTVSMC, and approximately 8,100 additional acres from Cleveland-Cliffs, Inc.” (DEIS, p. 3-19). Under applicable law, to the extent that unremediated contamination remains on this property, if the property has already been acquired PolyMet would be legally responsible for remediation whether or not the PolyMet NorthMet mine and processing facility are developed.	WR1E,PD2

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Comment ID	Comment Text	Theme Codes
13	According to summary information in the DEIS, PolyMet is responsible for 29 of the 62 areas of concern at the LTVSMC brownfield site. Of these 29 areas of concern, 22 require further investigation and action. (DEIS, Table 4.1-9, p. 4.1-17) Not only has closure and remediation not been completed, but in many case no Phase II investigation of the extent of contamination has been prepared or response action plan approved. The remainder of the areas of concern at the LTVSMC brownfield site, for which PolyMet would not be in the chain of title, similarly, are only in the early stages of VIC investigation, having neither completed Phase II investigations, obtained approval of response action plans or conducted remediation and closure activities. (DEIS, Table 4.1-10, p. 4.1-18).	WR1E,G9
14	The DEIS fails to provide detailed information on the extent of contamination of groundwater, surface water and wells, the nature of remediation required and the cost and schedule of remediation and closure, all of which and more would be developed through the VIC program prior to acceptance of a response action plan for a brownfield site.	WR1E
15	Perhaps most troubling, even as compared with earlier drafts, the DEIS contains less information about the LTVSMC brownfield site, in some cases removing pertinent information about contamination and effectively concealing this critical issue from the public.	PD3
16	As with other areas of critical environmental concern, the DEIS defers consideration of remediation of the contaminated LTVSMC site proposed to be used by PolyMet for disposal of tailings and hydrometallurgical wastes to a potential permit process. The DEIS defers the nature of the activities required for clean-up, the environmental impacts of legacy pollution and corresponding requirements for financial expenditures. (DEIS, 4.1-116). As emphasized by tribal agencies (See DEIS, Tribal Positions, pp. 4.1-2, 4.1-3; DEIS, p. 4.1-19), this approach is contrary to the purpose of environmental review. Knowing the extent of LTVSMC site contamination and the likely costs for remediation is critical to understand the likely environmental impacts of a mining and processing project dumping materials on a site that is already contaminated. This information must be included in the EIS to provide reliable information on water quality impacts from the plant site. Detailed Phase II, response action and remediation information is also critical to provide a credible analysis of the “no action” alternative in the EIS. A “no action” scenario would require investigation and remediation of the LTVSMC site in a timely fashion and would provide environmental benefits as a result of this clean-up. If the use of the LTVSMC site for additional waste disposal by PolyMet would delay site investigation and remediation for many decades until mine closure or post-closure, the environmental harm due to this delay as well as due to the incremental wastes dumped by PolyMet must be investigated. The EIS must also contain detailed information on the extent of contamination and the costs of remediation to determine the level of financial assurance that will be required for the PolyMet project. The economics of the project itself might be affected by knowledge of the nature and level of response needed to address existing contamination at the LTVSMC site. Particularly since the PolyMet Corporation has few obvious assets and no history of production, it would seem irresponsible to proceed with the EIS without detailed information on the extent of resources needed to address brownfield contamination.	PD3,PD5,G9
17	In its listing of permits that will be sought for the PolyMet NorthMet project, the DEIS neither references the need to comply with federal Resource Conservation and Recovery Act (RCRA) or Minnesota Hazardous Waste statutes or rules pertaining to regulation and permitting of hazardous waste disposal. (See DEIS, pp. S-2 to S-3) The DEIS identifies no mitigation measures for hazardous materials. (DEIS, S-17). Perhaps most striking, although the DEIS acknowledges that the project would use or generate thousands of tons of hazardous materials including mine site waste water treatment facility chemicals – (calcium hydroxide or hydrated lime, aluminum hydroxide, sodium hydrosulfide) and plant reagents (sodium hydrosulfide, sodium hydroxide, acids, flocculants and anti-scalants) (DEIS, p. 4.12-1), the DEIS provides little explanation of how the identified hazardous materials will be utilized or the way in which hazardous residues, reactants, or by products of these hazardous chemicals would be disposed of, consistent with federal and state hazardous waste disposal statutes and rules.	HM2,HM4



*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
18	The wastewater treatment facility will use chemical precipitation technologies, resulting in chemical precipitates and solids that may be processed in the hydrometallurgical plant. (DEIS, p. 3-10). Hazardous materials used in the hydrometallurgical process will be included in the materials pumped to the hydrometallurgical residue facility. (DEIS, Table 3.1-12, p. 3-30, p. 3- 25). Based on the chemical constituents of these processes, it is likely that precipitates and residues would have at least one of the characteristics by which hazardous wastes are identified under federal and state law: ignitability, corrosivity, reactivity, toxicity, oxidizers, lethality. (See 40 C.F.R. §261; Minn. R. 7045.0131)	HM4
19	The DEIS section on hazardous materials provides no discussion of the process and life cycles for the hazardous chemicals described above, or their reactants, residues or by-products. Without this discussion, it is not possible to determine whether either wastewater facility effluent or tailings will contain corrosive or other hazardous material. This gap is yet more troubling for the hydrometallurgical residue waste facility. Although it is clear that the hydrometallurgical residue facility will be a disposal site for hazardous wastes, the DEIS does not use the term “hazardous waste” and does not describe either the regulatory, permitting or environmental consequences of creating a waste facility at the plant site, particularly on an existing contaminated brownfield site with potentially unstable soils. The EIS must include a complete life cycle analysis of hazardous wastes and permitting and disposal requirements under applicable laws. Assessment of the potential for leakage, seepage or geotechnical failure of the hydrometallurgical residue disposal facility must consider the implications of release of hazardous and toxic materials.	HM4
20	WaterLegacy and the tribal agencies have taken the position that the public notice for the Section 404 permit should be reissued and the MPCA should be given the opportunity to analyze and make a determination under Section 401 of the Clean Water Act. The tribes site significant changes in the design of the project and adverse impacts identified in the environmental review process among their reasons for requesting a reissuance of the notice. (DEIS, p. 4.2-1, fn 1) Project designs, impacts and policies of the Minnesota Pollution Control Agency have changed since 2005. Providing an up-to-date notice of the Section 404 permit for the PolyMet NorthMet project would ensure that Section 401 water quality certification proceeds consistent with federal laws and policy guidance, making the most effective use of resources.	WE4
21	The nature and magnitude of the project and the character of proposed activities and discharges have changed or only become evident since the May 2005 notice. Since May 2005, specifically, It has been determined that the PolyMet project will directly and indirectly impact 1,522 acres of wetlands on and adjacent to the mine and tailings basin site. It has been determined that of these 1,522 acres of impacted wetlands only 300 acres of the wetlands (175 of which would only be replaced post-closure) will be replaced within the St. Louis River watershed or even the Lake Superior Basin watershed. It has been determined that sulfate discharge, seeps through the tailings basin and hydrological changes create the risk of mercury methylation and that the proposed wastewater and constructed wetlands treatment methods at the project will be ineffective in removing mercury. It has been proposed as an alternative that wells be dug and seepage pumped from the toe of the tailings basin for direct discharge to the Partridge River. Creation of a west pit lake has been proposed and it has been determined that this pit lake will exceed water quality standards and will overflow post-closure. Wild rice production areas downstream of the project have only recently been surveyed, implicating Minnesota’s unique water quality standards to protect this resource. In addition, it should be emphasized that the MPCA’s waiver of Section 401 certification did not reflect a policy determination, but the severity of budget constraints. Since late 2006, the 20 MPCA has changed its practice of systematically waiving Section 401 authority, and has established criteria to identify projects where Section 401 authority will be exercised to ensure that projects comply with state water quality standards. Those criteria would strongly support exercise of MPCA Section 401 authority in connection with the PolyMet project. ( <a href="http://www.pca.state.mn.us/water/401.html">http://www.pca.state.mn.us/water/401.html</a> ) Federal policy favors states’ exercise of Clean Water Act Section 401 authority to protect wetlands and water quality. ( <a href="http://www.epa.gov/owow/wetlands/facts/fact24.html">http://www.epa.gov/owow/wetlands/facts/fact24.html</a> ). In addition, particularly with respect to mercury releases and methylmercury, the MPCA has developed important expertise that could be applied if an opportunity to exercise Section 401 jurisdiction were afforded by reissuance of notice. Since 2005, the MPCA has completed a Statewide Mercury TMDL, which was approved by the U.S. EPA in 2007 and has analyzed waters impacted by the PolyMet project for fish tissue methylmercury and impaired under Section 303(d) of the Clean Water Act. Reissuance of the Section 404 notice would be appropriate under applicable law and allow an efficient use of expertise related to mercury, methylmercury, sulfates in wild rice waters and other important water quality issues under federal and state law.	WE2,WE3,WE4,WE8

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Comment ID	Comment Text	Theme Codes
22	SUMMARY The DEIS relies on a number of inappropriate assumptions regarding the Clean Water Act, NPDES permits and applicable standards preventing degradation of surface water and groundwater quality. Whether the Proposed Action, the Mine Site Alternative or the Tailings Basin Alternative is implemented, the PolyMet project will require an NPDES permit for industrial discharge. That permit may only be issued in compliance with statutes, rules and regulations protecting water quality, many of which the DEIS misinterprets or disregards. The DEIS needs to be revised consistent with NPDES permitting requirements and consistent with water quality standards and nondegradation regulations for both surface water and groundwater.	WR31
23	There are too few public meetings to provide members of the community an opportunity to learn about this precedent-setting project and express their opinions. The perspective of which Mr. Arkley informed us on Monday, December 7, 2009, that the oral comments of members of the public cannot be made openly since so many participants are expected, heightens our concern about having only two meetings for such a significant project. We do not believe that a public meeting process where citizens are sequestered to make comments is adequately informative or participatory. If having too few meetings is contributing to the need for this type of process, the solution should be to schedule more meetings.	PRO6
23	The DEIS suggests that the only National Pollutant Discharge Elimination System (NPDES) permit required by the PolyMet NorthMet project is a stormwater permit for construction activity disturbing an acre or more of land and then diminishes the significance of a discharge of stormwater in implicating Clean Water Act requirements. Neither assumption is consistent with facts or with law. Although the DEIS attempts to suggest that there is no direct surface water discharge until the west pit overflows in approximately year 65 (DEIS, pp. 4.1- 107, 4.1-108, 4.1-109), facts belie this assumption: • Under all alternative scenarios, tailings basin seepage will upwell into wetlands draining into the Embarrass River, which wetlands as well as the river are navigable waters under federal law as well as waters of the state. Even if the Tailing Basin Alternative were to recover 95 percent of NorthMet groundwater seepage, total seepage from the NorthMet and LTVSMC tailings from Cell 2W would still significantly exceed aquifer flux capacity. (DEIS, p. 4.1-129). • Tribal agencies have identified a direct surface water connection between the northwest corner of Cell 2W of the tailings basin, through wetlands and to the Embarrass River. (DEIS, pp. 4.1-95, 4.1-107). • Water levels in the east pit and west pit after year 20 would be established by “outlet structures” used to route surface water overflows from the east pit to the west pit and from the west pit to wetlands west of the pit draining into the Partridge River. (DEIS, p. 4.1-64) • The Tailings Basin Alternative proposes direct discharge of collected tailings basin seeps to the Partridge River. (DEIS, pp. 4.1-139, 4.1-141) As acknowledged in the DEIS: [S]everal potential pathways for surface water quality impacts remain, including noncontact stormwater runoff; seepage from rock stockpile liners, the hydrometallurgical residue storage area, the Tailings Basin; and pit lake overflows. Recent hydrogeologic investigations of the Tailings Basin area show that there is not sufficient transmissivity in the downgradient aquifer to transmit the predicted seepage from the basin. As a result, the seepage upwells to the surface and affects surface water quality. (DEIS, p. 4.1-107) [N]on-contact stormwater runoff; unrecoverable groundwater seepage from the temporary and permanent waste rock/lean ore stockpiles, mine pits, overburden storage/laydown areas, various sumps, process water ponds, and the WWTF equalization ponds; and the ultimate overflow of the West Pit represent potential pathways for the Project to affect water quality in the Partridge River. (DEIS, pp. 4.1-108, 4.1-109) NPDES permits will apply to all potential sources of discharge to surface waters from various pathways, irrespective of PolyMet’s attempts at characterization. In addition, “non contact” stormwater runoff must meet water quality standards, including non-degradation standards for Great Lakes Initiative waters as well as numeric concentration limits. The final EIS should be rewritten to acknowledge the application of NPDES permits to a variety of pathways for surface water discharge and to assess the potential for each and all cumulatively to violate water quality standards. To the extent that the effort to preserve a fiction that there are “no direct discharges” of surface water under the proposed alternatives has constrained a robust and candid consideration of alternatives to mitigate water quality impacts (See Section G (2), infra), the recognition that NPDES compliance is non-discretionary may improve the quality of DEIS analysis.	WR3C

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Comment ID	Comment Text	Theme Codes
24	The timing of the public meetings is too soon after the release of the massive and complicated draft EIS. Experts have not had a chance to review information and members of the public are often just learning of this issue for the first time. Scheduling public meetings in the weeks between Thanksgiving and Christmas is also inconvenient for many people, further diminishing the efficacy of public participation. Additional meetings are needed after the New Year, and the time for public comment should be extended by another two months to permit adequate public participation in review and comment on the DEIS.	PRO6
24	The DEIS contains additional errors and omissions in the application of water quality standards. For example, the DEIS states that Great Lakes Initiative standards supersede healthbased water quality standards in Minnesota rules (DEIS, p. 4.1-33), disregards nondegradation standards applicable to both Minnesota surface water and groundwater and suggests that compliance with mercury standards requires only a demonstration that water column concentrations of discharge will not exceed 1.3 ng/L. The DEIS should be revised in light of the following, more accurate highlights from federal and state water quality laws: • Where receiving surface waters do not meet applicable water quality standards for any pollutant, no discharge is permitted that will cause or contribute to the violation of water quality standards, unless there are sufficient remaining pollutant load allocations to allow for the discharge and the existing dischargers into that segment are subject to compliance schedules designed to bring the segment into compliance with applicable water quality standards. (40 C.F. R. §122.4(i)) • Where a pollutant in the Great Lakes System exceeds a fish tissue based standard for that pollutant, it is provided in law that any facility that discharges a detectable level of such pollutant to the water has the reasonable potential to cause or contribute to an excursion above water quality standards. (40 C.F.F. §132, Appendix F, Procedure 5, F.4; Minn. R. 7052.0220, Subp. 7). • Minnesota’s health based standards, including specifically the health-based standard of 0.2 mg/kg for mercury in fish tissue is not superceded by Great Lakes Initiative water column standards. (Minn. R. 7052.0100, Subp. 1; Minn. R. 7050.0150, Subp. 2; Minnesota Statewide Mercury TMDL (2007). • Federal and Minnesota nondegradation requirements apply both to Great Lakes Initiative pollutants (Minn. R. 7052.0300, Subp. 2) and generally to pollutants that may affect uses of the surface waters in question. (40 C.F.R. §131.12(a)(1); Minn. R. 7050.0185). 23 • Minnesota nondegradation requirements apply to groundwater as well as surface water. (Minn. R. 7060.0500). • More stringent requirements for demonstration of nondegradation apply to Great Lakes Initiative bioaccumulative chemicals of concern (BCCs) and bioaccumulative substances of immediate concern (BSICs). Mercury is both. (40 C.F.R. 132.2, Table 6 (BCC); Appendix E, II.A (BSIC)). • By definition, a significant lowering of water quality for purposes of nondegradation occurs when there is a new or increased loading of any BCC (including mercury) from any new facility, whether from a point or nonpoint source. (40 C.F.R. 132, Appendix E, IIA). • Any discharger of BSICs such as mercury, into outstanding international resource waters including surface waters of the Lake Superior Basin must provide a complete nondegradation demonstration, including an analysis of best technology in process and treatment to eliminate or reduce the extent of the new or expanded discharge. (Minn. R. 7052.0010, Subp. 34, defining outstanding resource waters; Minn. 7052.0320, Subp. 3). • No variances apply to new discharges of mercury to Great Lakes Initiative waters. (40 C.F.R. 132, Appendix F, Procedure 2.A.1; Minn. R. 7052.0280, Subp. 1). • No mixing zones apply to new discharges of mercury to Great Lakes Initiative waters. (40 C.F.R. § 132, Appendix F, Procedure 3, C.1, C.4; Minn. R. 7052.0210, Subp. 3).	WR31,WR5A
25	Many of the DEIS discussions of possible impacts to surface water and groundwater inadequately or inappropriately apply the Clean Water Act and federal regulations and State rules implementing the CWA. The DEIS needs to be revised consistent with NPDES permitting requirements with respect to water quality standards and nondegradation regulations for both surface water and groundwater.	WR31
25	The locations of the current public meetings are inconvenient to large groups of citizens both in Greater Minnesota and in the Twin Cities area. The PolyMet project and its environmental review will set precedent for any future sulfide mining proposals. Setting a venue in the Hoyt Lakes area and placing a single Twin Cities meeting remote from the population center seem poorly designed to permit members of the public to access information and oral comment opportunities. Additional meetings are needed at more convenient locations.	PRO6

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Comment ID	Comment Text	Theme Codes
26	A public meeting process that allows the consultant for the responsible government agencies to explain its perspective on its own draft EIS document and allows no other perspective to be voiced is neither a public meeting nor an informational meeting. This meeting format not only deprives members of the public of the opportunity to hear from each other, but prevents citizens from hearing from the cooperating agencies, who have a unique and official perspective on the findings and positions taken in the DEIS. Whether intentionally or inadvertently, it is certain that some members of the public who only hear from a consultant promoting the perspectives of the DEIS will be intimidated and will be less likely to express comments that differ from those in the DEIS	PRO6
26	The PolyMet DEIS takes this flaw a step further. The PolyMet NorthMet DEIS minimizes the primary risks of sulfide mining on water quality. The term “acid mine drainage” is contained only in the definition section, it is not used in the DEIS. Even the more euphemistic term “acid rock drainage” is used only to explain the sorting of waste rock into piles (DEIS, pp. 3-13, 4.1-65). There is no discussion in the DEIS of the risk of acid rock drainage from sulfide mines, and the experiences of other mines, including the nearby Dunka Mine, that have had this type of environmental pollution. (See e.g. U.S. EPA, Technical Resource Document Extraction and Beneficiation of Ores and Minerals, Vol. 3, August 1994, “U.S. EPA Tech. Report Ores,” pp. 1-35,1-39)	PD3
27	The PolyMet DEIS also contains no discussion of the impacts of copper, nickel and other metal leachates separately or in combination on aquatic toxicity. The Regional Copper Nickel Study data and experience at the Dunka mine underline the risk of metals releases to the aquatic food chain. <sup>2</sup> The DEIS Section on fish and macroinvertebrates (Section 4.5) does not mention the potential for copper, nickel or other metals toxicity. Yet, since at least 1981, Dunka Pit leachate has exceeded aquatic toxicity standards: The Minnesota Department of Natural Resources (DNR) found that more than 95 percent of all leachate samples taken from the mine site between 1976 and 1980 had pH values between 6.0 and 8.5, but values as low as 4.5 were reported. Specific information regarding sampling procedures was not provided. Concentrations of trace metals (copper, nickel, cobalt, zinc) exceeded ambient levels by 10 to 10,000 times. Toxicity testing showed that copper and nickel concentrations exceeded the 48-hour lethal concentration (LC50) for <i>Daphnia pulex</i> , while nickel concentrations also exceeded the 96-hour LC50 for fathead minnow. . . . Copper and nickel concentrations as high as 1.7 and 40 mg/L, respectively, have been observed in seepage/runoff from Duluth Complex waste rock stockpiles at the site. Toxicity testing of the leachate showed that copper and nickel concentrations exceeded the 48-hour lethal concentration (LC50) for <i>Daphnia pulex</i> ; nickel concentrations also exceeded the 96-hour LC50 for fathead minnow. Concentrations of calcium, magnesium, and sulfate in the stockpile drainage were also elevated (MDNR, 1990). (U.S. EPA Tech. Report Ores,” supra, p. 2-43) 2 See also DEIS Comments of Bruce Johnson, which WaterLegacy has incorporated by reference. 25 Discharge from the Dunka Pit, in 2009, still fails to comply with additive toxicity (copper, nickel and zinc are combined to calculate additive toxicity) limits and Cliffs Erie continues to request variances from the Minnesota Pollution Control Agency for additive toxicity calculation, hardness and specific conductance. The extraordinary failure of the PolyMet NorthMet DEIS to address additive toxicity to the aquatic environment or acid rock drainage and the DEIS’ sanguine predictions regarding water quality result from assumptions made in the modeling, rather than the lack of real world risks from the PolyMet mine and processing facility. The next section of this comment explains some of the ways in which the PolyMet DEIS seems to assume away, rather than disclose water quality impacts.	WR3D,FM1,FM2
27	Extend the comment period on the DEIS from February 3, 2010 to at least March 26, 2010. Ensure that members of the public as well as experts have sufficient time to review and understand the DEIS before the comment period lapses.	PRO6
28	Schedule at least two meetings in late January and early February in convenient locations in Duluth and in St. Paul, Minnesota. Since the PolyMet project is the first sulfide mine to be considered for permitting in Minnesota and there are copper sulfide mining prospects in southeastern Minnesota as well, it is strongly recommended that there also be a public information meeting in Rochester.	PRO6

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Comment ID	Comment Text	Theme Codes
28	Stockpiling would expose overburden to oxidation and could result in acidic conditions and release of metals, especially cobalt, copper, nickel and zinc. NorthMet saturated overburden produced low pH in laboratory tests; although median sulfur concentrations were 0.06 percent, overburden has some areas of sulfur concentration of as high as 0.63 percent, equivalent to Category 4 waste rock reactivity. (DEIS, pp. 4.1-65 to 4.1-66). Despite areas of high sulfur concentration, the DEIS suggests that PolyMet would not sample overburden, but would place all saturated overburden in Category 1 and 2 waste rock stockpile. PolyMet would compact the overburden as it is placed “to limit oxidation and infiltration, although “the effectiveness of compaction to limit oxidation is uncertain.” (DEIS, p. 4.1-66). The DEIS does not state what quantity, acid formation or metals leachate is assumed from overburden or how compaction is considered in this calculation. The DEIS does not discuss how compaction of overburden might affect liner integrity and leachate. Without this data transparently provided, it is not possible to determine whether (for purposes of all of the water quality calculations thenceforth) the DEIS has accurately modeled or has underestimated the potential for acid and metals pollution from the overburden.	WR1E,WR2D
29	Ensure that the additional public information meetings operate as public meetings. Allow members of the public to come to a microphone in front of the group and have their comments transcribed by a court reporter. This is the customary practice for environmental impact statement public meetings in energy proceedings throughout Minnesota. It is well-known and successful in helping the public understand complex issues.	PRO6
29	The DEIS assumes uniform sulfur concentrations within waste rock piles and uniform solute production throughout the rock. (DEIS, pp. 4.1-70, 4.1-71). These assumptions conflict with reports going back to the 1970s characterizing Duluth Complex rock as containing disseminated mineralization that may leach heavy metals even when it does not create low pH and acid drainage. (See Bruce Johnson DEIS Comments). The DEIS did not disclose the assumptions about pH made in deterministic modeling for the Proposed Action, stating only that the caps were based on the concentration in a water chemistry database for a given pH. (DEIS, p. 4.1-70). For the uncertainty analysis, the DEIS assumed a neutral pH range of 6.6 to 8.0 for Category 1 and 2 waste rock stockpiles and a pH of less than 4 for Category 3 lean ore. The DEIS states that copper and cobalt concentrations were higher in the uncertainty analysis as a result of using the pH range from 6.6 to 8.0 (which is a neutral rather than acidic range) and that “the maximum concentration for each of these metals is very sensitive to changes in pH.” (DEIS, p. 4.1-83). The DEIS also used an acidification factor of 10 to account for the effect of a drop in pH in copper and nickel, even while admitting that this factor is very low for copper and nickel based on real-world data from the AMAX test piles. (DEIS, p. 4.1-85). The assumed rates of leaching used as inputs were based on less than six months of data, and did not predict changes in solution rate that may occur over decades or even hundreds of years. (DEIS, p. 4.1-85). The model’s improbable assumptions about uniform sulfur content and uniform solute production at a specified pH are critical to the Mine Site Alternative, where the DEIS assumes that permanent stockpiles of Category 1 waste rock overburden will only contain materials with a sulfur concentration of less than 0.12 percent. (DEIS, p. 4.1-135). The DEIS does not explain how PolyMet would propose to test the 292 million tons of Category 1 waste rock piled as high as a 20 story building (74 percent of 394 million tons, DEIS, p. 3-13; maximum height of 240 feet, DEIS, p. 3-16) to ensure that no disseminated areas of higher mineralization are contained in these piles. As for the overburden, the Mine Site Alternative does not contradict the fact noted above that overburden may contain areas of high sulfur concentration and that PolyMet does not intend to test its sulfur content before stockpiling. For the Mine Site Alternative, an additional improbable assumption is then made that adding limestone to reactive waste rock stockpiles (Category 2, 3, 4 and lean ore) will maintain a uniform pH of 8 in order to limit metal solubility. (DEIS, pp. 4.1-135).	WR1E
30	Provide all meeting attendees (including attendees at the meetings this week) with a balanced perspective on the DEIS. Along with the consultant’s point of view on the DEIS that EMR prepared, specifically invite a representative of the cooperating agencies to explain the alternative findings and positions developed by the Tribes. This will allow members of the public who haven’t been able to wade through the thousands of pages of the DEIS and appendices to understand both points of view from the agencies formally involved in this process.	PRO6

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Comment ID	Comment Text	Theme Codes
30	The DEIS deterministic and uncertainty analysis models both used concentration caps to place an upper limit on the leachate concentrations that would otherwise have been predicted from scaling up smaller scale waste rock/lean ore stockpiles. (DEIS, pp. 4.169, 4.1-70, 4.1-82). The DEIS admits that the concentration caps require further evaluation and “may not be conservative as the amount of mineral surface area contacted by water passing through the full height of a waste rock stockpile is much greater than the surface area contacted by water passing through a humidity cell.” (DEIS, p. 4.1-85). The DEIS also acknowledges that the vertical infiltration (seepage) rate for the Category 1 and 2 stockpiles will be higher than predicted. (DEIS, pp. 4.13-1, 4.13-2). Yet the water quality predictions in the DEIS are based on these questionable assumptions.	WR2F
31	The Poly Met proposed design, if achieved, is asserted to result in leakage at the “low” or average” rate. Concern regarding the ability of this system to maintain design criteria resulted in modeling a “high” liner leakage rate in the deterministic model. However, even the “high” liner leakage rate is based on defects per acre, rather than a wholesale or catastrophic failure. (DEIS, pp. 4.1-71, 4.1-75, 4.1-76). The assumptions in the uncertainty analysis regarding leakage are less transparent, but it is clear that liner failure was not among the range of probabilities analyzed. (DEIS, pp. 4.1-82 to 4.1-83). The DEIS does not state the total volume of contaminated water proposed to be contained by each liner system for each type of waste material so that the percentage of leakage from the liners that was assumed can be transparent. This is particularly problematic given the history of catastrophic failure at the Dunka Mine and some of the AMAX test plots. (See Bruce Johnson DEIS Comments). The proposed Mine Site Alternative makes even more questionable assumptions regarding liners. First this alternative appears to assume that tens of tons of Category 2, 3 and 4 waste rock can be removed to the east pit and the stockpiles where this material was piled “converted” to store hundreds of tons of Category 1 waste rock without tearing the liner system for the waste rock piles remaining in perpetuity. (DEIS, p. 4.1-135). Second, the Mine Site Alternative assumes (without citation or reference) that concerns about higher rates of liner leakage no longer apply to the more reactive waste rock since the stockpiles existing for more than a decade are temporary, so groundwater quality modeling results were evaluated using only “low” and “average” liner leakage rates. (DEIS, p. 4.1-136). The Mine Site Alternative also appears to assume that in the 10 to 20 years during which the “temporary” stockpiles of Category 2, 3 and 4 waste rock and lean ore are stockpiled, the absence of the geomembrane and overliner drainage layers in the Proposed Action would not affect oxidation, acid generation and metals leachate to groundwater from any of the stockpiles. (DEIS, p. 4.1-135). No data is provided to justify this assumption. The only cap system for waste rock in the Mine Site Alternative is a layer of soil and vegetation placed over the Category 1 rock (DEIS, pp. 3-17, 3-52)	WR2D
31	In addition, WaterLegacy would express our concern that the Minnesota Department of Natural Resources (MDNR) email address for public comments has been out of service for several days during the past week. We have repeatedly heard from citizens that their efforts to comment bounced back. We would not only request that this problem be immediately rectified and that the Department ensure that no additional shut-downs occur.	PRO6
32	We have also heard from citizens that paper copies of the DEIS are not yet available at all of the locations where the MDNR web site states that they will be available. We would request that paper copies be immediately provided at each of the referenced locations and that both paper copies and CD copies of the DEIS be available to citizens on request	PRO6
32	In addition to the above assumptions that would tend to reduce predicted water quality impacts, the PolyMet DEIS appears to disaggregate the total impacts on groundwater by analyzing each flow path from waste rock piles separately. (DEIS, pp. 4.1-79, 4.1-80, 4.1-85). It is possible that solutes from a single flow path might comply with water quality standards, while the total flow, once aggregated would not.	WR2E
33	In addition to concerns raised herein about the public hearing process and the magnitude and complexity of the environmental issues raised by the PolyMet DEIS (documented in previous letters by WaterLegacy and many other environmental groups), these technical problems with the comment process and with the availability of information to citizens provide yet further justification for extension of the time for public comment to at least March 26, 2010.	PRO6
33	Solute loading assumptions in the DEIS are also questionable, particularly the assumption of exponential decay used in the uncertainty analysis for predicting solute loading. (See Joel Roberts DEIS Comments, pp. 5-7).	WR2E

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34	The DEIS states that submerged wall rock “is not a substantial source of contaminants.” (DEIS, p. 4.1-71). This analysis is flawed. Although it is highly probable that submerging wall rock reduces oxidation, it is virtually certain that it doesn’t eliminate leaching of metals and acid. Inundated bulk samples in Minnesota and underground mines nationally have demonstrated leaching of both metals and acid. Seasonal turn over of water, wind and wave action will raise dissolved oxygen in open pits. In addition, even if oxidation is reduced, submerged rock will leach metals far above water quality standards. (See Bruce Johnson DEIS Comments). The Mine Site Alternative compounds the flaws in this assumption, asserting that filling the east pit with all Category 2, 3 and 4 waste rock (rather than providing liners, covers and leachate collection) will have the result of “virtually eliminating long-term sulfide oxidation and associated solute release.” (DEIS, p. 4.1-134). The modeling then assumed, without references or citations, that “all backfill rock would not oxidize further once submerged.” (DEIS, p. 4.1- 137).	WR2E
35	It is proposed both that the east and west mine pit will fill slowly over time and that, even when the pit lakes reach their final elevation, the water level will be 10 to 20 feet below the pit rim. (DEIS, p. 4.1-71). Although the DEIS seems to suggest that there will be a static water elevation (DEIS, p. 4.1-71), it is likely that precipitation and evaporation will cause variability in pit lake elevations, oxidizing and flushing solutes from the exposed pit rock. The DEIS fails to describe the level of solute loading from the exposed portions of the mine pits.	WR3C
36	The DEIS proposes that PolyMet will apply limestone to the pit wall rock face while backfill is being placed during pit flooding and will place overburden and a low permeability cover against the exposed Virginia Formation high wall after flooding. The DEIS admits that “successful application of this measure has not been demonstrated.” Despite the lack of evidence of efficacy the DEIS states that the groundwater quality modeling in subsequent sections “assumes that these mitigation measures are successfully implemented.” (DEIS, p. 4.1-66)	WR2E
37	In addition to capping solute loading from waste rock piles, the DEIS imposes limits on the prediction of solute loading from mine pits using concentration caps (DEIS, p. 4.1-72), apparently relying short-term testing of small rock piles. No specific pH, duration or chemical composition variables are explained and no scientific literature or real world verification of this assumption is provided. The Mine Site Alternative applied a concentration cap based on a pH of 8 (basic) to the oxidized solutes that would be leached during the flooding of the east pit, stating that lime would be added to the stockpiles or the pit if necessary. (DEIS, p. 4.1-137). The DEIS provided no empirical basis for the assumption that a uniform basic pH could be maintained in a sulfide rock stockpile or mine pit, yet its conclusions reflected markedly diminished predictions of leachate from many of the metals of greatest concern (copper, nickel, zinc, cobalt).	WR2F
38	The DEIS provides no information on the sulfates or solute concentrations in contaminated water entering the wastewater treatment facility (WWTF) or the specific chemical reactions and efficacy levels assumed in order to reach WWTF targets. Although the DEIS states that the WWTF will be designed for a maximum flow of 3,000 gpm, it does not disclose the volumes of contaminated waters that would be directed to the WWTF or the way in which “equalization ponds” would store contaminated water if the WWTF were operating at full capacity. (DEIS, p. 4.1-67). The DEIS, thus, provides no information from which it could be verified that WWTF effluent would attain its target concentrations and no way to estimate the size and pollutant levels of ponds storing excess contaminated water on site. The DEIS asserts that the PolyMet DEIS “targets” for treated process water need not meet state surface and groundwater standards, “since the facility does not actually discharge directly to either surface or groundwaters.” (DEIS, p. 4.1-68) In fact, many of the salient water quality targets for the WWTF fail to meet one or more of Minnesota’s water quality standards. The pH target (6.0-9.0) exceeds the acceptable range of both the groundwater criteria and surface water standards (6.5-8.5). The total dissolved solids target (700 mg/L) exceeds the groundwater criteria (500 mg/L). Antimony (31 µ/L) and beryllium (4 µ/L) targets exceed groundwater criteria (6.0 µ/L and 0.08 µ/L, respectively). The target for lead (19 µ/L) exceeds both the 31 groundwater (15µ/L) and the surface water (3.2 µ/L) criteria! For several metals of concern, WWTF water quality targets exceed surface water standards as follows: WWTF Target (µ/L) Surface Water Standard (µ/L)3 Cadmium 4.0 2.5 Copper 30 9.3 Nickel 100 52 Zinc 388 120 Since effluent from the WWTF will affect both groundwater and surface water, treatment targets that exceed standards are highly problematic.	WR2G,WR3I

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39	The east pit wetlands is presumed to provide secondary treatment of wastewater treatment plant effluent starting at year 20 and to provide the primary treatment of waste rock stockpile leachate after the WWTF is decommissioned. (DEIS, p. 4-111). PolyMet’s modeling assumed wetlands removal efficiencies ranging from 50 percent “low” removal to 80-90 percent “high” removal for six key parameters (antimony, arsenic, cobalt, copper, nickel and sulfate). These assumptions are poorly supported even in the data reflected in the DEIS. Constructed wetlands achieved 0 percent arsenic reduction, and highly variable copper and nickel reduction, and reduction rates as low as 25 percent for copper and 0 percent for nickel. Performance at the Dunka Mine wetland, with similar waste rock, was highly variable with as low as 30 percent reductions in cobalt and copper and reduction of nickel and sulfate designated only as “highly variable.” (DEIS, p. 4.1-112). As noted by the tribal cooperating agencies, “the effectiveness of the passive wetland system has not been demonstrated and it is likely that the wetland treatment system would not function as the applicant has suggested.” (DEIS, p. 4.1-112).	WR3L,WE6
40	The DEIS modeling acknowledges that west pit overflow could exceed surface water quality standards for arsenic, cobalt, copper, nickel and selenium. (DEIS, p. 4.1-113). Concerns about the reliability of modeling used are evident in discrepancies among the data, with cobalt, copper and nickel (released at lower pH) as much as 800 percent higher in the uncertainty analysis model. (DEIS, p. 4.1-114). Even in the case of west pit overflow, despite the continued presence of oxygen in the water and the perpetual exposure of the mine pit rim, the DEIS predicts, without citation to any	WR3C
41	Even with all of the above assumptions that minimize predicted water quality impacts, the DEIS predicted that waste rock stockpiles in the Proposed Action have the potential to exceed groundwater criteria for antimony, manganese, nickel and sulfate and to leach solutes for over 2,000 years. (DEIS, p. 4.1-84). However, the DEIS predicts no exceedance of surface water quality standards in the Upper Partridge River, except “initially” when the west pit overflows and no surface water quality exceedances in the Lower Partridge River, Colby Lake, Whitewater Reservoir or the Embarrass River. The DEIS minimizes the exceedance of groundwater quality downgradient from the tailings basin is for aluminum. (DEIS, pp. 4.1-130). Unsurprisingly, since the Mine Site Alternative assumed away most sources of acid drainage and metals leachate, the only remaining potential groundwater exceedance at the mine site was for antimony (DEIS, pp. 4.1-138 to 4.1-140). The DEIS could thus conclude, based on insufficient if not contrived information, that the Mine Site Alternative would significantly improve groundwater quality at the mine site as compared with the Proposed Alternative. The Tailings Basin Alternative does not affect predictions regarding mine site impacts. (DEIS, pp. 4.1-148, 4.1-149). Assumptions regarding the Tailings Basin Alternative as well as the tailings basin disposal system are addressed in Section B(2).	WR1E,WR3I
42	The final EIS must discuss the risks of acid mine drainage/acid rock drainage and summarize the nature of conditions at sulfide mines that increase or diminish acid production;	ALT8
43	The final EIS must discuss metal leachates as related to aquatic toxicity, particularly salient metals such as copper, and nickel, cobalt and zinc;	WR3A
44	The final EIS must model and disclose probable acid and leachate (metals and metalloids) generation from overburden, assuming the presence of uneven levels of sulfur, localized high acid and solute generation and the risks of liner rupture, potentially exacerbated by compaction;	EOO
45	The final EIS must model and disclose probable acid and leachate generation from waste rock piles, assuming disseminated mineralization and non-uniform solute formation at areas of higher mineralization even in rock that has a lower average sulfur content. It should not be assumed that any category of rock or overburden will not generate some level of acids or leachates;	WR2E
46	Whether or not lime is applied, the final EIS models should not assume uniformity of pH throughout any waste rock pile, particularly a uniformly basic pH. The effectiveness of lime in neutralizing pH in Duluth Complex rock is known to be highly variable. (K. Lapakko, MDNR Duluth Complex Mine Waste Drainage Research, presentation 3/4/09)/	WR1E
47	The final EIS must disclose leachates from dissolution rate inputs without imposing “concentration caps” and must verify that results are adequately conservative by comparing levels of leachate observed in real-world sulfide mine waste rock and lean ore piles.	WR1E



*Alphabetical by sender's first name*

<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
48	The prediction of both groundwater and surface water contamination at every stage of the project must be revised based on solute concentrations that are not artificially capped.	WR1E
49	The final EIS must explain the differential acid and metal leachates likely to be produced in Category 2, 3 and 4 waste rock piles and the lean ore pile in the Mine Site Alternative as a result of having no geomembrane.	WR1E
50	The final EIS must detail the total water volumes proposed to be contained in waste rock stockpiles liners and provide a justification based on real-world experience for presumed leakage rates, including a transparent statement of the percentage of leakage assumed.	WR2D
51	The final EIS must also include modeling of water quality impacts based on catastrophic failure of and release from waste rock and lean ore liners and estimate the increased risk of liner failure due to removal of waste rock in the Mine Site Alternative.	WR1E,WR2D
52	The final EIS must also explain how each alternative complies with the requirements of Minnesota's non-ferrous rules (Minn. R. 6132.2200) stating that substantially all water should be prevented from moving through or over waste rock.	WR3I
53	The final EIS must address cumulative impacts on groundwater quality in addition to any separate analysis by flow path.	WR4A,WR5A
54	The final EIS must detail, based on peer-reviewed literature and real-world experience with submerged mine walls and reactive waste rock, the levels of acid and metals likely to continue to leach and contaminate water if pit walls and waste rock are submerged.	PD2
55	The final EIS must explain the levels of solute loading from pit walls above water levels, including the volume of contaminated water and the concentrations of acids and leached metals.	WR3C
56	The final EIS must candidly disclose the impacts of pit wall exposure on acid and leachates predicting a range of results that include inefficacy of limestone application and cover and the potential that some metals leaching would continue under a wide range of pH conditions	WR1A,WR3C
57	As with the waste rock pile solute caps, the final EIS must provide an analysis of solute loading from mine pits under the Proposed Action and the Mine Site Alternative without concentration caps.	PD2
58	If any caps are to applied, the final EIS must provide transparent information justifying the caps given the mineralization, fragmentation and pH in the mine pits over decades and even hundreds of years. The final EIS may not assume a uniform pH of 8 throughout a mine pit in which reactive waste rock has been disposed.	PD2
59	The final EIS must provide detailed information on the volume and characteristics of all inputs to the wastewater treatment facility, including solute concentrations and the treatment efficacy levels and treatment methods proposed to achieve WWTF targets.	WR2G
60	Unless specific proof is provided that a proposed secondary treatment will reduce pollutants to a level sufficient to meet both surface and groundwater standards, the final EIS must demonstrate that WWTF effluent will meet all groundwater and surface water quality standards.	WR3I
61	The final EIS must explain the size, construction and chemical composition of ponds storing contaminated water at the WWTF, including the extent of seeps to groundwater, the surficial aquifer or discharge to wetlands or surface waters likely to result from this storage.	WR3I
62	The final EIS must revise modeling of water quality impacts to reflect inefficacy of constructed wetlands to remove pollutants of concern, including copper, nickel, arsenic and sulfates as well as mercury.	WR1C,WR3L
63	The DEIS does not explicitly state the volume and concentrations of solutes in flotation tailings or wastewater effluent that would be disposed of in the tailings basin. Flotation tailings may contain flotation activators, such as copper sulfate, which is toxic to fish and other processing chemicals as well as solutes and acids. (DEIS, pp. 3-24, 4.12-6). Even if proposed targets for WWTF effluent were to be met, effluent inputs to the tailings basin would not meet surface water quality standards for pH, cadmium, copper, nickel, zinc and lead, would not meet groundwater criteria for pH, total dissolved solids antimony, beryllium or lead and would have 36 high sulfate levels. (Section B(1) supra). WWTF effluent would also have mercury levels exceeding surface water quality standards, as explained in Section B(5).	WR3I

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
64	The DEIS explicitly excludes liner leakage from the hydrometallurgical residue cells within the tailings basin from groundwater modeling of the area north of the tailings basin in the Proposed Action (DEIS, p. 4.1-64, 4.1-91). Hydrometallurgical cell liner leakage will have very high sulfate concentrations – over 7,300 mg/L (DEIS, p. 4.1-118). Although the DEIS does not describe the chemical composition of hydrometallurgical residue cells and liner leakage, materials used in the hydrometallurgical plant process include toxic, corrosive and hazardous chemicals as well as the non-recoverable metals from the wastewater treatment process. (DEIS, pp. 3-30, 3-33, 4.12-1, 4.12-5, 4.12-6, Section A(6), supra).	WR2D
65	Existing LTVSMC tailings seeps result in surface water exceedances, contribute to downgradient groundwater quality violations and contain high concentrations of sulfates. Surface discharges from the tailings basin violate water quality standards for pH, hardness and mercury and have concentrations of sulfate as high as 473 mg/L. (DEIS, p. 4.1-43, Table 4.1-30). Downgradient wells from the LTVSMC tailings violate standards for pH, aluminum, beryllium, iron, manganese and mercury and have concentrations of sulfate ranging to 235 mg/L, approaching groundwater limits. (DEIS, p. 4.1-15, Table 4.1-8). LTVSMC tailings represent a significant source of sulfate and arsenic loadings. (DEIS, p. 4.1-168). Paradoxically, despite the proposed addition of a high volume of contaminants to a tailings basin already seeping and discharging sulfates and metals, the PolyMet DEIS predicts no exceedance of surface water quality standards in the Proposed Action other than for aluminum, which the DEIS explains away (DEIS, pp. 4.1-118, 4.1-119, and none in the Tailings Basin Alternative except for thallium, the significance of which is minimized. (DEIS, p. 4.1-155). The DEIS asserted that the Proposed Action would have “relatively little” adverse effect on downgradient groundwater quality. (DEIS, p 4.1-93)	WR3I
66	PolyMet would be legally responsible for any seepage from LTVSMC tailings and NorthMet and LTVSMC tailings would be physically and chemically combined. As suggested by tribal agencies, the variable pH, increased sulfates and other solutes in LTVSMC leachate must be considered in determining the level of acids, metals and metalloids that would seep from combined wastes in the tailings basin.	WR1E
67	The NorthMet tailings would be deposited with a spigot and a diffuser, which could oxygenate tailings. (DEIS, p. 4.1-87). Yet, as with submerged pit rock, the DEIS assumes that tailings that are saturated with water would be “essentially non-reactive” (DEIS, p. 4.1-86) and that the oxidation rate would be reduced to “essentially 0.” (DEIS, p. 4.1-89). No references to either literature or real-world examples are provided to support this assumption. The DEIS model also assumes no segregation of tailings, although it is known that some segregation will occur and increase oxidation. (DEIS, p. 4.1-94).	WR1E
68	The DEIS states that the sulfur content needed to produce acid drainage is between 0.14 percent and 0.17 percent sulfur, and then models releases from the tailings basin based on the average range of sulfur in pilot testing of the processing plant design (range of 0.10 percent to 0.13 percent), which just barely stays below this limit. (DEIS, p. 4.1-86). However, even in the 38 small scale plant testing, it is acknowledged that some of the tailings exceeded 0.13 percent, so that tailings could produce lower pH and higher release of nickel and cobalt. (DEIS, p. 4.1-95). It appears that the DEIS predictions may assume that sulfur in the tailings basin is below the threshold for acid drainage. Particularly since impacts of sulfates from wastewater effluent, hydrometallurgical liner leakage or LTVSMC tailings are not referenced, the DEIS may artificially limit levels of sulfur and leachate in tailing basin materials.	WR1E,WR3I

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
69	For the Proposed Action, the DEIS steady state flow model predicted potential exceedances of groundwater standards for aluminum, antimony, arsenic, fluoride, iron, manganese, and sulfate. (DEIS, p. 4.1-92). The DEIS then altered assumptions in a “transient flow” analysis to predict lower concentrations, suggesting that monitoring would be used to “ensure that actual groundwater concentrations are within model predictions.” (DEIS, pp. 4.1-92, 4.1-93). It appears in this section that modeling assumptions were designed to achieve a prediction of no exceedances and that there is little confidence in its reliability. A similar “transient flow” model is applied for the Tailings Basin Alternative, with similarly sanguine results. (DEIS, pp. 4.1-151, 4.1-152) DEIS applications of surface water quality standards to tailings basin seepage also require greater transparency. Looking at a single parameter, surface water quality standards for copper, the DEIS cites water quality standards at two locations on the Embarrass River in predictions for the Proposed Action (DEIS, p. 4.1-119, Table 4.1-66), but cites only the less stringent standard (20.7 mg/L at P-13) for the Tailings Basin Alternative (DEIS, p. 4.1-158, Table 4.1-84). The DEIS does not apply a surface water standard for tailings basin seepage even though the seepage would be directly discharged to the Partridge River under the Tailings Basin Alternative. Even under the limiting assumptions in the DEIS (as described above) tailings basin seepage would have maximum copper concentrations of 12µg/L to 14 µg/L, exceeding copper standards applied by the DEIS to the Partridge River. (DEIS, pp. 4.1-151, Table 4.1-79; p. 4.1-36, Table 4.1-24 hardness condition of 100 mg/L).	WR1E,WR3I
70	DEIS Comments prepared by Joel Roberts reflect flaws and inconsistencies in the technical reports pertaining to the tailings basin. Models are poorly documented, poorly validated and may exclude captured seeps to exclude solute pollution. (Joel Roberts, DEIS Comments, pp. 9-13). The modeling assumptions for the tailings basin seem to be designed to conceal rather than evaluate potential impacts on water quality. This section of the DEIS must be revised prior 39 to the final EIS as follows: • The nature and extent of contamination from the LTVSMC must be characterized through sampling as well as monitoring and considered as potential additive releases; • The volume and concentrations of inputs to the tailings basin from WWTF effluent must be quantified; • The volume and concentrations of inputs to the tailings basin from the plant must be quantified, including the volume and chemical composition of flotation tailings and volume and chemical composition of leaks from the hydrometallurgical residue facility; • Assumptions for tailings basin seepage should include conservative and “worst case” scenarios such as failure of WWTF effluent to meet target concentrations and liner leakage or liner failure from hydrometallurgical residue cells; • Modeling of the level of acid generation and metals leachate must not assume saturated tailings have “zero” reactivity, but must use predictions grounded in experience and literature, anticipating segregation of tailings and oxidation within the tailings, as well as modeling oxidation through unsaturated areas. • Modeling must not assume that tailings will remain uniformly below 0.14 percent sulfur or uniformly non-acid generating. Predictions must be based on a transparent and realistic range of potential pH from all inputs to the tailings basin, including the virtual certainty that pH will not be uniform throughout the entire tailings facility. • Chemical interactions between existing LTVSMC tailings and NorthMet inputs must be characterized for the full range of chemicals of concern. If the way in which most sulfide minerals react with existing tailings provides no “treatment” other than dilution, this result must be disclosed and appropriate regulatory limits on discharge applied. • Seepage from the tailings basin must be compared with both groundwater and surface water quality standards, applying the most stringent applicable standard. • The potential ecological and/or human health consequences of exceedances of water quality must be explicitly described. Ecological consequences must include aquatic toxicity and human health consequences must evaluate both mercury methylation in fish and effects of exceedances, including aluminum, iron and manganese, in residential wells not subject to public water quality treatment.	WR1E,WR3I,WR5A

*Alphabetical by sender's first name*

<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
71	<p>Analysis of underlying technical documents by individual WaterLegacy members reflects identical concerns about the extreme sparseness of the data and the lack of proof for extremely low hydrologic conductivity rates, which are orders of magnitude below those accepted for Duluth Complex. (Joel Robert DEIS Comments, pp. 2-5). It is troubling that the DEIS would rely on a consultant's email for conclusions about groundwater-surface water connections. It is even more troubling that the DEIS failed to provide information regarding reports and recommendations made by the United States Geological Survey in connection with this project. These omissions not only undermine the modeling on which the entire DEIS is based, but the fundamental requirements of public information and disclosure. The final EIS must be based on a rigorous and data-based hydrological model at the mine site, the plant site and impacted surface and groundwaters. Prior to the final EIS, the additional assessment, monitoring and characterization needed to accurately determine impacts on groundwater, surface water and hydrology must be performed, as recommended by the U.S. G.S. (See U.S.G.S. Minnesota Water Science Center, Quarterly Progress Report, February 25, 2009, Project 8607CEW) and tribal cooperating agencies, including but not limited to the following: • Identify, map and characterize major bedrock fractures at the mine site, identifying potential critical areas of ground-water flow between mine workings and local streams. Focus on areas where the effects of mining would have the greatest impact; • Design a monitoring-well network to assess ground-water-flow in fractures and bedrock fractures and in more permeable glacial sediments. Use borehole tools to characterize ground-water conditions in fractures and perform a series of tracer tests to establish flow conditions along important flow paths of concern; • Conduct aquifer testing and other hydrogeologic tests using a monitoring well network to determine whether a porous-media simulation could represent groundwater flow at the scale 43 of the mine site. (Recalibrate and validate models and incorporate high hydraulic conductivity features before model results are used for any ground-water-flow prediction or any geochemical modeling); • Assess vertical flow conditions between upper bedrock and glacial material based in the most critical areas of concern (shortest paths of flow between the project site and crucial water resources and habitats, and the orientation of major fracture patterns at the site); • Use geophysical surveys to map and borings and hydrologic tests to assess the extent and hydrogeology of glacial deposits and permeable glacial sands. Modeling based on lesser estimates of specific yield would affect predictions of water entering the mine and recovery after cessation of mine dewatering. • Perform current assessment of Partridge River and Embarrass River flows based on field collection of data, current and proximate stream gage information and variability of weather and precipitation, including low flow conditions; • Analyze groundwater flow direction, water tables, the extent to which water in aquifers can rise due to hydrostatic pressure (potentiometric surface), fluxes to wetlands, streams and rivers impacted by the mine site and the tailings basin. • Update and verify assessment of impacts on wetlands as well as groundwater and surface water impacts from the mine site; • Update and verify assessment of groundwater impacts on residential wells as well as impacts on wetlands surface waters from tailings basin seepage;</p>	WR1E,WR2A
72	<p>This analysis is completely inappropriate for mercury pollution. No mixing zones are allowed under either federal or state regulations for new discharges of bioaccumulative chemicals of concern into Great Lakes waters, including all waters impacted by the proposed PolyMet project. (40 C.F.R. § 132, Appendix F, Procedure 3; Minn. R. 7052.0210, Subp. 3).</p>	WR4D
73	<p>For other water pollutants, the Clean Water Act applies not only to a down-stream sampling site in the Partridge River, but would require compliance in streams (including intermittent streams) and wetlands that are connected with the Partridge River, which are also legally waters of the United States. (40 CFR § 122.2). Violation of water quality and nondegradation standards, thus, can consider no dilution for mercury and must apply to the nearest unnamed receiving water for all pollutants. The final EIS must analyze violation of water quality and nondegradation standards resulting from west pit lake overflow allowing no mixing zone for mercury and assessing impacts of all pollutants at the nearest receiving waters. It is also likely that the west pit lake itself would be protected by water quality standards under the Clean Water Act and under Minnesota law, as suggested by the tribal cooperating agencies. (DEIS, Tribal Positions, p. 4.1-103). This is particularly salient since the pit lake could exceed surface water quality standards for thousands of years, if not in perpetuity. (DEIS, Tribal Positions, pp. 4.1-101, 4.1-130) The weight of precedent holds that pit lakes can be regulated under the Clean Water Act if there is a "significant nexus" to waters that are navigable.</p>	WR3C,WR3I

*Alphabetical by sender's first name*

<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
74	As part of its assessment of water quality standards, the final EIS must: 1) describe the nexus between proposed west pit lake overflow and seepage to streams and wetlands draining into Partridge River; 2) evaluate water quality parameters and violation of water quality standards in the west pit lake, its seeps and overflow; and 3) analyze the adverse impact of water quality violations on aquatic life and water fowl exposed to the pit lake, including but not limited to piscivorous and migratory birds. (See DEIS, Tribal Positions, p. 4.4-17).	WR3C
75	All of the waters impacted by the PolyMet NorthMet mine and plant are within the Lake Superior Basin (DEIS, p. 4.1-33) and subject to the Great Lake Initiative amendment to the Clean Water Act and the federal and state regulations implementing the Great Lakes Initiative. (Minnesota Rules, Chapter 7052; Code of Federal Regulations, title 40, part 132). No new mercury discharge to these waters may exceed 1.3 ng/L. (Minn. R. 7052.0005). Although the Scoping Decision for the project suggests the potential for a variance if PolyMet discharge could not achieve this standard (DEIS, Final Scoping Decision, supra, p. 17), federal and state law prohibit variances for new discharges of mercury within the Lake Superior Basin. (40 C.F.R. §132, Appendix F, Procedure 2; Minn. R. 7052.0280). All discharges to surface waters from the project must comply with the Great Lakes Initiative mercury concentration limit. The DEIS does not clearly identify all of the ways in which the PolyMet NorthMet project could discharge mercury to surface waters. It is acknowledged that west pit overflow would be a discharge required to meet the Great Lakes Initiative mercury standard. (DEIS, p. S- 9). However, there are other aspects of the Project that are likely to be considered discharge under the Clean Water Act. Under applicable law, collected and channelized runoff, process water, pumped water from mine dewatering and waters discharged after treatment in the wastewater treatment facility would all be viewed as point source discharge if they were either directly released to the Partridge River, as in the tailings basin alternative, or if they seeped or leaked from channels, basins or pits into wetlands, streams, rivers or other surface waters.	WR4D
76	The DEIS fails to appropriately and transparently characterize the level of mercury in each of these potential discharge sources. This deficiency should be rectified in the final EIS.	WR1E
77	The EIS must evaluate the level of mercury in seeps and discharges from pit lakes and constructed wetlands, recognizing that neither the wastewater treatment facility (WWTF) nor the constructed wetlands will be consistently effective in removing mercury. (DEIS, pp. 4.1-123, 4.1-128). The average mercury concentration in drainage before treatment at the WWTF is predicted to be 8.5 ng/L, while the average after treatment is predicted to be 7.1 ng/L (DEIS, p. 4.1-123) both of which levels are far above the 1.3ng/L limit. As far as constructed wetlands:	WR3I,WR4B
78	The DEIS' reliance on dumping mercury-containing runoff water through the tailings basin to reduce mercury concentrations in seeps to below the 1.3 ng/L GLI standard, based on laboratory bench studies (DEIS, p. 4.1-124), is not consistent with real world data on mercury seeps and discharge. Testing of the groundwater beneath the existing LTVSMC tailings basin shows substantial exceedances of the GLI standard ranging from 4.2 ng/L to 7.7 ng/L (DEIS, p. 4.1-12, Table 4.1-6). Surface discharge from the tailings basin also shows repeated and significant exceedances of the GLI standard, ranging from 2.6 ng/L to 5.5 ng/L (DEIS, p. 4.1-43, Table 4.1-30). As noted by the tribal agencies, bench studies fail to take the impacts of leaching from existing tailings; their conclusions have not been adequately vetted and are illogical. (DEIS, Tribal Positions, pp. 4.1-16, 4.1-50 to 4.1-51). After treatment at the WWTF, PolyMet process water and runoff are predicted to have mercury concentrations of 7.1 ng/L (DEIS, p.4.1-123). Inputs of mercury are predicted to include 107.5 pounds per year from concentrations in the ore and 5.5 pounds per year from process materials (DEIS, p. 4.1-124). There is no basis in this data from which it could be reasonably concluded that adding WWTF effluent would reduce mercury in tailings basin seeps. The final EIS must also include a comprehensive analysis of mercury discharge to surface water and seeps to groundwater from the tailings basin based on realistic data. Groundwater modeling of the area surrounding the tailings basin must also include the mercury and sulfate load from the hydrometallurgical residue, which appears to have been excluded in the current analysis. (DEIS, p. 4.1-64).	WR3I,WR4A

*Alphabetical by sender's first name*

**Comment ID    Comment Text**

**Theme Codes**

79 The DEIS released to the public removed both this summary and any quantitative assessment of the impacts of increased sulfate on mercury methylation. (Compare DEIS, pp. 4.5- 21 to 4.5-22). The DEIS also relies on a highly disputed characterization of wetlands to suggest that the tailings basin alternative, in particular, would avoid mercury methylation risks. (See e.g. DEIS, Tribal Findings, p. 4.1-113. Without analyzing downstream impoundments in the St. Louis River or the Lake Superior estuary, the DEIS asserts that the PolyMet project is not expected to “contribute significantly” to cumulative effects on mercury and methylmercury in the St. Louis River. (DEIS, p. 4.1-196). The impacts of mercury and sulfate loadings from the project to the Partridge and Embarrass Rivers must be considered with substantial cumulative sulfate loadings from other mining and minerals processing activities. (DEIS, p. 4.1-188, Table 4.1-96; p. 4.1-192, Table 4.1-99). The effects of PolyMet’s increased mercury air emissions and the increased localized mercury air emissions from other mining, minerals processing and other emissions sources must also be considered. Recent MPCA data show that mercury emissions from the materials processing sector were at 735 pounds in 2005 and are anticipated to reach 841 pounds in 2010. These increases in mercury emissions are attributable to the Minnesota Steel Industries electric arc furnace steel mill and the Mesabi Nugget iron nugget production plant located in the Mesabi 51 Range and Hoyt Lakes areas, near the proposed PolyMet project. (MPCA, Estimated Mercury Emissions in Minnesota for 2005 to 2018, April 22, 2008, pp. 2, 18) Regulations under the Clean Water Act and the Great Lakes Initiative require that the point and nonpoint sources that could increase mercury methylation in impaired waters be analyzed cumulatively and quantitatively. (See *Friends of Pinto Creek v. EPA*, 504 F.3d 1007 (9th Cir., 2007). EPA guidance recommends, in connection with metals mining and processing that this analysis be performed in a TMDL for the affected watershed, investigating cumulative loads from point sources and localized nonpoint sources such as abandoned mines, contaminated sediments, atmospheric deposition and sulfate loadings. (U.S. EPA, 2009 Guidance for Implementing the Methylmercury Water Quality Criterion, p. 113 and Appendix D The DEIS analysis of the cumulative impacts of mercury discharge, mercury air emissions, sulfate loadings, wetlands inundation, hydrologic changes and other existing and foreseeable localized impacts on the St. Louis River watershed is clearly inadequate. The EIS should provide a realistic, comprehensive, quantitative and cumulative analysis of likely impacts on the ability of waters downstream to attain Minnesota’s health-based fish tissue standards of 0.2 mg/kg (Minn. R. 7050.0220), including but not limited to the following: 1) Mercury discharges from the PolyMet project, including all nonpoint as well as point source discharges during mine operation, closure and post-closure; 2) Sulfate discharges from the PolyMet project, including all nonpoint as well as point source discharges during mine operation, closure and post-closure; 3) Quantitative analysis of mercury methylation inputs from the PolyMet project under a “worst case” scenario including high precipitation and flooding and drying weather events, based on at least the following factors during mine operations, closure and non-closure: • Increased sulfate discharge from the project, impacting methylation in streams, wetlands and impoundments from the mine site and plant site downstream until the juncture of the St. Louis River with Lake Superior. This analysis must be based on an accurate wetlands delineation and analysis of the places within the watershed where low availability of sulfates places a limitation on mercury methylation; • Hydrologic changes, particularly to the Partridge River, Colby Lake and Whitewater Reservoir result

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*Alphabetical by sender's first name*

<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
80	Protection of wild rice is uniquely recognized under Minnesota water quality laws. It is explicitly provided that the quality of wild rice waters and the habitat necessary to support wild rice must not be degraded: Wild rice is an aquatic plant resource found in certain waters within the state. The harvest and use of grains from this plant serve as a food source for wildlife and humans. In recognition of the ecological importance of this resource, and in conjunction with Minnesota Indian tribes, selected wild rice waters have been specifically identified [WR] and listed in part 7050.0470, subpart 1. The quality of these waters and the aquatic habitat necessary to support the propagation and maintenance of wild rice plant species must not be materially impaired or degraded. The quality of these waters and the aquatic habitat necessary to support the propagation and maintenance of wild rice plant species must not be materially impaired or degraded. If the standards in this part are exceeded in waters of the state that have the Class 4 designation, it is considered indicative of a polluted condition which is actually or potentially deleterious, harmful, detrimental, or injurious with respect to the designated uses. (Minn. R. 7050.0224, Subp. 1) The St. Louis River is explicitly identified in Minnesota law as a wild rice water (Minn. R. 7050.0470). Concentrations of sulfates above 10 mg/L are defined as degradation and prohibited in this wild rice water. Yet the DEIS both tries to minimize the presence of wild rice on the St. Louis River (an argument precluded by the regulatory classification of these waters) and provides no analysis of the impacts of cumulative sulfate loadings from the PolyMet NorthMet project on the St. Louis River. (See DEIS, p. 4.1-195). The EIS must provide detailed information on sulfate loadings to the St. Louis River from the PolyMet project. If these loadings, taken together, increase sulfate above 10 mg/L in this designated wild rice river, changes in project design, mitigation or treatment will be required to avoid violations of law.	WR1E,WR4F
81	The cumulative impacts analysis of the PolyMet project, along with other mining and minerals processing expansions acknowledges, “The activities included in this cumulative effects assessment have the potential to increase sulfate concentrations in the middle segment of the St. Louis River between the confluence with the Embarrass River and Knife Falls Dam. (DEIS, p. 4.14-9) The DEIS then provides no numeric analysis of the sulfate concentrations that would result from the cumulative impacts of these projects to the St. Louis River. This failure must be rectified in the final EIS and sulfate loadings from other sources may also need to be reduced.	WR5A
82	Tribal agencies have reflected a high level of concern that the environmental review process has failed to appropriately assess and recognize the prevalence of wild rice growing in the Partridge, Embarrass and St. Louis Rivers downstream of the project. The DEIS notes that field surveys of wild rice were recently done (four years after the application for the project was made to the U.S. Army Corps of Engineers): Recent (August and September 2009) field surveys found wild rice at various locations along the Upper and Lower Partridge River, to Embarrass River, and further downstream in the lower St. Louis River. Fairly dense stands were found in the Lower Partridge River and Cedar Island Lake along the Embarrass River. (4.8-13 to 4.8-14)	WR1E

*Alphabetical by sender's first name*

<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
83	Water quality analysis and claims that project parameters “meet surface water quality standards” must be revised throughout the EIS to reflect exceedance of sulfate standards in the Lower Partridge and the Embarrass Rivers. (See e.g., DEIS, Tribal Positions, pp. 4.1-116, 4.1- 147). The sulfate levels in the new DEIS, Table 4.1-67 at page 4.1-121, Effects of the Proposed Action on Wild Rice Areas and Table 4.1-86 at page 4.1-160, Estimated Effects of the Tailings Basin Alternative on Wild Rice Areas, reflect potential exceedances of Minnesota’s wild rice sulfate standard in various areas of the watersheds downstream of the project. A more rigorous and comprehensive analysis of the implications of sulfate effects of the proposed action should be provided in the final EIS: • The wild rice 10 mg/L sulfate standard should be applied to the St. Louis River and any areas of the Partridge and Embarrass Rivers historically producing wild rice. (See DEIS, Tribal Positions, pp. 4.1-105, 4.1-108, 4.1-109, 4.1-128, 4.1-159, 4.1-161). • Dilution estimates in particular, should receive additional scrutiny along with the potential that hydrologic changes from pit dewatering and tailings basin seepage. (See DEIS, Tribal Positions, p. 4.1-14 to 4.1-15). • Potential capture and treatment of all discharge to the Partridge or Embarrass Rivers to reduce sulfate concentrations must be considered in the final EIS. (See DEIS, Tribal Positions, pp. 3-51 to 3-52, 4.1-133). 55 • The EIS must analyze cumulative impacts on wild rice in the Partridge, Embarrass and St. Louis Rivers from other mining and processing activities. • The historic pre-mining prevalence of wild rice in the St. Louis River watershed under low sulfate conditions must also be considered, testing sediment cores for pollen as well as reviewing historical records. (See DEIS Comments of Len Anderson). • Consultation with tribes regarding the cultural significance of wild rice must be completed, including an objective and thorough wild rice survey. (DEIS, Tribal Positions, p. 4.1-33). • The EIS must evaluate impacts of wild rice impairment on cultural resources and environmental justice, as well as defining the extent of violations of the 10 mg/L water quality standards pertaining to sulfates in waters designated for or producing wild rice.	EOO,WR1E,WR3I,WR4B,
84	Rather than reporting potential exceedances of iron, manganese, arsenic and aluminum in drinking water and discussing the potential health risks of ingestion, the DEIS seems to take every possible opportunity to dismiss risks. Specifically, the DEIS adjusts predictive models to reduce apparent risk of arsenic exceedance, discounts aluminum concentrations and, without scientific references, dismisses iron, manganese and aluminum levels as having no human health risk. These defects of omission and commission are inconsistent with the comments made by the U.S. EPA Region 5 and contradict federal public health authorities on human health toxicity.	WR3I
85	There are at least 27 existing domestic wells located between the proposed NorthMet tailings area and the Embarrass River. (DEIS, p. 4.1-20). Several of the residential wells located downgradient from the existing LTVSMC tailings basin have manganese and fluoride concentrations exceeding the groundwater evaluation criteria, and at least one exceeds aluminum criteria. Samples also show levels of arsenic close to exceedance. Although groundwater downgradient from the tailings basin is heavily contaminated with iron (at 4,743 µg/L, more than 15 times the standard of 300 µg/L), the DEIS reports no sampling of residential wells for iron. (DEIS, p. 4.1-15, Table 4.1-8). DEIS predictions of groundwater impacts of the PolyMet tailings basin on residential wells do not evaluate the additional loading of chemicals combined with any existing contaminant plume from the LTVSMC tailings (DEIS, p. 4.1-94, Fn 27). The cumulative impacts discussion of water quality doesn’t even mention residential well drinking water. (See DEIS, pp. 4.14-3, 4.14-6, 4.14-8, 4.14-9). The DEIS is clearly inadequate to evaluate water quality at residential wells near the tailings basin.	WR1E,WR3I,WR5A
86	As the U.S. EPA Region 5 noted in their comments, although the DEIS altered its predictive model by “readjusting variables to less conservative inputs” the predicted arsenic concentration of 1.9 µg/L is still very close to Minnesota’s chronic water quality standard of 2.0 µg/L and is still a concern. (USEPA, PDEIS Comments, supra, p. 4, altering of predictive model see DEIS, p. 4.1-115).	WR3I,WR5A
87	Dismissal of human health concerns related to arsenic, iron, manganese and aluminum is inadequate if not misleading, as even the brief summary below demonstrates.	WR5A



*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
88	The DEIS did not discuss the contamination of Colby Lake with amphibole or asbestoslike mineral fibers. However, tribal cooperating agencies suggest that amphibole fibers have been identified as existing pollutants in the Hoyt Lake community water supply and that they are known to cause digestive tract cancers. (DEIS, Tribal Positions, p. 4.14-4). Both the background level of amphibole fibers in Colby Lake and the potential for their increase should be identified in the EIS.	WR3F
89	Minnesota rules proscribe degradation of groundwater irrespective of whether it is used for drinking water. (Minn. R. 7060.0500). Cumulative increases in groundwater contamination must be evaluated according to nondegradation policies as well as to assess human health risk.	WR5A
90	The DEIS states that the City of Hoyt Lakes water treatment plant is able to remove nearly all iron at its water treatment plant. (DEIS, p. 4.1-116). However, U.S.EPA Region 5 Comments suggest that the methods used by Hoyt Lakes – open basin sedimentation, gravity sand filtration and corrosion control – are not the most effective in making significant reductions. (USEPA, PDEIS Comments, supra, p. 4). The final EIS should clarify what levels of iron reduction are achieved by the Hoyt Lakes treatment plant. Even if the Hoyt Lakes water treatment plant is effective in reducing iron contamination, cumulative exceedances of iron in residential wells may have serious health consequences. A portion of the public is vulnerable to hemochromatosis, or “iron overload” disease. This vulnerability is genetic, and the specific gene mutation was discovered in 1996. According to the Centers for Disease Control and Prevention (CDC), hemochromatosis is the most common genetic disease in the U.S.A. One in 8 are "silent carriers" of the single gene mutation and 1 in 100-200 have the double mutation putting them at high risk for developing the disease. The symptoms of hemochromatosis vary and can include: chronic fatigue, arthritis, heart disease, and liver problems including cirrhosis and cancer. Hemochromatosis can lead to organ damage and even death.	WR3F
91	Although the DEIS suggests that iron is effectively removed from the Hoyt Lakes water plant, no similar control of manganese is even suggested. Hoyt Lakes has had problems with manganese in the water supply in the past, due to release of manganese from lake sediments in late summer. There is no basis to believe that the method used to reduce this risk – increasing the height of the intake valve – would protect drinking water contamination from upstream sources. (See DEIS, p. 4.1-116) Manganese is a toxic chemical (CAS#: 7439-96-5) classified by the Agency for Toxic Substances and Disease Registry (ASTDR). In laboratory studies, ingestion of manganese has been found to cause kidney and urinary tract illnesses, impairments of fertility and sperm damage and nervous system dysfunction. Manganese has been shown to cross the blood-brain barrier and can cross the placenta during pregnancy, enabling it to reach a developing fetus. Very high levels of manganese ingested in water have reportedly resulted in death and there are several studies linking manganese ingestion to neurological damage. ( <a href="http://www.atsdr.cdc.gov/toxprofiles/tp151-c3.pdf">http://www.atsdr.cdc.gov/toxprofiles/tp151-c3.pdf</a> )	WR5A
92	U.S. EPA Region 5 Comments express particular concern about increasing aluminum concentrations over time, especially at sampling points upstream of Colby Lake. The U.S. EPA notes that, although there is no Safe Drinking Water Act Maximum Contaminant Level (MCL) yet set for aluminum, “several studies over the past several years have shown various health effects related to aluminum” so that a conclusion that predicted levels would not pose human health risks would need verification and supporting documentation. (USEPA Comments, PDEIS, supra, p. 3). The CDC’s ATSDR toxicological profile reports that in some studies, oral exposure to aluminum has been associated with increased risk of Alzheimer’s disease. It is well-established that persons with kidney disease who have difficulty removing aluminum from the body can develop bone disease or neurotoxicity attributable to excess aluminum. ( <a href="http://www.atsdr.cdc.gov/toxprofiles/tp22-c3.pdf">http://www.atsdr.cdc.gov/toxprofiles/tp22-c3.pdf</a> ). Potential health consequences of aluminum exceedances should not be dismissed.	WR5A

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
93	The final EIS must more completely assess contamination of groundwater and drinking water, including human toxicity, as follows: • Conduct (or report) more complete testing of residential water quality, including testing for iron exceedances; • Use additional wells to monitor and model the plume of groundwater contamination from the LTVSMC site; • Provide a cumulative analysis of the impacts of the LTVSMC, NorthMet project and other sources of groundwater contamination on residential wells, including but not limited to potential exceedances of iron, manganese, aluminum and arsenic; • Assess the background level of amphibole fibers in Colby Lake and any potential for their increase as a result of the NorthMet project; • Model cumulative exceedances of iron, manganese, aluminum and arsenic in Colby Lake, identifying whether and the degree to which current water treatment methods do or do not reduce concentrations; • Evaluate increases in predicted groundwater contamination under Minnesota’s nondegradation rules; • Explain the potential human health consequences of all exceedances in drinking water, using available public health references, such as CDC, ATSDR, U.S. EPA and MDH publications and guidance.	WR1A,WR1E,WR5A
94	The DEIS has estimated a total of 667.9 acres of indirectly impacted wetlands, 318.6 at the mine site and 349.3 (DEIS, p. S-9) at the plant site. Due to flaws in wetland delineation, limitation of the scope of wetlands analyzed, inadequacies in analysis of hydrology and lack of explicit consideration of impacts of the project during 20 years of operation and post-closure, it is virtually certain that the indirect impacts of the project on wetlands at these sites have been significantly underestimated. The final EIS must rectify these deficiencies and provide a transparent, science-based analysis of wetland impacts over time and throughout the potentially affected watershed. The DEIS both states and implies that the indirect impacts of the PolyMet NorthMet project on wetlands would be minimal due to its characterization of the nature of the wetlands on and near the mine site as coniferous and perched bogs that are dependent on precipitation, rather than ground water for their moisture and nutrients. (PolyMet DEIS, pp. 4.2-3, pp. 4.2-11 to 4.2- 14, Table 4.2-3). The DEIS states that few acres of mine site wetlands not excavated by the project are dependent on groundwater and then concludes that no indirect impacts on wetlands from groundwater are expected at the mine site. (DEIS, p. 4.2-19). This conclusion, with its obvious strategic importance, is vigorously disputed by the tribal cooperating agencies, who object to the scientific validity of determining wetlands delineation from aerial views referenced in an email (DEIS, Tribal Positions, pp. 4.2-1, 4.2-21; DEIS, pp. 4.2-1 to 4.2-2, 4.2-19). Tribal agencies state that many of the wetlands that have been identified during delineation as "perched bogs" are cedar swamps, northern wet ash swamps, forested rich peatlands, northern alder swamps, and poor fens, all of which require groundwater inputs. (DEIS, Tribal Positions, pp. 4.2-3, 4.2-4, 4.2-5, 4.2-22, 4.2-23, 4.2-27, 4.2-49; DEIS, p. 4.2-10). Characterizing various wetland types as unconnected to groundwater may also be inconsistent with classifications published by the MDNR. (See Matt Tyler DEIS Comments). Even the underlying project wetland delineation study suggests that many wetlands potentially impacted by the project are dependent on groundwater resources:	WE1,WE2
95	Insufficient wetland delineation has been provided around the tailings basin, although wetland impacts from inundation are likely to occur. (DEIS, Tribal Positions, pp. 4.2-1 to 4.2-2). This is particularly significant since the area described as the “tailings basin” is a vast area as much as two miles in diameter, much of which is surrounded by wetlands. (See DEIS, Appendix A, Figures 3.1-27, 4.1-11). Accuracy of the DEIS wetland delineation along the Partridge River is also disputed by the tribes. (DEIS, p. 4.2-43, 4.2-48). The accurate delineation of wetlands is critical not only on and immediately adjacent to the project site, but along the Partridge and Embarrass Rivers and downstream on the St. Louis River. Although not mentioned in the DEIS, studies show that both the Partridge and the Embarrass Rivers contain extensive wetlands environments. The Partridge River tributary has 20.3 square miles of wetlands (approximately 12.5 percent of its area is wetlands) and the Embarrass River has 19.3 square miles of wetlands (approximately 10.7 percent wetlands). (Berndt & Bavin, Sulfate and Mercury Chemistry of the St. Louis River in Northeastern Minnesota: A Report to the Minerals Coordinating Committee, MDNR, Draft Report, June 2009, p. 30). Depending on the nature of these wetlands, they may be more or less vulnerable to impacts of the project due to hydrologic changes and chemical inputs.	WE1,WE2

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
96	In addition to relying on an email reporting aerial views for wetlands delineation, it appears that the DEIS has relied upon an email containing anecdotal information and aerial photographs from other mines to estimate groundwater drawdown impacts on wetlands from the project. (DEIS, p. 4.2-20; DEIS, Tribal Positions p. 4.2-21). The DEIS contains no quantitative assessment of mine related drawdown of the regional water table, creating a serious data gap in the ability to adequately assess indirect impacts upon wetlands. (See Section B(3), supra, DEIS, Tribal Positions, p. 4.2-20, 4.2-22).	WE2
97	The DEIS' suggestion that, instead of performing a hydrological analysis in environmental review to verify the prediction of impacts on wetlands, PolyMet could monitor for hydrological impacts and mitigate if they are found (DEIS, p. 4.2-20) is inconsistent with the legal requirements for environmental review. The core purpose of both NEPA and MEPA is to disclose environmental impacts, not to defer their recognition until a project has been built and it is too late to prevent harm.	EOO
98	Tribal agencies maintain that a more scientifically rigorous delineation of wetland types and hydrological impacts to wetlands would demonstrate more significant indirect impacts to wetlands than described in the DEIS. (DEIS, Tribal Positions, pp. 4.2-21, 4.2-22, 4.2-23). Tribal agencies have also proposed a more customary method for estimating indirect wetland impacts developed by the Army Corps of Engineers for the Crandon sulfide mine project and presented by tribal staff at professional conferences. (DEIS, Tribal Positions, p. 4.2-25). The final EIS must include the following: • An objective, transparent and comprehensive delineation of wetlands at the project site and along downstream water bodies, consistent with MDNR classifications; • Absent specific scientific justification for deviating from this methodology, the EIS should use methodology developed for the Crandon mine to estimate indirect wetlands impacts.	WE1,WE2
99	Loss of wetlands from the direct and indirect impacts of the PolyMet NorthMet project constitutes one of the most significant irreversible losses of natural resources resulting from the project. Even without considering downstream impairment of wetlands in the Embarrass, the Partridge or St. Louis River channels, the PolyMet project would have approximately 854.2 acres of direct wetland impacts and 667.9 acres of indirect wetland impacts, for a total predicted impact of 1,522.1 acres. (DEIS, p. 4.2-24). Of these wetlands, all but one coniferous bog community wetland, all shrub community wetlands and all forested swamp community wetlands are rated high quality. (DEIS, pp. 4.2-5 to 4.2-6) Minnesota law requires that, if impacts on wetlands cannot be avoided or restored, wetlands must be replaced. (Minn. Stat. §103G.222). Replacement ratios are set in rules, and the baseline requirement in the PolyMet project area is that wetlands must be replaced on a 1.5 to 1 ratio if the wetlands used for replacement are either outside the watershed or different in kind from the wetlands being lost. (Minn. R. 8420.0117, see DEIS, p. 4.2-29) It is evident from the DEIS that no plan has been developed to fully replace the wetlands impacted by the PolyMet project. The plan proposed in the DEIS suggests that there would be 175 acres of on-site mitigation of wetlands, mitigation outside the project's watershed in Aitkin with 810 acres of wetlands and 123 acres of buffer, and mitigation outside the watershed in Hinckley with 313 acres of wetland and 79 acres of buffer, for a total of 1170.3 acres of wetland credits. It is suggested that the closure plan is designed to add another 175 acres of wetlands and that the current plan provides 1,287 acres of mitigation credits. (DEIS, p. 4.2-38) First, the on-site mitigation documented in the DEIS does not add up to the 350 acre total claimed in the above summary. Just a few pages earlier, the DEIS states that the current plan includes the creation of 30 acres of wetlands on the contaminated LTVSMC emergency basin, 75 acres on the tailings basin at closure, 30 acres on the mine stockpile areas and 40 acres at the east pit, which would not be eligible for wetland credits. (DEIS, p. 4.2-30). The DEIS then goes on to state that, although other location were identified, "At the current stage of planning it is not possible to estimate the potential extent of wetland mitigation in these areas." (DEIS, pp. 4.2-30 to 4.2-31). Identified on-site mitigation, thus, adds up to a total of 135 acres of wetland credits, including post-closure mitigation. The final EIS must reconcile this discrepancy.	WE2,WE3

*Alphabetical by sender's first name*

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100	The suggestion that evaluation and mitigation of critical environmental impacts, such as loss of wetlands can be deferred until permitting or to project operations and closure is inconsistent with the National Environmental Policy Act and the Minnesota Environmental Policy Act. NEPA requires agencies to evaluate and mitigate environmental impacts of projects before the permitting stage, the core purpose for which NEPA was enacted. (See e.g. Mexico v. Bureau of Land Management, 565 F.3d 683, 703 (10th Cir. 2009). Any wetlands for which the replacement is not identified in the final EIS should be considered unmitigated. (DEIS, Tribal Positions, p. 4.2-42). The final EIS must detail replacement of all impacted wetlands, including a discussion of replacement quality or must acknowledge the irreversible loss of the equivalent of nearly 1,000 acres of highly valuable wetlands.	WE3,WE4
101	Since the mine site would be removed from the Ceded Territory in order for the PolyMet project to proceed, none of the wetland replacements proposed in the DEIS, including those on the mine site, would be within the 1854 Ceded Territory. At most, the 175 acres proposed to be restored on the mine site or the 175 acres to be restored post-closure (DEIS, p. 4.2-38) might have some relation to waters within the remaining Ceded Territory. The planned wetland replacement, thus, would lead to a substantial loss of wetlands within the Ceded Territory. (DEIS, p. 4.14-5).	WE3,CR1
102	The Ceded Territory represents an important cultural resource that may be impacted by loss and impairment of wetlands. The DEIS does not include this issue in its description of impacts on wetlands (DEIS, Section 4.2). The final EIS must analyze the cumulative impacts of the PolyMet project on the 1854 Ceded Territory, including but not limited to the loss of wetlands and changes in wetland functional values during operation, closure and post-closure, the additive effects of air and water emissions on wetlands, and the loss of tribal access to wetlands due to the above changes and the mitigation of wetland impacts by replacements occurring outside the ceded territory. (DEIS, Tribal Positions, p. 4.2-44) Any loss of wetlands or loss of wetland functionality within the Ceded Territory that is not replaced within the Ceded Territory must be considered an irreversible and irretrievable loss of cultural resources resulting from the PolyMet project	WE3,WE5,G3,CR1,CR3,CR
103	The DEIS identifies direct impacts from other mining projects of approximately 328 acres, but describes no indirect effects on wetlands from other projects. (DEIS, p. 4.2-46) Then, in analyzing impacts on wetlands in the Partridge River watershed, the DEIS suggests that existing wetland conditions will only be reduced by 1,155 acres (DEIS, p. 4.2-47, Table 4.2-9) even though its own analysis (which tribal agencies believe is understated) identifies 1,132 acres of impacted wetlands within the Partridge River watershed from the PolyMet mine project alone. (DEIS, p. 4.2-9) Simple addition suggests that impacts are understated.	WE2

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
104	Although the DEIS acknowledges that acid mine drainage from the tailings basin has impaired the quality of surrounding wetlands (DEIS, p.4.2-52) the DEIS impacts analysis does not address the impacts of sulfate discharge, air emissions or hydrological changes beyond the mine site on wetland functionality in the Partridge River. Even with this constraint, the DEIS acknowledges that, due to the high quality of the Partridge River wetlands (3.4 percent according to the DEIS) impacted, “the function and values served by the wetlands in the watershed would be expected to be significantly affected” by the direct and indirect losses of wetlands from the PolyMet project. (DEIS, p. 4.2-48). The failure to consider functional impairment of wetlands and the impacts of increased tailings basin drainage on surrounding wetlands renders the analysis of impacts to the Embarrass River watershed meaningless. The DEIS minimizes the loss of wetlands around the existing tailings basin due to their low quality without an assessment of how increased discharge at the PolyMet plant might impair the function of additional wetlands. (DEIS 4.2-52). This analysis is inadequate. Minnesota Rules recognize that the public value of wetlands is based upon their function, including filtration of pollutants to surface water and groundwater, using nutrients that would otherwise pollute public waters, trapping sediments, recharging groundwater, flood and storm water retention and fish, wildlife and native plant habitats. (Minn. R. 8420.0522). Minnesota Rules on replacement of wetlands require analysis of both the value and function of wetlands that may be impacted. (See Minn. R. 8420.0515). Although the DEIS acknowledges that there would be significant impacts on the Partridge River watershed as a result of the PolyMet project, no characterization is provided as to the nature of the functions that would be impacted or the relationship of that loss of function to water quality and fish, wildlife and plant habitat. In order to assess wetlands impairment and mitigation, the final EIS must: • Recalculate the acreage of wetlands functionally impacted, including wetlands impacted by acid mine drainage, air emissions or hydrological changes under both the Proposed Action and the Tailings Basin Project alternative • Evaluate the impacts of loss of wetlands and wetland functionality throughout the Partridge, Embarrass and St. Louis River watersheds (See DEIS, Tribal Positions, pp. 4.2- 43, 4.2-44). • Consider cumulative indirect as well as direct impacts from other foreseeable projects in evaluating wetlands impacts to watersheds; • Provide and evaluate a mitigation plan for the NorthMet project that replaces wetlands and wetland functionality within affected watersheds. Although it might be more convenient to mitigate wetlands with large remote tracts, the Minnesota Wetlands Conservation Act may require identifying and securing smaller parcels of wetlands within the watershed to protect water resources and wetlands functionality.	WE2,WE3,WE5
105	The DEIS fails to document consultation with the USFWS pertaining to the potential that additional and cumulative mining activity will further impact critical lynx and wolf habitat. This oversight is particularly striking given the environmental impact statement process underway to address dozens of prospecting permits in the Superior National Forest ( <a href="http://www.fs.fed.us/r9/forests/superior/projects/prospecting.php">http://www.fs.fed.us/r9/forests/superior/projects/prospecting.php</a> ) and the fact that cumulative impacts from historical, present and future mining-related activities in the Mesabi Iron Range are estimated to be 153,184 acres, including impacts on 31,000 acres from future mining activities. (DEIS, p. 4.4-29).	WI1
106	Statements in the DEIS that impacts from the PolyMet and other mining projects on loss and fragmentation of wildlife habitat that extend for many decades should be considered “temporary” and not “significant” (DEIS, p. 4.14-5) have no legal or scientific basis. The DEIS cites no biological assessment that might support this conclusion. Destruction of endangered species habitat may impact species survival not only due to the destruction of acreage, but due to the impairment of wildlife travel corridors that permit endangered and other species to move between remaining areas of habitat. The DEIS acknowledges that destruction of wildlife corridors may lead to population and genetic isolation, reducing population stability and persistence. (DEIS, p. 4.4-30). The DEIS appears to rely on studies done for other proposed intrusive actions to assess the impacts of the PolyMet project on wildlife corridors. Based on this analysis, the DEIS notes that the project would impact 2 of the 13 wildlife corridors identified in a comprehensive study. (DEIS, p. 4.4-31, citing Emmons and Olivier Resources, Inc. 2006). With reference to impacts on Corridor 11 the DEIS states that the LTVSMC tailings basin, despite two decades since closure, “provides poor habitat.” ((DEIS, p. 4.4-31). The DEIS characterizes the impacts on Corridor 12(17) as indirect and does not describe any impact to Corridor 10(14), southwest of the PolyMet plant site, which might be impacted, since the Mesabi Nuggett project is its other side. (DEIS, Appendix A, Figure 4.4-1). An independent USFWS consultation on corridor impacts is needed.	WI1,WI5

*Alphabetical by sender's first name*

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107	This analysis of cumulative impacts turns environmental review upside down. Cumulative impacts analysis under the National Environmental Policy Act (42 U.S.C. §4332(2)(C); 40 C.F.R. §1508.11 and 1508.25(c)) and under the Minnesota Environmental Policy Act (Minn. Stat. §116D.04; Minn. R. 4410.1700, Subp. 7) is not intended to justify resource loss if other foreseeable projects may also be destructive, but to identify significant or even irreparable harm to the environment -- in this case, to two endangered species -- resulting from cumulative destruction. See e.g. Citizens Advocating Responsible Development v. Kandiyohi County, 713 N.W. 2d 817, 830 (Minn. 2006)(The point of the "cumulative potential effects" criterion is "to determine whether the project, which may not individually have the potential to cause significant environmental effects, could have a significant effect when other local projects already in existence or planned for the future are considered.")	WI5
108	The final EIS must be based on Endangered Species Act law and scientific analysis of the impacts on lynx and wolf habitat and wildlife corridors rather than reassuring platitudes that impacts are not expected to be significant. Specifically, the final EIS must contain: • A biological assessment and consultation with the USFWS regarding impacts on lynx, wolf, critical habitat and wildlife travel corridors (See 50 C.F.R. 402); • Recognition that mining impacts represent a total habitat loss and that a 40 or more year loss of habitat for endangered species should be considered a permanent loss; • A cumulative impacts analysis in consultation with the USFWS based on reasonably predicted mining as well as forestry activities, consistent with the objectives of NEPA and the ESA prohibition of destruction or adverse modification of habitat for endangered species.	WI1
110	Assuming a high level of efficiency from the wet scrubber system at the hydrometallurgical facility, the DEIS identifies 8.3 pounds of new mercury emissions from the proposed PolyMet NorthMet project (DEIS, p. 4.6-34, 4.6-39). Based on a stakeholder-devised recommendation for mercury reductions, the DEIS then describes an offsetting plan for project mercury emissions that might include any of the following: offsets from purchasing emissions credits from in-state taconite or energy facilities, entering into a partnership with another mercury-emitting sector such as crematoria, collecting mercury products, or doing research with publicly owned treatment works. (DEIS, p. 4.6-35, 4.6-40 to 4.6-41). This plan is inconsistent with Clean Water Act protection of mercury-impaired waters and with Minnesota's Statewide Mercury TMDL.	WR4C,AQ6A
111	Before the final EIS is released, a more thorough investigation of cumulative mercury emissions and sector increases must be conducted. The implication of compliance schedules for waters impaired for mercury and compliance with sector reduction targets should require a new analysis of the potential for offsets of project mercury emissions.	WR5A,AQ6A
112	The DEIS analysis of the human health risk from inhalation of pollutants at the PolyMet NorthMet plant and mine site and the analysis of risks and mitigation from hazardous air pollutants is incomplete. The final EIS must include at least the following additional analyses: cumulative cancer and non-cancer health risks including particulate emissions and amphibole fibers, identification of all hazardous air pollutants released at the mine and plant site, including releases attributable to fugitive emissions and diesel combustion, and explicit discussion of mitigation of cancer and non-cancer health risks, particularly when human health risks exceed Minnesota Health Risk Values.	AQ4B,AQ6
113	The cancer and non-cancer health assessment from the tailings basin and the mine site in the DEIS did not include amphibole fibers and does not appear to have included impacts from particulate matter or fine particulates. (DEIS, p. 4.6-23, Table 4.6-16, p. 4.6-26, Table 4.6-17). • The final EIS must clarify whether inhalation risks of particulates and fine particulates were included in the health risk assessment and explain what assumptions were made as to their chemical composition.	AQ6
114	In order to accurately characterize cancer and non-cancer risks from air emissions at the plant and mine sites, the additive risk of amphibole fibers must be included. • Additional testing should be conducted to verify that the grinding process did not interfere with the identification of amphibole fiber length; • The final EIS should estimate inhalation health risks including amphibole fibers. Given the level of uncertainty as to toxicity of the particular fibers found, a "worst case" analysis should be done under a "worst case" assuming that the toxicity of fibers in the NorthMet is similar to asbestos fibers and a "best case" analysis under less conservative risk assumptions.	AQ6

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
115	Although inhalation health risks from both the NorthMet plant and the mine site are predicted exceed Minnesota health risk values, the DEIS does not describe any mitigation targeted to reduce cancer or non-cancer human health risks. This is a shocking omission. The final EIS must include mitigation to ensure that emissions from the NorthMet project do not increase health risks above acceptable levels under Minnesota Rules.	AQ5
117	The DEIS does not contain any analysis of health risks to on-site workers. • The EIS must analyze cancer and non-cancer inhalation risks to workers at the mine and the plant.	AQ6
118	The DEIS stresses that point source emissions from the PolyMet NorthMet project are below the 250 tons per year (tpy) “major source” thresholds for the prevention of significant deterioration (PSD) program so that neither technology-based requirements nor limits on incremental pollution apply. (DEIS, p. 4.6-4). This is somewhat misleading. Minnesota rules referenced in the DEIS do not set a 250 tpy threshold for a major source. Under Minnesota law, a major stationary source of pollutants for which a Part 70 permit is required is a facility that emits or has the potential to emit 100 tons per year of any air pollutant (Minn. R. 7007, Subp. 2.B.) In Minnesota, the PolyMet project would be a major source as a result of its point source criteria pollutant emissions alone, including 178 tpy of particulates (PM10), 150 tpy of fine particulates (PM 2.5), 193 tpy of total suspended particulates (TSP) and 102 tpy of volatile organic compounds (VOCs). In addition, when fugitive and mobile source emissions from the mine and the tailings basin are combined with “smokestack” emissions from the plant, the PolyMet project far exceeds even federal major source thresholds of 250 tpy for each pollutant. Mobile source emissions of nitrogen oxides (NOx) from the mine site are projected at 315 tpy, fugitive emissions of particulates (PM10) from the mine site (685 tpy) and plant site (122 tpy) combined are 807 tons per year and fugitive emissions of fine particulates (PM2.5) from the mine and plant site together are 116 tons per year. (DEIS, p. 4.6-10, Table 4.6-5). The Tailings Basin Alternative adds another 96 tpy of PM10 and 11 tpy of PM2.5 (DEIS, p. 4.6-13). The PolyMet will have a major source impact on air quality, especially as a result of particulate emissions. Criteria pollutant totals from the PolyMet project are summarized in the chart below	AQ7
119	The emission of hazardous air pollutants (HAPs) from the PolyMet project may also exceed federal source thresholds for HAPs. As noted in the preceding section E(2), the USEPA has questioned the analysis of HAPs in the DEIS, stating that mobile source toxic emissions must be included to determine whether the project exceeds major source thresholds for HAPs. (USEPA PDEIS Comments, supra, p. 2).	AQ7
120	The PolyMet NorthMet project would be located in a Class II area, rather than a Class I category applicable to wilderness areas. The first air quality analysis is whether the additional pollution from the project exceeds the increment by which pollution is allowed to increase. The DEIS estimates that the PolyMet project, combined with other regional sources will use up 97 percent of the increment in Class II areas for particulate emissions averaged over 24 hours at the mine site (29 µg/m3 of an allowable 30 µg/m3) and 83 percent of the increment at the plant site (25 µg/m3 of an allowable 30 µg/m3). (DEIS, pp. 4.6-13, 4.6-15, 4.6-16, Table 4.6-9).	AQ8
122	The DEIS air quality model included the Peter Mitchell Mine, Mesabi Nugget Phase I, Cliffs Erie Pellet Yard, Laskin Energy Center, and LTV Steel Mining Company emissions. (DEIS, p. 4.6-11). However, as the U.S. EPA highlighted in their comments, this air quality analysis did not consider all current and foreseeable projects. The Mesaba Energy power plant, Mesabi Nugget Phase II and the Keetac Expansion should have been considered in analyzing cumulative impacts on air quality, including Class II increments. (USEPA PDEIS comments, supra, p. 1). It is not clear from the DEIS whether all fugitive and mobile source emissions were included, whether cumulative impacts of the PolyMet project on mine or plant site receptors were considered or whether the increased emissions from the Tailings Basin Alternative were included. In addition to stating that additional foreseeable projects such as the Keetac expansion should not have been excluded from the cumulative analysis, tribal cooperating agencies suggest that modeling of compliance with Class II PSD increments, compliance with NAAQS and MAAQS air pollution standards and cumulative Class I PSD increment analysis failed to include complete particulate emissions from the tailings basin. (DEIS, Tribal Positions, pp. 4.6-40, 4.4- 41, 4.4-42). Since particulate emissions already approach the Class II increment limit, it is likely that if all cumulative sources and project emissions are included in the model there will be insufficient Class II increment to permit emissions of particulates at the levels proposed by PolyMet.	AQ8

*Alphabetical by sender's first name*

<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
123	Data on potential exceedances of National Ambient Air Quality Standards (NAAQS) and Minnesota Ambient Air Quality Standards similarly show that standards for particulate will nearly be exceeded, even under DEIS modeling assumptions that may minimize cumulative impacts. Particulate emissions from the plant, combined with background levels of particulates are at 79 percent of allowable limits averaged over 24 hours (118 µg/m <sup>3</sup> as compared to a standard of 150 µg/m <sup>3</sup> ), while fine particulate emissions from the mine, combined with background are at 97 percent of allowable limits (34 µg/m <sup>3</sup> as compared to a standard of 35µg/m <sup>3</sup> ). (DEIS, p. 4.6-17, Table 4.6-10). Again, since particulate and fine particulate emissions already approach NAAQS and MAAQS limits, if all cumulative sources and project emissions are included in air modeling, federal and state air quality standards for particulate pollution are likely to be exceeded. Similar to the Class II increment at the project site, PSD analysis at the nearest Class I location, the Boundary Waters Canoe Area Wilderness (BWCAW) twenty-one miles away, suggests that total cumulative modeled air concentration would consume 94 percent of the increment (7.5 µg/m <sup>3</sup> , out of a PSD increment limit of 8µg/m <sup>3</sup> ) for short term particulate pollution (DEIS, p. 4.6-4). The analysis of particulate (PM <sub>10</sub> ) pollution, like the Class II and NAAQS analysis discussed previously, doesn't include the Mesaba Energy power plant, Mesabi Nugget Phase II and Keetac Expansion and may not include all project emissions from the tailings basin, in particular. If all cumulative sources and project emissions are included in the Class I increment analysis, it is likely that there would be insufficient remaining increment to accommodate PolyMet's increased PM <sub>10</sub> emissions. In addition, despite requests by tribal cooperating agencies for this information (DEIS, Tribal Positions, pp.4.6-16, 4.6-18) the DEIS provides no Class I increment analysis for fine particulates. (PM <sub>2.5</sub> )	AQ8,AQ9
124	Air emissions from the PolyMet NorthMet mine and plant sites have the potential to adversely impact aquatic and terrestrial ecosystems as a result of deposition of pollutants as well as resulting in deterioration of air quality and visibility impairments. Particulates and fine particulates released by the project will contain nano particles of sulfates and heavy metals that may impact sustainable production of nearby forests. (Bruce Johnson DEIS Comments). Particulate emissions may also impact aquatic systems and increase mercury methylation:	EOO
125	Although the DEIS contains some assessment of impacts of air deposition, the analysis does not appear to include particulate or fine particulate deposition, but only sulfur dioxide and nitrogen oxide deposition. (See e.g. DEIS, pp. 4.6-20, 4.6-44). The DEIS also focuses on relatively remote receptors in Class I areas at least 21 miles away or on diffuse ecosystems, discussing the effects of NorthMet acid deposition on a four-county area including Itasca, St. Louis, Lake and Cook Counties. (DEIS, p. 4.6-44). Even without considering particulate depositions and looking at this highly diffuse four-county assessment area, the DEIS predicts that the NorthMet project will increase sulfur dioxide emissions by 6 percent and nitrogen oxides by 12 percent. (DEIS, p. 4.6-44). It should also be noted that while coal plant pollution controls may cushion the impacts of NO <sub>x</sub> and SO <sub>2</sub> increases, particulate pollution is increasing throughout the region. (DEIS, p. 4.6-53).	EOO



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Comment ID	Comment Text	Theme Codes
126	<p>The misplaced advocacy in the DEIS against a finding that the NorthMet project is a major source increases suspicion that air quality modeling may fail to include appropriate inputs in order to attain a desired outcome. The final EIS must both revise its air quality analysis and provide greater transparency on sources and levels of emissions in order to dispel this concern, as follows: • Provide transparency regarding all project emissions sources, including specification of volatile organic compounds and total suspended particulates from mobile and fugitive sources and specification of the tons per year for hazardous air pollutants. Provide transparency and include in air quality modeling (Class II increment, Class I increment and compliance with NAAQS and MAAQS) all emissions from the mine and plant, including mobile and fugitive source emissions, additional emissions from the Tailings Basin Alternative and cumulative impacts from one project site to receptors at the other project site; • Revise modeling of compliance with/exceedance of Class II and Class I increments and federal and state air quality standards to include cumulative impacts of all current and foreseeable projects, including but not limited to the Mesaba Energy power plant, Mesabi Nugget Phase II and the Keetac Expansion; • In addition to the above revisions, calculate PSD Class I increment for fine particulates (PM<sub>2.5</sub>); • Revise calculations of light extinction and visibility impacts at the BWCAW based on inclusion of all project emissions and cumulative impacts of current and foreseeable projects; • Assess the chemical composition of particulate and fine particulate emissions from the mine site and plant site, including levels of sulfates and heavy metals; • Analyze the effects of deposition of particulates and fine particulates in aquatic and terrestrial ecosystems and the cumulative impacts of particulate, sulfur dioxide and nitrogen oxide deposition. • Base the analysis of deposition effects on areas of predicted highest deposition, in addition to a remote Class I or a diffuse multiple-county analysis.</p>	AQ4,AQ8,AQ9
127	<p>The PolyMet NorthMet DEIS contains an appropriate definition of environmental justice, but a glaringly insufficient and inappropriate analysis of this issue, in conflict with applicable law. Environmental justice requires that no group of people, including racial, ethnic, or socioeconomic groups, should bear a disproportionate share of the negative environmental consequences resulting from industrial operations, such as the PolyMet mine and processing facility. Executive Order 12898 directs federal agencies to make achieving environmental justice part of their missions by identifying and addressing disproportionately high and adverse effects of agency programs,</p>	SE2
128	<p>The DEIS discussion of environmental justice is brief and laughably inappropriate, addressing primarily the Native American population census of St. Louis County as compared to the Native American population census for the State of Minnesota, rather than the actual impacts of the PolyMet project on property rights, health, or natural resources that are of significance to the culture and social and economic well-being of Indian tribal members. (DEIS, pp. 4.10-14 to 4.10-15). Based on this narrow and contrived analysis, the DEIS then concludes: The Project was evaluated for effects relating to the social, cultural, and economic well-being and health of minorities and low-income groups through a review of socioeconomic and demographic data compiled from the 2000 U.S. Census. Such effects are termed environmental justice issues, and none were identified for the Project. (DEIS, p. 4.10-14) The EIS must start over and provide an environmental justice analysis sufficient to comply with Executive Order 12898 and applicable civil rights laws. The environmental justice analysis should include evaluation of the disparate impacts of at least the following adverse environmental impacts of the project on Indian tribes, minority and low-income communities.</p>	SE2
129	<p>Indian tribal members, a protected population under civil rights laws and environmental justice analysis, are the only individuals directly and adversely impacted by loss of usufructuary rights in the 1854 Ceded Territory due to the potential transfer of Superior National Forest land to the PolyMet Mining Company. Although the DEIS suggests that the land to which Chippewa Tribes have rights will be exchanged for other land in the Ceded Territory, (DEIS, p. S-18), the DEIS neither identifies the land to be exchanged nor demonstrates that its size and functional value to the Tribes will be at least equal to that of the 6,700 acres lost. Unless the final EIS contains a detailed environmental analysis (including cultural as well as economic and environmental values) demonstrating that specific land to be exchanged for the PolyMet site creates no such adverse effect upon the Tribes, the project is discriminatory in its effect and creates a disparate adverse impact upon the Tribes.</p>	SE2,PD2,G3,CR1,CR3,CR4

*Alphabetical by sender's first name*

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130	The DEIS acknowledges that at least 1,222 acres of wetlands would be directly or indirectly impacted at the mine site (DEIS, p. 4.2-9). None of these wetlands are planned to be replaced in the Ceded Territory; even replacement on the mine site will no longer be within Ceded Territory once the land exchange is completed. Loss of wetlands and the cultural, social and environmental benefits they provide, will disproportionately impact the Ceded Territory to which only Indian Tribes, and no other populations have distinct rights. Since a substantial majority of the wetland acres lost as a result of the PolyMet project are within the Ceded Territory, under the current wetland replacement plan, loss of wetlands creates a substantial and unmitigated adverse impact on Indian Tribes.	WE3,WE5,SE2,G3,CR1,CR
131	Although the DEIS analysis is incomplete, it is clear that seeps and discharge from the mine and plant, local deposition of mercury emissions, sulfate mobilization of methylmercury and hydrologic changes are likely to increase the mercury contamination of fish tissue. The EIS must analyze the degree to which increases of mercury in fish tissue impact tribal waters and fisheries and the degree to which increased mercury in fish throughout the St. Louis River and Lake Superior Basin watersheds disproportionately impact Indian tribal members, other minority communities and low income persons. This analysis should address, as did proceedings to establish the Minnesota Statewide TMDL, the particular impacts on people who fish for subsistence and to whom the ability to fish for subsistence has cultural as well as social and economic significance.	WR4B,WR5C,SE2,FM1,AQ
132	Although the DEIS and Tribal Positions reflect disputes as to the degree to which wild rice will be impacted in the Partridge, Embarrass and St. Louis Rivers (See Section B(7), supra) some level of impairment is virtually certain. Any impairment of wild rice creates an environmental justice concern, since Indian tribal members gather rice at a rate greater than their census numbers and since impairment of wild rice harvests is likely to have a greater adverse impact on Indian cultural, social and economic well-being. Statewide, the DEIS acknowledges that more than 3,000 tribal members participate in wild rice harvesting statewide along with about 1,500 non-tribal individuals (DEIS, p. 4.1-44, citing MnDNR 2008). It is obvious that the rate participation in wild rice harvest is far greater for tribal members, who represent only 1.2 percent of the population in Minnesota. (DEIS, p. 4.10-14). In addition to analyzing compliance with 10 mg/L sulfate standards in wild rice waters, the final EIS must analyze environmental justice impacts of impairment of wild rice.	WR4F,WR5C,SE2
133	The DEIS has begun a more comprehensive analysis of the impacts of the project on natural resources and species of importance to Indian tribes. For each adverse impact, an environmental justice analysis is required, since “any impacts to natural resources will disproportionately affect tribes due to their subsistence consumption of wild rice, fish, and other wildlife within the 1854 Ceded Territory.” (DEIS, Tribal Positions, p. 4.10-15) In addition, since data in the DEIS suggests that the City of Hoyt Lakes has a higher percentage of families below poverty level and a lower percentage of persons in the labor force than the State of Minnesota as a whole (DEIS, p. 4.10-4, Table 4.1-06), specific potential adverse impacts to Hoyt Lakes, such as violation of water quality standards in Colby Lake, must be analyzed from an environmental justice perspective. The fact that persons in an economically depressed area might be willing to accept health risks if jobs are promised is precisely why an environmental justice analysis adverse impacts on low-income communities.	SE2
134	Without citing any references, the DEIS suggests only negative social and economic outcomes from the No Action Alternative, including declining employment, population decline, underutilized housing and aging population. (DEIS, p. 4.10-21) The DEIS fails to reference economic gains in St. Louis, Itasca and Lakes Counties over the past decades despite reduction in mining employment due to mechanization. See Thomas M. Power, <i>The Economic Role of Metal Mining in Minnesota: Past Present and Future</i> , October 2007, “Power Report,” pp. iii-v, 22-28) The DEIS also does not address adverse social or economic consequences of the risk that project could create an unfunded Superfund liability for taxpayers, as other mining projects across the nation historically have done.	SE1

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<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
135	Missing from the DEIS analysis is any acknowledgement of the boom and bust cycle of extraction industries in Minnesota and the adverse social and economic impacts associated with the cycle once ores that can be economically extracted and processed are used up. Research pertaining to Northern Minnesota documents repeated booms and busts in the mining industry, leading to community instability and long-term decline. From 1979 to 2005, 83 percent of the iron jobs in Minnesota were eliminated, while 80 percent of the nation's copper mining jobs disappeared between 1972 and 2002. (Power Report, supra, pp. ii, 6, 7, 29). Price volatility affects the decline cycle. When metal prices are high, lower grade deposits are brought on line, adding to supply and moderating price increases. In a global market, poorer nations also attempt to secure mining jobs, displacing American sources. In addition, technical change steadily displaces labor with more powerful equipment and new electrochemical processes, resulting in a smaller workforce even for the same amount of ore extraction. Although mining inevitably depletes economically viable ores in a relatively short period of time, the process of extraction and processing creates relatively permanent environmental damage. (Power Report, supra, pp. ii, 6, 7). The EIS must assess the adverse impacts to local communities of the bust cycle, when population and payroll drop due to temporary shut-downs or inevitable closure. (DEIS, Tribal Positions, p. 4.10-14)	SE3
136	In correlating a "no action" alternative with adverse consequences, the DEIS also fails to analyze the actual economy of Northern Minnesota and its reliance on sectors of the economy that depend on residential preference and, thus, indirectly on environmental amenities, as well as tourism and recreation, that depend directly on environmental quality. Mining related income is only a small percentage of earnings in Northern Minnesota and the growth of other sectors of the economy has provided sources of income many times larger than the loss of the iron industry payroll. (See Power Report, supra, pp. iii, 10,11, 22-23, 25) The EIS must acknowledge negative economic and social impacts to local communities if natural resources are lost or damaged due to the project. (See DEIS, Tribal Positions, pp. 3-50, 4.10-14).	SE4
137	Finally, the DEIS fails to analyze the price assumptions on which both the opening and continued operation of the project depend. This is not an academic inquiry. Interest in the project was, no doubt, spurred by the quintupling of copper prices from 2001 to 2006, rising from about \$0.75 per pound to about \$3.80 per pound. In the 1970's, a similar sharp increase in copper prices spurred interest in development of Minnesota's copper ore deposits, but copper prices fell in the early 1980s and copper mines shut down nationwide rather than opening in lower-grade Minnesota deposits. (Power Report, pp.1, 5). Recent economic recession and predicted economic factors that might lead to the intermittent operation, early shut down or failure to fund adequate reclamation and post-closure activities if the project were to move forward should be analyzed in the EIS.	SE3
138	The final EIS should include adverse economic and social impacts of the project and potential benefits of the no action alternative, considering the following: • Information on Minnesota's mining industry, including historical and reasonably predictable cyclical "boom and bust cycles; • Analysis of the regional economy's current reliance on perceived environmental amenities, including tourism, recreation and industries such as health and finance which may be located based on residential choices; • Analysis of the adverse economic and social impacts of population and payroll loss when mining activities stall or cease, or resulting from mechanization, including impacts on unemployment, demand for social services, and tax revenues required to fund social services. • Analysis of the price structure needed to support opening of the PolyMet mine and processing facility, maintaining operations and salaries and funding closure and post-closure treatment and reclamation. • Analysis of the potential public economic risk that unfunded closure and post-closure reclamation and pollution remediation costs would become a burden on taxpayers.	SE3

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
139	<p>WaterLegacy shares the concern raised by tribal agencies that the underground alternative was prematurely eliminated, even though it would pose less harm to high quality wetlands and may be less damaging to water resources. (DEIS, p. 4.2-25). As stated by the tribes: It is the position of the tribal cooperating agencies that this alternative was eliminated prematurely and without sufficient consideration. . . The ecological costs of open-pit mining and above-ground disposal of tailings and waste rock are immense. This ecological cost, combined with the most current understanding of deposit ore grades and reasonably possible metals prices, must be evaluated to determine the viability of this alternative. (DEIS, p. 3-64) An EIS is deficient if alternatives to the project are not adequately set forth and discussed: A rigorous exploration and objective evaluation of the environmental impacts of all reasonable alternative actions, particularly those that might enhance environmental quality or avoid some or all of the adverse environmental effects, is essential. Sufficient analysis of such alternatives and their environmental benefits, costs and risks should accompany the proposed action through the agency review process in order not to foreclose prematurely options which might enhance environmental quality or have less detrimental effects. <i>Nelson v. Butz</i>, 377 F. Supp. 819, 823 (D. Minn. 1974), citing <i>Environmental Defense Fund, Inc. v. Froehlke</i>, 473 F.2d 346 (8th Cir. 1971). The final EIS must include a rigorous and objective exploration of the underground alternative, including but not limited to: • Characterization of the ore body depth, location and quality, including disclosure of the nature of resources that would not be extracted under either an underground or an open-pit method of extraction; • Independent analysis of the feasibility of underground mining, considering all costs of operation, maintenance, pollution prevention and remediation during mine operations, closure and post-closure under a range of reasonable assumptions regarding commodity pricing; • Detailed discussion of the ways in which an underground mining alternative would mitigate environmental impacts on wetlands, water quality, aquatic ecosystems, endangered species and emissions of particulates and hazardous air pollutants at the mine site as well as ways in which an underground mining alternative would affect the need for perpetual maintenance and treatment of water quality impacts post-closure.</p>	SE4,PD1,CR1
140	<p>Since the DEIS models minimize the risk of water quality exceedance, the need for additional mitigation of acid drainage and leachates is not readily apparent. However, in light of real world experience with drainage from sulfide mines, a robust and comprehensive range of additional mitigation measures to reduce water quality impairments is required in the EIS. The failure of the PolyMet NorthMet DEIS to consider even mitigation alternatives identified in the Final Scoping Decision undermines both the process and substance of environmental review. The suggestion in the DEIS that basic measures to protect water quality can be eliminated from consideration due to cost is inappropriate under applicable law.</p>	WR1E
141	<p>In the PolyMet NorthMet DEIS, several of the most obvious mitigation measures are rejected out of hand without analysis. Feasible and prudent alternatives that could protect public health and natural resources are prematurely eliminated or never considered.</p>	ALT8
142	<p>The final EIS must analyze in detail a robust and comprehensive range of mitigation measures to prevent waste rock, peat and overburden from contaminating groundwater and surface water and increasing mercury methylation at the mine site, including but not limited to the following: • Construction of a level and compacted platform or pad with no unsealed fractures of underlying rock surfaces prior to placement of either overburden or waste rock; • Treatment of all overburden and waste rock as reactive materials unless a protocol of small batch continuous testing has demonstrated that certain portions are non-reactive; • Use of liners under all waste rock (including Category 1 rock) stockpiles and overburden stockpiles at all times, whether or not some rock may be removed at a future date for subaqueous or off-site disposal. Such liner systems must have compacted soil liners at least three feet thick; • Use of enhanced liner systems with enhanced thicknesses and resistance to tearing and liners with leak detection systems; • Use of non-permeable liners and cover systems, including geomembranes, to prevent water infiltration on overburden and waste rock; • Collection of drainage from all waste rock and over burden facilities, including peat and unsaturated overburden stockpiles and treatment of such drainage at a wastewater treatment facility.</p>	WR1E,WR2D,WR3I

*Alphabetical by sender's first name*

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143	In the Final Scoping Decision, the Minnesota Department of Natural Resources (MDNR) and the U.S. Army Corps of Engineers (USACE) proposed an alternative to address the potential reactivity of the NorthMet tailings, suggesting that PolyMet develop a lined tailings storage facility at the existing LTVSMC to provide storage for five years of tailings while collecting data to determine if the tailings were reactive. If during this five-year period the tailings were determined to be non-reactive, an unlined tailings basin could be constructed and, if the tailings were ultimately determined to be reactive, Cells 1E and 2E would be lined for the entire life of the operation to prevent reactive runoff from seeping into the ground and surrounding environment, while any discharge would be monitored and, if necessary, directed to a wastewater treatment plant for appropriate treatment prior to release. The DEIS reflects that the January 2007 revised project description, arrived at with no public process or public review, removed the proposed lined tailings storage facility from consideration. (DEIS, p. 2-4). This striking change in scoping behind closed doors is inconsistent with public participation under both NEPA and MEPA.	PRO2
144	The failure to consider mitigation alternatives for the tailings basin or for disposal of hydrometallurgical waste is a fatal flaw in the DEIS. The final EIS must include mitigation of the risk of water pollution and failure of embankments at the tailings basin and the hydrometallurgical waste disposal facility, including at least the following: • Construction of the tailings basin and the hydrometallurgical waste disposal facility on a site or sites that are not already contaminated and seeping pollution into groundwater; • Construction of the tailings basin and the hydrometallurgical waste disposal facility on a site that has a secure geologic foundation, not peat, slimes or bog; • Construction of embankments for the tailings basin and the hydrometallurgical disposal facility out of inert and structurally sound material that will provide no additive sources of solute loadings, rather than LTVSMC coarse tailings; • Use of enhanced liners for the tailings basin, including geomembranes to reduce infiltration of any non-ponded area, if saturation is proposed to reduce acid and leachate formation; • Use of dewatering and thickening of tailings to reduce volume, drainage and stability concerns; • Construction of the hydrometallurgical residue disposal facility to prevent migration of constituents into groundwater or surface water, consistent with best practices for disposal of hazardous wastes, including double liners, a leak detection, collection and removal system, a cover system, a system for control of run-on and runoff, an inspection plan and treatment and disposal of any collected runoff and leachate.	ALT8,WR1E,WR2D
145	The final EIS should discuss mitigation measures for both the east pit and west pit that include the following: • Sealing of major fractures that would result in seepage to groundwater or the surficial aquifer from either pit. • Filling either or both pits with waste rock, overburden and non-reactive materials, capping the pit with a low-permeability cover to reduce infiltration and collecting and treating drainage. (Eliminating the east pit constructed wetland and/or the west pit lake). • In any alternative where a pit lake is constructed, providing specific in-pit water quality treatment and pumping of pit lake water through the wastewater treatment facility to reduce sulfates, mercury and other contaminants.	ALT8,WR3I,WR3L
146	The final EIS must include mitigation measures based on the premise that all water that will be discharged, seep or leak from the mine site or tailings basin should be treated so that it meets both groundwater and surface water quality standards and so that its release does not increase sulfate in wild rice waters. Mitigation alternatives that should be evaluated in the EIS include the following: • Construction of a wastewater treatment facility at the plant site as well as the mine site. • Capture, pumping and treatment in a WWTF of the following additional flows: seeps pumped from the tailing basin before either recycling or discharge to the Partridge River, seepage flowing south from the tailings basin to Second Creek, any overflow or standing waters from the east or west pit, seepage from waste rock stockpiles, including permanent stockpiles of Category 1 rock and overburden. • Providing sufficient WWTF capacity and treatment methodology to reduce sulfate through nanofiltration, filter mercury and achieve targets for all chemicals of concern that meet groundwater and surface water quality standards.	WR1E,WR3A,WR3I

*Alphabetical by sender's first name*

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147	The final EIS must include alternatives to prevent exceedance of health risk values from air pollution and to reduce emissions, including emissions from fugitive and mobile sources, to accomplish at least the following objectives: • Reduce both cancer and non-cancer inhalation risks to human health at the plant and the mine site below health risk values, including significantly reducing diesel emissions. • Reduce emissions of particulates, fine particulates and nitrogen oxides through analysis of best available control technology in all mining activities, mitigating acid deposition and ensuring compliance with all Air Quality Standards and Class II and Class I prevention of significant deterioration limits. • Reduce cumulative mercury emissions increase from the plant, in light of mercury emissions increases in the minerals processing sector and the local watershed area.	AQ4B
148	The final EIS must evaluate mitigation of these impacts including the following: • Replacement of wetlands directly and indirectly impacted by the project with a) wetlands sufficient to meet legal replacement standards without a deficit; b) wetlands that provide equivalent resources to tribes and are within Ceded Territories; c) wetlands that provide the same functionality within the St. Louis River and Lake Superior Basin watersheds. • Specific steps to preserve endangered plant species, particularly those where project activities may impact a substantial proportion of State populations; • Specific steps to preserve and replace, contemporaneous with any impairment, critical habitat and wildlife corridors for endangered species that will be impacted or disrupted by the NorthMet project and other cumulative foreseeable activities. If mitigation measures cannot be taken to avoid impacts, whether on water quality, air quality, human health, wetlands or plant and animal species, the EIS must identify resulting effects as irretrievable and irreversible commitments of resources. It must be emphasized that the purpose of an EIS under both federal and state law is to identify what mitigation would be needed to prevent a proposed federal or state action in permitting a project from resulting in pollution, impairment or destruction of human health and natural resources. If the economics of extraction of ores from the NorthMet deposit don't permit basic mitigation measures, such as building a lined tailings basin on a solid foundation, treating discharges to remove sulfates and heavy metals, mitigating water and air pollutants that impair human health and violate standards and replacing impacted wetlands, either PolyMet has created overly inflated expectations in its investors or the NorthMet site has an inadequately rich deposit to permit exploitation. Part of the function of a properly written EIS is to assist project proponents in making the calculation of whether they can "do the project right" and protect the environment. If investors cannot reduce their profits or commodity markets cannot support high enough metals prices to justify mining this deposit under environmentally protective conditions, this project should go no further.	WI5,WE3
149	• Cumulative impacts on air quality, water quality, mercury loading, Class I and Class II increments of current and foreseeable actions including but not limited to the Mesaba Energy power plant, Mesabi Nugget Phase II, the Keetac Expansion Project and the Essar Steel Expansion Project;	WR5A,AQ4B
150	• Cumulative impacts of the LTVSMC tailings and other contaminated areas of concern in considering both the instability of NorthMet tailings and hydrometallurgical residues and the impacts on water quality;	PD8
151	• Cumulative impacts to wetlands, tributaries, the Partridge and Embarrass Rivers, to Colby Lake and the Whitewater Reservoir considering current water quality concentrations and exceedances, groundwater drawdown or mounding due to multiple mine projects in aquifers impacted by historical and existing mine projects;	WR5A,WE5
152	• Cumulative impacts on the Partridge, Embarrass and St. Louis Rivers including all flow paths from contaminants and all loadings from nonpoint sources and air deposition;	WR4A,WR5A,AQ4B
153	• Cumulative impacts on St. Louis River and Lake Superior Basin watershed of groundwater and surface water quality degradation, loss of wetlands, deposition of air pollutants, changes in cover and hydrologic changes resulting from historic, current and reasonably foreseeable mining and minerals processing activities;	WR5A,WE5,AQ4B
154	• Cumulative impacts on mercury in fish tissue of mercury point and nonpoint discharge, sulfate discharge, air deposition of mercury and sulfur compounds, hydrologic changes, peat disruption and stockpiling from the NorthMet project and historical, current and reasonably foreseeable actions;	WR5A,WR5C,FM3,AQ4B,

*Alphabetical by sender's first name*

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155	• Cumulative impacts to wild rice from sulfate throughout the watershed and from hydrologic changes;	WR5A,WR5C
156	Cumulative impacts of loss of wetlands and wetland functionality throughout the St. Louis River watershed, the Lake Superior basin and the Ceded Territories, as well as in the Partridge River watershed;	WE5,CR1
157	Climate change implications of the proposed project, considering disruption of extensive areas of peat;	WE2
158	Cumulative impacts to plant and animal species that are not listed as threatened or endangered, including species such as moose that are important to tribal and non-tribal members would likely be impacted by mining projects;	WI5,G3,CR1,CR4
159	Cumulative effects on fish and macroinvertebrates, including habitat degradation and local emissions from deposition of mercury, sulfur dioxide, nitrogen oxides and particulates, and discharge to waters of sulfates and metals including mercury, nickel copper and cobalt;	WR5C,FM3,AQ4B
160	Cumulative impacts on wildlife corridors and habitat fragmentation for endangered species including historical, current and reasonably foreseeable development, including mining and minerals processing;	WI5
161	Cumulative impacts on human health, deterioration of air quality and violation of air quality standards of all NorthMet air emissions sources, including mobile source and fugitive air emissions of particulates, fine particulates, criteria pollutants and hazardous air pollutants;	AQ4B
162	Cumulative effects of noise, vibration, and visual impacts on members of the public, including tribal members;	EOO,N3
163	Cumulative environmental justice impacts of loss of usufructuary rights to Ceded Territory in the Superior National Forest, impacts on wetlands in Ceded Territory, mercury increases in fish, impairment of wild rice and wetlands in combination with other projects impacting tribal rights and resources;	SE2,G3,CR1,CR4
164	Cumulative impacts on wetlands, wildlife, water quality and social and economic concerns should be assessed for however long impacts would occur. In the case of wetlands, water quality and wildlife, impacts could occur for hundreds or thousands of years or could be permanent.	WR5A,WR5C,WI5,WE5
165	Prior to the final EIS, in addition to addressing flaws in resource-specific areas, it is strongly recommended that the DEIS reconsider the purpose of cumulative impacts analysis. The DEIS appears to conduct cumulative impacts analysis from the perspective of the project proponent. Cumulative actions are used to justify project pollution and suggest that prior or possible reductions in pollution by other sources could prevent the project from having a significant impact. (See DEIS, p. 4.14-4, discussing SO <sub>2</sub> and NO <sub>2</sub> deposition) or to assert that potential harm to the environment may be someone else's fault, for which another source is "culpable." (See DEIS, p. 4.1-120, 4.1-161, discussing impacts on Embarrass River water quality).	G8C
166	For all the reasons stated previously in these comments, the PolyMet NorthMet draft environmental impact statement is inadequate and insufficient. It appears to have been written to justify and promote the PolyMet NorthMet project, rather than to assess its environmental impacts and the cumulative impacts of this proposed project and other regional mining and minerals processing on the Superior National Forest, the Lake Superior watershed, human health, tribal rights and natural resources. Federal law specifically prohibits the use of an EIS to promote a project, "Environmental impact statements shall serve as the means of assessing the environmental impact of proposed agency actions, rather than justifying decisions already made." (40 CF.R. §1502.2 (g))	G10
167	The final EIS for the PolyMet NorthMet project must accurately and objectively apply the law, analyze the data, make appropriate modeling assumptions and assess cumulative impacts to determine the degree to which the project would result in violation of standards and regulations, pollution impairment and destruction of the environment and irreversible commitment and loss of natural resources. Any lesser analysis is legally as well as scientifically and morally insufficient.	G10
353	This letter is submitted on behalf of WaterLegacy, an organization founded to protect Minnesota water resources and the communities who depend on them. WaterLegacy has concerns about the PolyMet copper sulfide-mining project, the adequacy of the draft environmental impact statement DEIS and the adequacy of the current public meeting process.	G10

*Alphabetical by sender's first name*

**Comment ID    Comment Text**

**Theme Codes**

**Sender Last Name:**    Macho

**Submission ID:** 1516

1834 DO NOT PASS! KEEP OUR MINNESOTA WATERS PURE. THERE IS NO SAFE WAY TO MINE, OUR WATERS WILL BE RUINED. DO NOT LET IS HAPPEN!    EOO,G7B

**Sender Last Name:**    Mackey

**Submission ID:** 3532

3794 Mr Arkley, I would like to express my current opposition to the Poly Met copper mining project. The risks involved in non ferrous mining of the type proposed and evaluated by the DEIS are too great. Northeastern Minnesota is unique in its pristine environment. We draw our drinking water from the lakes and aquifers with no fear of chemical contamination. How we move forward with this project will be judged and debated for generations. Has there ever been a sulfide mining project that did not contaminate surrounding watersheds? How can we justify the contribution of more "greenhouse gasses"? How can we answer the generations to come when they ask us how we could have offered the pristine water up for sale? The questions are endless. As long time residents of the the rural Ely area, we are aware of the need for economic stability and growth. The possibility of 400 jobs is enticing to say the least, however, without a guarantee of safety for our drinking water and air quality the price of those jobs is just too high. Provide examples of safe, successful mining operations. Our neighboring state of Wisconsin has determined that the price of sulfide mining is too high and called a moratorium on this type of operation. We need to follow their example. Thank you, Tobi Mackey

EOO,G2B,G7A

**Sender Last Name:**    Madrid

**Submission ID:** 3200

741 Wait a minute!! 60 days isn't nearly enough time to adequately review and judge the contents of the this EIS. Please give more time: at least an additional 45 days for review and comments; please add more public meetings to the current schedule so that more people will be able to participate; and please ensure the all public meetings be open, and allow for the public to speak and weigh in on the proposed plan. Discussion is vital to ensuring that all sides of the proposal are examined carefully, and the consequences of this proposal, both intended and unintended, are considered. Thank you, Sarah Madrid

PRO6

**Sender Last Name:**    Madson

**Submission ID:** 1185

1300 Hello, I am very concerned about the proposed mining – the acid min drainage will jeopardize the integrity of Minnesota’s wares, particularly the BWCAW. These mines should not be permitted in order to ensure environmental & economic well being for future generations.

G7B

1411 It would really mean a lot to me if you took the time to read this. Please accept these comments on the PolyMet Mining Corp. NorthMet mining project Draft Environmental Impact Statement. I have serious concerns about the safety of this project and its potential impacts on Minnesota’s natural resources.

EOO,G2C

**Sender Last Name:**    Magliulo

**Submission ID:** 35

1 The DEIS is premature. The DEIS should not have been released until the required land exchange between U.S. Forest Service and public PolyMet has been completed. The DEIS is required to examine all potential environmental impacts associated with the project. The land exchange may well introduce substantial impacts and these may, in turn, interact with other aspects of the project which should be examined in the DEIS.

WR1E,PD1,GT2



*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
2	The DEIS is incomplete. 3(a): The DEIS does not address the need for financial assurance or identify the project components for which financial assurance is necessary. Inadequate financial assurance can have profound environmental impacts extending over centuries. Financial assurance should be addressed in the DEIS rather than postponed to permitting decisions for which different regulations may apply. As quoted by the Tribal Cooperating Agencies, quote, "New national rules for financial assurance are under development by the EPA because, given the history of adverse environmental effects resulting from some hard-rock mines and the expenditure of public funds used in some cases to address environmental problems -- problems caused by mining, EPA believes it is necessary to analyze these factors in the DEIS." And this is from the insideEPA.com, Tuesday, August 25th, 2009. The DEIS fails to identify the post-closure treatment, such as wastewater, at the mine site and may have to continue for centuries. Financial assurance for such eventualities must be addressed in the DEIS.	ALT3,PD4,GT2
3	Number 1: The process for securing public comments, including the hearings of December 9th and 10th, is fundamentally flawed. 1(a): The comment period should be extended to at least 120 days as recommended by the EPA, among others. The DEIS is 700-plus pages and supporting documents run to several thousand additional pages. The intent of public comments is to secure widespread citizen input. Citizens' groups such as NMW are fairly limited in submitting comments by the enormous burden on volunteers required to respond to thousands of pages of technical presentation.	ALT3,PRO6,PD3,PD4
4	The process for obtaining public comments at the hearing is contrary to EPA intentions. Comments are intended to be public. Citizens should have the opportunity to hear and to learn from the comments made by others in a public forum and to have their own views challenged by others. The process adopted by DNR/USACE precludes these opportunities. Additional hearings should be scheduled and should include the opportunity to present views in a public forum and to challenge the views of others as part of the process.	PRO6,G9
51	1) The process for securing public comments, including the hearings of December 9 and 10, is fundamentally flawed. 1a. The comment period should be extended to at least 120 days, as recommended by EPA among others. The DEIS is 700+ pages and supporting documents run to several thousand additional pages. The intent of public comments is to secure widespread citizen input. Citizen groups such as NMW are unfairly limited in submitting comments by the enormous burden on volunteers required to respond to thousands of pages of technical presentation.	PRO6
52	1b. The process for obtaining public comments at the hearings is contrary to EPA intentions. Comments are intended to be public. Citizens should have the opportunity to hear and to learn from the comments made by others in a public forum, and to have their own views challenged by others. The process adopted by DNR/USACE precludes these opportunities. Additional hearings should be scheduled and should include the opportunity to present views in a public forum and to challenge the views of others as part of the process.	PRO6
53	2) The DEIS is premature. The DEIS should not have been released until the required land exchange between U.S. Forest Service and PolyMet has been completed. The DEIS is required to examine all potential environmental impacts associated with the Project. The land exchange may well introduce substantial impacts and these may in turn interact with other aspects of the Project which should be examined in the DEIS.	PRO4
54	3) The DEIS is incomplete. 3a. The DEIS does not address the need for financial assurance or identify the project components for which financial assurance is necessary. Inadequate financial assurance can have profound environmental impacts, extending over centuries. Financial assurance should be addressed in the DEIS rather than postponed to permitting decisions for which different regulations may apply. As quoted by the tribal cooperating agencies, "New national rules for financial assurance are under development by EPA, because 'Given the history of adverse environmental effects resulting from some hard rock mines, and the expenditure of public funds used in some cases to address environmental problems caused by mining, EPA believes it is necessary to analyze these factors in the DEIS.'" (from InsideEPA.com, Tuesday, August 25, 2009)." The DEIS fails to identify that post closure treatments such as waste water at the mine site may have to continue for centuries. Financial assurance for such eventualities must be addressed in the DEIS.	PRO10
55	3b. The alternative of an underground mine was not examined in sufficient detail. The alternative is economically feasible. Profit margin should not be a consideration in examining the alternative in detail.	PRO2

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
56	3c. The DEIS fails to adequately address a number of potential environmental impacts. These include the likelihood of structural failure at the tailings facility, the lack of structural integrity information for the proposed stockpiles, and the need for perpetual water treatment to avoid contamination to surface and groundwater resources. Structural stability of the tailings basin has been a serious concern since the Polymet project was first proposed. Three different tailings basin designs that have been presented in various draft documents. Reviews of these designs have expressed serious concerns with both the short-term and the long-term stability of the facility. A comprehensive analysis of the structural integrity of the latest tailings basin design must be included in the DEIS.	PRO3
57	3d. The DEIS fails to address existing environmental problems at the mine and processing sites. Problems at the LTVSMC Tailings Basin must be adequately addressed through PolyMet's assumption of remedial liabilities under the VIC program, and mitigation measures should be included and discussed in the DEIS.	PRO3
58	4) Data for analysis are often insufficient or absent. Analytic techniques are used inappropriately. Models are used inappropriately in the Project and rely on invalid data and assumptions. The MODFLOW model was developed to assess rates of mine pit inflow. Reported results are invalid for areas outside the mine pit footprint. The XP-SWMM model is based on stream gage data that is 17 miles from the proposed project and is 20 years old. DEIS modeling forecasts that the more PolyMet seepage released from the tailings basins, the better the water quality will be for Al, Mn and Fe in the Embarrass R iver. This incongruous result occurs probably because modeling at the basins does not appropriately account for leaching from the LTVSMC tailings when predicting future seepage quality.	PRO3
<b>Sender Last Name:</b> Mahlum <b>Submission ID:</b> 2581		
450	- need for better information on existing pollution, the nature of wetlands, endangered species, and other resources that would be affected by the project.	WR1E,FM1,AQ4
690	- Analysis of all of the impacts (air and water) of increased mercury in fish from the PolyMet project and other nearby pollution sources.	WI5,WE8
1147	The existing inadequate showing by PolyMet Company that their waste rock and tailings piles will not collapse and dump uncontrolled pollution into nearby waters, causing potentially catastrophic water pollution.	GT2
2221	The inadequate information in the DEIS regarding the scope and extent of potential pollution, including detailed information regarding water flow from the affected areas.	WR1A
2416	As the U.S. EPA suggested, making sure that financial assurances for the public are included in the EIS long before any permitting process gets underway.	PD4
2417	- absence of a detailed reclamation plan which is tied to the required financial assurances. - unacceptable prediction in the existing DEIS that water pollution from the proposed mine could possibly last 2,000 years	WR3I,PD3
2418	The failure to analyze the land that is going to be exchanged for Superior National Forest land to make this project possible.	PD1
3139	Sulfide mining would be new to Minnesota. In other locations, sulfide mining has resulted in acid mine drainage causing extensive and expensive damage to water quality and the environment. Often, taxpayers have been stuck with the costs. The PolyMet project in Minnesota could degrade water quality, increase mercury in fish, destroy wetlands and peat bogs, fragment the habitat of endangered species, increase air pollution that results in regional haze and create a risk of perpetual pollution without adequate financial assurance that the public won't end up paying the costs.	G2C,G4A,G7A
<b>Sender Last Name:</b> Majerle <b>Submission ID:</b> 269		

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
283	I am writing to you in support of the PolyMet Mining project. I am the Chapter Manger for the Twin Ports Arrowhead Chapter ofNECA which represents union electrical contractors in northern Minnesota who employ union employees. This project will help the Iron Range local economy by providing jobs at a time when they are needed the most. Not only will this project provide jobs for the construction workers on the project but it will hopefully allow people in the Hoyt Lakes and surrounding area's a chance to regain employment lost from the shutdown of LTV. A project to of this size will also provide significant tax dollars on a local and state level. It is my understanding that this project will be done under the strictest of environmental regulations to protect both air, water and land. The PolyMet project will be reusing not only the existing site but the current existing infrastructure as well as minimizing any disturbance of wetlands to help protect the environment. I support the construction of the PolyMet project, and I would hope that DNR would look at supporting this project as well.	EOO
<b>Sender Last Name:</b> Makannak		<b>Submission ID:</b> 1159
1274	PolyMet's plans for sulfide mining in the region from Hoyt Lakes to the edge of the Boundary Waters Canoe Area is a lose-lose situations for this irreplaceable region. Even if PolyMet does guarantee, before the mining begins, enough money for a damage deposit to cover clean-up costs when they are finished, will their financial assurance be sufficient to restore the area to its previous pristine state? My most serious concern is can the area be restored to its pristine state ever again even if the financing is available?	PD3,G4A
<b>Sender Last Name:</b> Maki		<b>Submission ID:</b> 231
238	Give Polymet their Permit. We can go on and on letting people make rules on the fly. They have met the requirements existing on the books. The government agencies have done their job and know way more then "Joe Public" knows about the project. They have followed "due process" and deserve to be given their permits. Thank you,	G6
271	As a resident and business owner in Hibbing, MN, I am writing to express my support for the Polymet Mining Corporation project. As a financial advisor in an area that has been hit hard in the past 18 months by the decline in the steel industry, I would be remiss if I did not reach out at this time to make known the importance of this project to our local region. As a business owner in the financial sector, I continually strive to run my business in a manner that supports the local economy. Without any solicitation whatsoever, my clients have continually requested that portions of their dollars be invested in Polymet Mining Corporation (PLM). It is nothing less than inspirational to see the hope and support that has been generated by this project so far. It is my understanding that Polymet will produce the copper, nickel, platinum, gold and cobalt in an environmentally sound manner and generate significant economic activity in this depressed part of Minnesota. In addition, it will provide millions of dollars in local and state taxes that will, in turn, give a boost to our communities and educational systems. It is my request that you make every effort to see the Polymet Mining Corporation project through to completion.	EOO
290	We are writing, as Iron Range business owners, to support PolyMet's mining and production efforts. The lengthily environmental review process that PolyMet has gone through, with both the Federal and State regulatory agencies has not only been thorough but offers the potential environmental impact and how to mitigate it. PolyMet has proved that they will mine and produce copper, nickel, platinum, palladium, gold and cobalt in an environmentally sound way. Income generation to the potential 400 employees plus hundreds of spinoff jobs will not only lift up the depressed state of the Iron Range but it will provide millions of dollars in local and state taxes. All the affected areas need this type of financial boost in order to support the communities and educations systems. It is very clear that the people of PolyMet are Minnesotans committed to living, playing and protecting our state's environment. We cannot ask for a better business model in our state, at this time, at this place and in our state's future.	EOO

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
295	We are writing, as Iron Range business owners, to support PolyMet's mining and production efforts. The lengthily environmental review process that PolyMet has gone through, with both the Federal and State regulatory agencies has not only been thorough but offers the potential environmental impact and how to mitigate it. PolyMet has proved that they will mine and produce copper, nickel, platinum, palladium, gold and cobalt in an environmentally sound way. Income generation to the potential 400 employees plus hundreds of spinoff jobs will not only lift up the depressed state of the Iron Range but it will provide millions of dollars in local and state taxes. All the affected areas need this type of financial boost in order to support the communities and educations systems. It is very clear that the people of PolyMet are Minnesotans committed to living, playing and protecting our state's environment. We cannot ask for a better business model in our state, at this time, at this place and in our state's future.	EOO
<b>Sender Last Name:</b> Malinchoc		<b>Submission ID:</b> 1662
2110	I have written to Senators Klobuchar and Franken expressing my concern, please contact them for additional comment. As a resident of SE MN, which has no lakes, my family cherishes the Boundary Waters and requests that the tourism industry we support not become decimated by the quest to employ a few hundred Minnesotans at the expense of an entire industry, and one of Minnesota's greatest natural resources.	G11,G15
<b>Sender Last Name:</b> Mangold		<b>Submission ID:</b> 3458
765	My opinion is that Polymet should be granted a permit to mine given the following considerations: 1.Adequate monies need to be in a government controlled fund to address any environmental issues that arise during operation that requires clean up and/or correction and any clean up issues that arise after operation. Adequate profits will be made by the corporate owners to fund this fund. 2.Polymet should be held to very high environmental standards. "Raise the bar" by the required application of the current and new technology. 3.The water runoff and any discharge water from operations must be consistently well within acceptable levels that do not impact downstream. It must be essential that the quality of water that comes out must be as good as the quality that went in. 4.The appropriate government agencies must uphold the environmental requirements and not "cave in" to corporate pressure. They have a responsibility to the public. There will be adequate profits made by the corporate owners to fund any issues properly. 5.Any issues with methyl mercury and any water quality discharge issues that are currently present from operations of LTV/Cleveland Cliffs should be dealt with by these entities and they must be held to very high standards and the government agencies must not "cave in" to pressure. Cleveland Cliffs has already made millions of dollars of profit from the purchase of the LTV operation.	EOO,PRO1,PRO3,G4A,G5,
<b>Sender Last Name:</b> Mann		<b>Submission ID:</b> 1177
1292	What I would like to see is the project to be evaluated by the facts of today, not stuff that happened 30 years ago. Everyone that is born makes a impact on the world. The job is to minimize that impact while going forward.	G8B
<b>Sender Last Name:</b> Marchel		<b>Submission ID:</b> 2460
2962	It only takes one bad decision to ruin an entire ecosystem, one that our children's children may never get to exsperince to decide for themselves what they like. I have a great concern that the very essence of minnesota may one day bestripped beneath our feet. The soils we know and love will change foreve, no need to speed up the process. ... and all this great stuff..Please accept these comments on the PolyMet Mining Corp. NorthMet mining project Draft Environmental Impact Statement. I have serious concerns about the safety of this project and its potential impacts on Minnesota's natural resources.	EOO,G2

*Alphabetical by sender's first name*

**Comment ID    Comment Text**

**Theme Codes**

**Sender Last Name:**    Marchetti

**Submission ID:** 1365

1596 Sheet Metal Workers' Local Union #10 supports the Polmet Project in Northeastern Minnesota because it will create quality jobs and boost the Iron Range economy. The \$600 million project will require 1.5 million hours by 300 construction workers over two years. The economic activity associated with the operation of the plant will create 400 full-time jobs and an additional 500 spin-off jobs in the region as money circulates through our communities. In particular, the ongoing maintenance of the plant will regularly employ many local people in the construction trades. Additionally, the plant will generate significant property tax revenue for the county. Investing billions of private money on the Iron Range will provide big economic benefits for regional households and governments. Rather than outsourcing quality jobs to other states and countries with weak environmental regulations, it is better to construct this plant that will serve Minnesota in Minnesota. Therefore Sheet Metal Workers' Local Union # 10 and other unions in the state support the construction of the Polymet Copper Nickel Mining Project, which will provide significant environmental improvements. With all of the employment and economic benefits associated with the Polymet Project, Sheet Metal Workers' Local Union # 10 strongly supports approval of the Polymet Project.

EOO

**Sender Last Name:**    Marek

**Submission ID:** 3555

3818 As you walk through day to day life you see common folks lost and hopeless, many without a job. This is the what has happened thanks to the current economic conditions. Jobs are what this country needs more than anything else, more than stimulus money, more than another unemployment extension, more than a free hand out. Allowing the PolyMet Mining Co. to move forward with their Hoyt Lakes construction project can create 300-400 new full time jobs, 500 spin off jobs in related surrounding industries, and 1000-1500 part time jobs during construction. Most of these union jobs. It are these types of jobs that get an economy moving and revive a families hope. PolyMet Mining Co. is truly a steward of our environment. When this project was first being considered the number one item on their list was taking care of the environment, and hasn't changed today. I have spoken to members of the Polymet team and thier awareness of their place in the environment is keen. They have worked with federal and state regulatory agencies and it was found that they can meet and even exceed all environmental impact issues. Many of the people at Polymet are from the area and live their still, so their commitment to the environment is first hand and tangible. Is this letter self serving in that I am trying to get a contract from this upcoming project.....Yes it is. Yes I am trying to put of few more of my people to work for awhile. Yes I am hoping this will take a 1000 people off the unemployment rolls and onto the taxpaying rolls. Yes I am hoping that my company and the many, many more that will build this facility can make a few dollars to keep our struggling business going a little longer and keep even more on the taxpaying rolls. This is about creating jobs, not killing them. It is about giving people and families hope when they have very little to find. It is about being a steward to the environment right now and in the long term. It is about doing the right thing for many not the few. It is about much more than building this facility, and I hope that powers at be in the state of Minnesota understand that and do the right thing.

EOO

**Sender Last Name:**    Mark

**Submission ID:** 2569

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
3129	Hi, my name is Jeff Mark, and I have the good fortune to have property and a cabin on Wilson Lake. I have done much reading on the mining issue coming up for consideration in order to educate myself on the subject. Situations like this are very “charged” as both sides of the story are discussed. We need to ask ourselves why permits for this type of mining have been declined by our neighbors to the east (Wisconsin), because they felt it would do “hundreds of years worth of environmental damage for a few years worth of profit”. Also, companies like this have a history of leaving the cost for clean up to be borne by the states, once they have extracted their wealth and the mine is no longer profitable. Minnesotans are just as smart as Wisconsinites, after all! I am opposed to issuing a permit for this operation. As I told my fellow Excelsior Park Board members, when a company wanted to construct a private project on public land, “just because a thing “can” be done, does not mean it “should” be done. Thank you for your help on this matter, Jeff	EOO,G4A
<b>Sender Last Name:</b> Markle		<b>Submission ID:</b> 3493
1121	total loss of 1,454 acres of federally designated critical habitat for two endangered species known to be in the vicinity of the mine site – the Canada lynx and the gray wolf. Finally, cumulative impacts must address the loss of revenue to the Boundary Waters Canoe Area	WI1
1326	tailings basin for the disposal of its tailings and toxic materials – but that the basin already has stability issues making it unsafe. Any failure of this basin to hold its contents would result in long-lasting and serious contamination. PolyMet should complete a stability analysis of the basin and devise an acceptable design before being able to proceed with this project. Further, the PolyMet NorthMet project will result in	GT2
3240	In addition, the DEIS predicts contaminated waters to be discharged from the mine site into the Partridge River after the mine’s closure, as well as tailing’s basin discharges high in sulfate concentrations. High sulfates can turn mercury into forms that make fish dangerous to consume. It is unacceptable to proceed with a mine that already predicts these kinds of pollution outcomes. Wisconsin has already banned sulfide mining due to the unacceptable environmental risk it presents. It is also my understanding that PolyMet proposes to use an existing mine	EOO,WR4B,FM1
3690	Water quality impacts remains a top concern. How is it acceptable to allow for up to 2,000 years of environmental impact for the short term gain of one company? Who will pay for the long term treatment required? PolyMet has few assets and little financial history. The DEIS fails to address where the funding will come from to pay for post-closure treatment, monitoring and maintenance. As a result, it seems likely that Minnesota taxpayers may have to pay millions of dollars to clean up after PolyMet has gone.	PD2,PD4
3767	Wilderness and Superior National Forest tourist industry as part of a sulfide mining district. As someone who frequently travels to the arrowhead region of Minnesota for the pristine wilderness and serenity it offers, I will very quickly take my money elsewhere if mining operations lead to widespread water contamination and loud drilling noises in the distance. While I fully understand the economic necessity of mining, and need for natural resources in our society, we need to be responsible in our decisions. Certain types of mines should simply not be permitted in certain places where the risk to the environment is too great. This appears to be the case for sulfide mining in northern Minnesota. The PolyMet DEIS describes significant environmental issues associated with this proposed mine. These issues should be resolved before this mine is approved by the Minnesota Department of Natural Resources and the U.S. Army Corps of Engineers. Sincerely, Tricia Markle	G11
<b>Sender Last Name:</b> Markward		<b>Submission ID:</b> 2136

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
2527	I support the Polymet project. I believe they have addressed all the environmental problems and have proposed proper solutions to those problems. All the criticism I have read about this project are based on problems that occurred in the past when there was little or no restrictions on mining. Technology and restrictions have improved on everything. I believe that the DNR has installed restrictions to prevent the improper operations of the past. I am reading comments about stopping all mining. A lot of people have very short memories of what was a very significant part the mining played in the winning of the second war. In addition, if we put all our dependence on other countries for our supplies we are in deep trouble. Northeastern Minnesota is dependent on the mining industry for its economy. We have tried other industries and they do not survive. I worked for Erie/LTV Mining companies for 35 years which supported my family and the economy of our town and area. I have a cabin just outside of the BWCA and have not seen any air pollution except for the controlled burns in the BWCA. I was involved in some environmental projects at the Dunka mine to resolve some environmental problems after the mining and stockpiling were done. A lot of work was done and was very effective. The point is that now everyone is aware of the problems before the project begins and the technology and restrictions are in place that will prevent the environmental problems. Let's get this project going. We don't need anymore delays. Everyone had an equal chance to express their opinions. I question whether many of the opposing opinions spent any time reading the EIS or Polymet's plans.	G1
3823	I support the Polymet project. I believe the Polymet has done a good job in addressing all environmental problems. I also believe that the DNR has done a very good job seeing that all environmental problems have been addressed. I also question why people that do not live in this area feel that they have so much say what goes on here. They have employment elsewhere but want to eliminate us from their playground. I am still reading letters to the editors from people that have not studied the Polymet proposal or the DNR regulations. Please bring this long debate to an end and let Polymet get started. Rules, regulations, and science are far better than 50 years ago.	EOO,G10
<b>Sender Last Name:</b> Markwardt <b>Submission ID:</b> 364		
404	I am in favor of Polymet getting their operating permit. I think that Polymet has done an extensive job in assuring that their project can be done in an environmentally safe way. In addition, the DNR has set up extremely tight regulations to see that the project is done environmentally correct. Everyone that had any comment had an opportunity to do so at the schedule meetings and there should not be anymore delays for issuing a decision. The anti-parties trying to delay the process in hopes the company will decide to quit. We need the jobs in this area and the state could really use the tax money that will be made.	EOO
<b>Sender Last Name:</b> Martin <b>Submission ID:</b> 134		
123	My name is Curt Martin, I live, work and play in northeast Minnesota and, you know, our economy really needs the jobs right now. I believe that it would help Minnesota greatly to have a mine like this come into our area and it looks like they did their homework on their environmental process that they've been going through and, like I said, it's going to help the economy and that's what we need right now in Minnesota is the jobs, we're really hurting for that. So that's pretty much what I've got to say and I support the mine wholeheartedly.	EOO,G6
3487	Please vote NO to Polymet Mine There is more than enough info on this subject to know that it will have a large impact on the BWCA This area is great just the way it is. Don't destroy it for the next generation Thanks for your help	EOO
<b>Sender Last Name:</b> Marty <b>Submission ID:</b> 1991		
1582	The question of where the funding will come from for post-closure treatment, monitoring and maintenance has not not been adequately addressed, and Minnesota taxpayers may have to pay millions of dollars for clean up after Polymet has gone.	PD3,PD4

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
2479	Please accept these comments on the PolyMet Mining Corp. NorthMet mining project Draft Environmental Impact Statement. I have grave concerns about this project's potential impacts on Minnesota's natural resources and public health. Water quality, loss of wetlands, and harmful affects on wildlife are all important to consider. Just as important is the financial assurance that needs to be provided to ensure post-closure reclamation of the PolyMet NorthMet mine and plant. Sulfide mining places huge burdens on taxpayers. These mines often require long-term or perpetual pollution and treatment. PolyMet has few assets or financial history.	G2C,G4A,G7
2480	Our clean water, wildlands, and public health are valuable resources, and all of us must be sure we understand the sacrifice we are being asked to make for a Canadian company's profits. The PolyMet DEIS describes serious environmental issues associated with this proposed mine. These issues should be addressed and resolved before this mine is approved by the U.S. Army Corps of Engineers and the Minnesota Department of Natural Resources.	G2
<b>Sender Last Name:</b> Masnado		<b>Submission ID:</b> 2546
2184	This example leads to my comment regarding the Draft EIS. I perused the document and did not see any indication on what actual monitoring requirements would be specified in a NPDES discharge permit or a mining permit. Nor did I see any indication that the	WR1A
2185	permits issued should require frequent monitoring for the metals in question. Specifically; arsenic, cobalt, copper, and nickel should be measured regularly from any direct discharge to nearby surface waters. A frequency of weekly would not be out of the question during mine operation. Similarly, groundwater monitoring wells located adjacent to surface water near any seepage pits or tailing containment ponds should be monitored monthly during operation and following closure of the site. As evidenced by the Ladysmith operation described above, these requirements should be continued - albeit at a reduced frequency - well after the mining operation ceases to extract and/or process ore. This is to determine whether or not the chemistry changes that occur over time create any situations where the pollutant concentrations in surface waters may increase above assumed values.	EOO,WR1A
2376	permittee would be required to set aside a specified amount of money to be used in if remediation of an unforeseen environmental issue is discovered at a later date - even after the site may be reclaimed following completion of ore extraction. At a minimum, any	PD4
<b>Sender Last Name:</b> Masucci		<b>Submission ID:</b> 174
165	I am in total support of the Polymet Project, it would boost the economy we need in Northern MN, Polymet has demonstrated it can produce these critical metals while following MN's strict environmental requirements to protect air, water and land. Polymet's planned mine layout minimizes impact to wetlands.	EOO,G5,G7
<b>Sender Last Name:</b> Mathias		<b>Submission ID:</b> 2188
2594	MIKEL MATHIAS: Well, I believe that this is a really good idea. The reason that I think it's a good idea is basically we need to keep our jobs in our country. And if we're not -- we got to start producing more in the United States to help with the economy. And if we don't do that, we're just -- we're spending our money and borrowing against the rest of the world. And if we keep a project like this in the United States, I believe that we can govern the pollution control side of it better than if it's overseas. Everybody knows that the world is just one place; and if it's mined here, overseas, it's going to be mined somewhere. If -- how do I want to say this? If it's mined elsewhere, somebody else is going to be making the money. And there is only so much resource for everybody, and I think that we can manage it better. And as far as the work goes, I know that the boilermakers, most of our work nowadays isn't Blaine Steno Atkinson-Baker pt E just coal burning boilers. It's a lot of pollution control, and it's becoming a very prime target. It's an important topic. And that's about it. That's all I have to say.	G1,G2



*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
2595	BRIAN JOHNSON: My name is Brian Johnson. I'm a pipefitter from Duluth. I think the PolyMet project would be good for economic development in the Iron Range and in the whole state and the country. I think their process is environmentally friendly, and they've done research necessary to -- I had it all in my head. I'm all for protecting the environment just as much as anybody else, and I think that PolyMet has taken the right precautions to do so. I enjoy outdoor activities like hunting, fishing, and snowmobiling. I want to preserve the outdoors, but we need to start getting some good paying jobs in the area for economic development. And it would also be a source of these metals in the U.S. instead of importing them, which would benefit us. I think that's all I have to say.	EOO,G2
<b>Sender Last Name:</b> Mathur		<b>Submission ID:</b> 3698
20004	The baseline data for both the Mine Site and the Tailings Basin are inadequate. The baseline data for both the mine site and the tailings basin are sparse. A comparison of hydrologic data that was collected for two other projects in the region (GLIFWC letter to Jon Ahlness and Stuart Arkley, February 6,2009) demonstrates that the PolyMet project is data-poor in the area of basic hydrology.	WR1E
20004	The economic reality of Northeastern Minnesota clearly shows that the stable source of the economic engine is from non-lining jobs. According to Tom Powers from the University of Montana Economics Department, mining only represents 5% of the total personal income in Minnesota's iron range counties. What attracted me and my wife to the Ely area was the small town atmosphere embodied with clean air and water with abounding wild life, fishing, recreation, and scenic beauty. We invested a significant portion of our life savings into a very nice lake home on White Iron Lake. Even Lake County thinks it is nice. We pay more in taxes than our similarly valued home in Hennepin County, even though we are provided very little services from these taxes. We believe that we can reasonably expect Lake County and other governmental agencies to take all measures that ensure our lake quality remains high and our property values are protected. According to Tom Powers, economic rationality requires that mineral deposits be left in the ground undeveloped. Especially, since according to the Polymet data only 1 to 5 percent of the ore contains the non-ferrous metals, relegating the 95 to 99 percent not used to the tailings area! From my perspective, the environmental risk is one no rational person would take. Please review Comparison of Predicted and Actual Water Quality at Hardrock Mines: The reliability o/predictions in Environmental Impact Statements and Predicting Water Quality at Hardrock Mines: Methods and Models, Uncertainties, and State-of-the-Art, Ann Maest and Jim Kuipers. The results of this study are: • 100 percent of sulfide mines predicted compliance with water quality standards before operations began; 76 percent of mines, studied in detail, exceeded water quality standards due to mining activity; Mitigation measures predicted to prevent water quality exceedances failed at 64 percent of the mines studied in detail. Other environmentally conscious companies embarked upon "safe" sulfide mining projects with every intention of being environmentally friendly. However, the facts are that three out four ended up be polluters. Statistically, that means that the Polymet project has a 75% chance of polluting! That risk is untenable and one that should not be taken. My specific comments on the Polymet DEIS are attached. My education is a Masters of Science in Electrical Engineering and my background is a lifetime in the high-tech industry developing sophisticated products based upon technical standards. I am accustomed to reading technical documents and believe that there some significant shortcomings in the Polymet DEIS which I have included in my comments.	G7B
20004	Given the fact that a favorable disposition of the DEIS Northmet 2009 for the mining industry by decision-makers will have enormous "downstream" implications for human development and hard-rock mining in the Arrowhead of Minnesota and elsewhere, attention must be given to ensuring that the public has full and transparent understanding of the scientific, legal, economic, and social/ethical implications of the proposed project. The present DEIS Northmet does not meet this expectation. In its present form DEIS Northmet 2009 should not be approved.	PRO3
20004	The use of flow data on the Partridge River from a site twenty years and seventeen miles distant from the proposed project does not provide sufficient information to allow a full assessment of the hydrologic and environmental impacts of the project on the Partridge River. Additional data must be collected before the DEIS is deemed adequate.	WR3J

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
20004	Thus, the stated goal of 4.14 Cumulative Effects to “summarize the resource-specific cumulative effects analyses and provide an overall, synergistic analysis of the system-level cumulative effects resulting from the combined influence of the resource-specific effects to the regional airshed, watershed, and ecoregion surrounding the Project” has not been accomplished.	G9
20004	Finally, one must ask the question: What are the trends in the Arrowhead of MN for the overall quality of air; water; loss of habitat; threatened species; forest fragmentation? For these data categories, the trends over the past 20 years are as follows: overall worsening air quality; worsening water quality; increase loss of habitat; increase threats to the biota and human health; and increased forest fragmentation. These trends suggest that the process for approving projects in MN (whether power plants; mining operations; industrial development; other human developments) is failing to protect the health of the biota. The trends are not sustainable or consistent with stated federal and state goals of ensuring highly valued public natural and recreational environments for future generations. The trends, if sustained, will have adverse impacts on human health and the economies of health.	G2
20004	Also troubling is the fact that as noted (4.14-4) there is major disagreement with the conclusions of DEIS authors regarding the significance of the above findings. In addition, the legitimacy of the analytical approach to the Cumulative Effects approach is problematic for several reasons: 1. Major data elements are missing e.g. baseline data for the Partridge and Embarrass Rivers. 2. In the watersheds, concentrations of aluminum, iron, copper and mercury exceed MN Water Quality Standards; 3. Analytic methods were not robust, e.g., no dynamical systems analysis of these complex environments. 4. No inclusion of data regarding Climate Change impacts on the ecosystems.	WR5A,G8C,AQ3
20004	1.1: Background... The project is stated to consist of three components: Mine Site; Plant Site; Transportation Corridor. A fourth Project component should be considered: a Regional Site. Both NEPA and the MN Environmental Policy Act require that proposed projects include review of project impacts at the mine and plant sites, transportation corridors, and on regional environments. The scope of this DEIS is inappropriately narrow. Incorporation the fourth component would provide focus for filling in the gaps in data and information regarding direct, indirect, cumulative effects as required by NEPA.	G9
20006	I have spent some time reviewing the Polymet Project and have been convinced that this is a financially viable and environmentally responsible endeavor. There is a demand for the precious metals that will be produced using a proven process. Environmental concerns have been thoroughly researched and addressed. In fact, The Company began the environmental review in 2004 and has spent more than \$20 million to date on just the review process. This project will create jobs for Minnesotans. Considering the current state of our economy and the political platforms of our chosen leaders, it seems prudent that this project is allowed to move forward without any further delay. It is important that we streamline the current permitting process so that in the future businesses may not be so frustrated with the permitting process that they choose to locate in another state. With unemployment rates exceeding 10%, I will be happy to have Polymet’s NorthMet project creating jobs “in our back yard.”	EOO
20006	Page 4.1-33 The extent of existing wild rice beds has not been fully characterized and may be in violation in MN statutes.	WR1E
20007	Page 4.1-46 The standard for wild rice waters, as currently in place, must be enforced. According to the tribal cooperating agencies extensive research in Minnesota has demonstrated that healthy and viable wild rice beds occur in waters with less than 10 mg/l of sulfate and is the standard that must be enforced. This must be addressed in the DEIS.	WR4F
20007	A DNR representative at the public meeting in Aurora flatly stated that all tailings basins leaked! If that is a factual representation of what happens then treatment will NOT terminate in year 34, but can be expected to last into perpetuity. This DEIS needs to reflect the real world and talk about how treatment into perpetuity will be provided.	WR3I
20007	Page 4.1-55 It would appear that the DEIS is using a crystal ball to predict long-term flow. There is no evidence to validate the wetlands treatment process proposed.	WE6

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
20007	Page 4.1-54 The DEIS admits that its analysis of all the water quality parameters was incomplete. With the importance of getting it right with the Polymet Mine incomplete analysis is not an option. This incomplete analysis makes this analysis suspect and casts doubt on other analysis. It is entirely illogical that adding sulfideminning tailings to the taconite tailings will improve the quality of the seepage water. There is a serious flaw in this analysis.	WR1E
20007	4.1.2.1 Hydrologic Alteration of Streams, Lakes and Aquifers Impact Criteria Page 4.1-50 The listed parameters calculated for the Partridge River have little data to support them and, therefore, cast doubt on the veracity of the data used. The MODFLOW model was developed to assess the rates of mine pit inflow and as such, the results it gives for areas outside the mine pit footprint are unsupported by data. The XP-SWMM is based on stream gage data that is 17 miles and 20 years distant from the proposed project. Field data collection is spotty or non-existent and the numbers used in this DEIS are derived from the MODFLOW groundwater model and XP-SWMM model. This deficiency must be corrected.	WR1E
20009	The leachate is predicted to not meet water quality standards for thousands of years (Table 4.1-45). The DEIS must be updated to reflect processing this condition.	WR3I
20010	Page 4.1-56/57 It is logical to conclude that hydrologic characterization using MODFLOW models provided information for the immediate area of the mine pit and the tailings pile only. Groundwater models designed to characterize the watertables, the potentiometric surface in the aquifers, fluxes to rivers and streams or to predict impacts to the water tables or surface waters are missing. The MODFLOW groundwater model at the tailings area is restricted to the tailings pile and cannot be used to characterize groundwater flow direction, the watertables, the potentiometric surface in the aquifers, fluxes to rivers and streams or to predict mounding impacts to the water tables or surface waters. Data driven models need to be developed and these impacts need to be predicted and evaluated.	WR2A
20010	Financial assurance (damage deposit) for clean restoration is missing in the DEIS. The Contingency Closure Estimate would be provided and updated annually as part of the Permit to Mine and its annual report. The DEIS states that the Contingency Closure Estimate would be the basis for computing financial assurance requirements for the Project. However, this is too late to realistically evaluate the impact of the mine closure and ensure that adequate funds are in place. This must be part of the DEIS and must be addressed.	PD4
20010	Page 4.1-56 The volume of seepage from the Tailings Basin is expected to decrease slowly over time, but, with no proposed dry cap, long-term groundwater seepage would be expected.	EOO
20011	Page 4.1-59 The MOD FLOW model does not provide credible data outside the footprint of the mine pits. The expertise of both local hydrologists and hydrologists with experience in other settings is needed to develop a plan for hydrologic data collection and for formulating the appropriate models to integrate the hydrologic data.	WR2A
20012	Page 4.1-61 The assumption that it is not practical to gather the necessary input data for a MODFLOW model proposes a lack of commitment to get it right. A robust groundwater model must be developed for this project in order to adequately characterize the potential impacts of various project alternatives to natural resources.	WR2A
20013	Even though Mn DNR has monitored several other lakes across the Mesabi Iron Range over the past several decades for effects from mine pit dewatering it has never monitored a sulfide mine. Vegetation data suggest that a significant groundwater-surface water connection exists and a more robust groundwater model must be developed for this project in order to adequately characterize the potential impacts of the various project alternatives to natural resources.	WR2I
20014	Page 4.1-61/62 The data presented is insufficient and must be corrected. The empirical observations in the Adams 2009 email are insufficient to support the conclusions. The evidence presented in the email can be interpreted to indicate substantial impact of the Peter Mitchell Pits on adjacent lakes. Aerial photography, without ground verification or georeference is an exceedingly imprecise method for determining water levels in lakes and wetlands (GLIFWC 2009, Memorandum to Jon Ahlness and Stuart Arkley: Photographic evidence for pit impacts to wetland hydrology. April 24, 2009).	WR1E

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Comment ID	Comment Text	Theme Codes
20015	The DEIS does not draw a firm position based upon good evidence and concludes that the Mine Site peatlands appear to be much more bog-like than fen-like. This confirms the tribal cooperating agencies' position that the referenced email (Adams 2009) used inadequate methods for determining impacts to surface water features.	WR2I,WE1,WE2
20016	Page 4.1-66 The groundwater quality modeling assumes these mitigation measures are successfully implemented with any assurance of proper testing, treatment, feedback, adjustment, and monitoring. What must happen is a control system that guarantees proper outcomes from water treatment. There is sufficient profit in the proposed mining operation to properly treat the water to assure water quality and not leave it to chance by dumping limestone and hoping for the best.	WR1A
20016	Section 4.2 discusses recommended wetland monitoring at the mine. While wetlands monitoring will be required, it is more important to get it right before mining starts rather than initiating a corrective action plan once monitoring detects a problem. After all that is a reason for a DEIS.	WE3
20018	Page 4.1-67 The data does not support the conclusions associated with the proposed mine closure. It is quite clear that perpetual water treatment will be required (or least water treatment for 2000 years). This is why it is necessary for the DEIS to include an estimate of the costs associated with mine closure and reclamation. A fund must be established prior to permitting that is adequate to support perpetual water treatment.	WR3I,PD5
20018	There is no time nor financial quantification to "These Post-Closure and reclamation activities would be expected to be ongoing for many years until such time as the various facility features are deemed environmentally acceptable, in a self-sustaining and stable condition." The amount of time has been estimated to be hundreds or thousands of years. This is perpetual maintenance and does not meet the Minnesota requirement for a maintenance free closure. This must be addressed.	PD3
20018	Page 4.1-94 The DEIS concludes that on the basis of deterministic modeling, the Proposed Action would have relatively little adverse effect on groundwater quality downgradient of the Tailings Basin. However, groundwater contamination from the previous mining activities is still an issue near the L TVSMC tailings basin more than twenty years after operations ceased. Water quality is important and this concern must be acted upon. Because of the limited distribution of monitoring wells, the extent of the contaminant plume is not known. However, recent well data show that the plume extends in some areas at least as far as private wells along the Embarrass River. In the wells that do exist near the tailings basin, pollutants including iron, sulfate, manganese, aluminum, and fluoride exceeded drinking water standards. Recent wells near the northern property line show substantial contamination of the groundwater aquifer (Barr 2009, Memorandum: Results of Tailings Basin Hydrogeological Investigation. June 2, 2009). The baseline data on which to base estimates of the impact of the proposed project on water quality at the mine site and the tailings basins is insufficient. The existing analysis for the PolyMet project calculates the additional constituents that the project will add to groundwater but is unable to realistically estimate what the resulting water quality will be because background water quality has not been incorporated into the estimates. Private domestic wells lie between the tailings basin and the Embarrass River where tailings basin discharge water is expected to ultimately discharge. Some of the sampled private wells have contaminants at levels several times the drinking water standard (Barr 2009, Memorandum: Results of residential well sampling north of TVSMC tailings basin. January 27, 2009) Samples from these wells show that they exceed the manganese standard and close to exceeding the arsenic standard. There must be a groundwater flow model to show the direction and rate of groundwater flow, using that pattern of flow should to plan a groundwater-sampling scheme to map the extent of the existing contaminant plume. This data and analysis should then feed into estimates of how the proposed project would interact with existing contamination. The combination of existing conditions with impacts due to the proposed project would show what groundwater quality can be expected during and post project.	WR1E
20020	Page 4.1-98 Little or no baseline data was collected to develop the modeling described in this document. And, therefore, model results cannot be used with confidence and do not allow an adequate assessment of environmental impacts.	WR1E
20020	Page 4.1-102 The available data does not support the DEIS conclusions. Proper data must be collected and used.	WR1E

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Comment ID	Comment Text	Theme Codes
20021	Unsupported conclusions have been reached in the DEIS and must be fixed. The available data do not support the conclusions presented in this section. The impacts predicted by technical reports (RS73B) to the Partridge River are primarily reduction in base flow due to mine pit dewatering and those impacts are predicted by the MODFLOW model. MODFLOW modeling in (RS22-Appen.B) forms the foundation for the predicted impacts. The MODFLOW model (RS22 Appen.B) is not calibrated to a data set representative of the area and predicts fluxes to the Partridge River based on a non-unique solution. A differently formulated and calibrated MODFLOW model could predict much higher inflow to the PolyMet pits and therefore, show greater impacts to stream baseflow. The surface water model (SWMM) used for predicting impacts is calibrated to Partridge River flows from 1978 to 1988, seventeen miles downriver of the mine site. During the period of record, the Peter Mitchell pits were dewatered with unknown effects on the river flow data. According to technical documents (RS73A, page 21) the flow record at the Partridge River gage above Colby Lake (USGS #04015475) may have been impacted by mine discharges on the north branch. The monthly average flow recorded at this gauging station during 1978-1988 varied between a minimum of 1.3 cubic feet per second and a maximum of 454 cubic feet per second. The discharges from the Peter Mitchell Pit could account for up to 34 cubic feet per second. Since the timing, duration and location of mining discharges may be different now than during 1978-1988, the present hydrologic regime of the Partridge River may not be well represented by the period of record at USGS #04015475.	WR1E
20021	The DEIS is again weak in its analysis and must be improved. There will be surface water discharge to the Embarrass River. Aerial photography and state Public Waters inventory maps indicate that there is currently a direct surface water connection between the northwest corner of cell 2W and the Embarrass River. Aerial photos show that water discharging from the tailings basin follows a natural channel westward, through existing wetlands and intersects a channel that leads directly to the Embarrass River.	WR3C
20023	Page 4.1-11112 This is another example of analysis that logically shows the need for perpetual water treatment. The current approach from the DEIS results in a polluted pit lake. The WWTF needs to operate for a minimum of 2000 years in order to treat leachate from the stockpiles. The effectiveness of the passive wetland treatment system has not been demonstrated and it is likely that the wetland treatment system would not function as suggested. This water would never meet surface water quality standards. The conclusion is that the DEIS must discuss the implications of leaving a polluted pit lake at this site in perpetuity.	WR3C,WE6
20024	Page 4.1-113 Here the DEIS clearly demonstrates a problem and the logical conclusion is perpetual water treatment: "Constructed wetlands performance, however, is not sufficiently reliable to function as the primary treatment measure for assuring consistent year-round compliance with water quality standards. " Based on these uncertainties primary water treatment at the WWTF would need to continue for thousands of years. This does not meet the Minnesota goal for maintenance free closure and highlights the need for an up front determination of all the costs to close and reclaim the mine area.	WR3I,WR3L,WE6
20025	Page 4.1-114 All waters of the state are protected by Minnesota water quality standards and using this unnamed water as a mechanism to dilute mine related contamination is not appropriate. In addition no flow information for this unnamed water is available. This improper method of diluting the mine contamination must be eliminated and the DEIS updated to reflect this change.	WR3I
20026	Page 4.1-115 Section 4.1.3.5 is speculative because of continued inputs from the stockpiles, the tailings basins, and the pit walls; the pit lake could exceed surface water quality standards for thousands of years. 20 feet of pit wall will never be submerged and as such constitute a perpetual source of mine related contaminants, highlighting the need for treatment in perpetuity. This must be properly addressed including its impact on the costs associated with mine closure, reclamation, and perpetual treatment of water.	WR3C,PD3
20027	Page 4.1-117 Contaminants from the project would contribute to exceeding the standards below Colby Lake. Wild rice beds are located on the Partridge River immediately below Colby Lake. Therefore, the State of Minnesota wild rice standard for sulfate of 10 mg/l should apply along all of the Lower Partridge River.	WR3I,WR4F
20028	Page 4.1-120 The Embarrass River already exceeds water quality standards and the State of MN should not permit the addition of additional contamination from new or expanded sources.	WR3A

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Comment ID	Comment Text	Theme Codes
20029	There is not an adequate understanding of the composition of the ground water aquifers to understand the impact of the tailing pond and mining operations. Ground water cannot be compromised and the composition of the aquifers must be thoroughly characterized and integrated into the hydrological analysis and operation of the mine.	WR2A
20030	Surface water quality at the project has been poorly characterized or left uncharacterized. The limited data that exist suggest that surface waters are already adversely impacted by mining activity. Mercury, sulfate and specific conductance have exceeded Minnesota surface water criteria in surface water samples collected near the tailings basin proposed for use by PolyMet, at nearby Area Pit 5, and mercury exceeds surface water criteria in the Partridge River downstream of Colby Lake. However, no water samples have been collected from lakes near the tailings basin (Hiekillilla, Mud, Kaunonen, or Hay Lakes) to determine if the pollutants found in the surface and groundwater at the existing tailings pile have caused contamination of those water bodies. Contaminant transport modeling suggests that the PolyMet Project will cause manganese, aluminum and sulfate to exceed standards. These problems must be addressed.	WR1E
20031	Page 4.1-124 Again the DEIS shows it's analysis is incomplete by admitting to uncertainty as to whether the West Pit overflow would meet the Great Lakes Initiative standard for mercury and recommends additional analysis. In this case we agree with the DEIS. This is too important to not address prior to moving forward.	WR3I
20032	Page 4.1-125/6 We note that the conclusion that there is little opportunity for sulfate wetland interactions is based upon a single email that is suspect in its viability as a scientifically sound document. This needs to be properly analyzed.	EOO
20033	Page 4.1-129, Table 4.1-68 It is more important to prevent exceedances of water quality rather than mitigation. The west pit is predicted to violate surface water standards for all years that predictions were made and this must be addressed.	WR3C
20033	Page 4.1-128 The idea of mercury monitoring in the West Pit is good; however, it is analogous to closing the barn door after the horse has escaped. Determination of the final water quality of the west pit must be included in the DEIS so that potential water quality impacts to Lake Superior can be characterized.	WR3C
20033	Page 4.1-126 There are extensive rice beds in the Lower Partridge River and methylation of mercury may be significant in the Partridge River watershed. This must be addressed before moving forward.	WR1E,WR4F
20035	Page 4.1-131 Data collected in 2009 show that private wells north of the basin have been impacted by historic tailings basin effluent and, therefore, the conclusion that monitoring data does not suggest exceedances of groundwater evaluation criteria is incorrect. Although two additional groundwater samples north of the basins collected in 2009 indicate that exceedances exist at the property boundary, the full extent of the contaminant plume has not been defined and must be.	WR1E
20035	Page 4.1-130, Table 4.1-68 The wild rice standard for sulfate and the Lake Superior standard for mercury would be exceeded. This must be corrected. Groundwater contamination in Table 4.1-68 is seriously flawed. It does not consider existing contamination and must do so.	WR1E,WR3I
20035	The Closure Plan does not propose any remediation of groundwater seepage from the Tailings Basin. <sup>51</sup> There is no up to date closure plan for the proposed project, nor is there is a comprehensive cost estimate. A comprehensive closure plan is needed to evaluate long-term environmental impacts and to inform calculations of financial assurance that would be needed for the project. This financial assurance must be in place prior to permitting.	WR1A,PD3,PD4
20035	Page 4.1-131/2 The available data does not support the claim that the relatively high concentrations of aluminum, iron, and manganese currently found downgradient of the Tailings Basin may reflect natural conditions in this area. In addition, a basic assumption (i.e. plug flow [TB-14, July 2,2009, page 9]) of the contaminant transport modeling at the basin (RS74) assumes that all constituents in the groundwater are the result of past and current seepage from the basins. Even if the claim is true, it is illogical to exacerbate this condition with sulfide mining.	WR1E
20037	This section is full of assumptions that compromise the conclusions regarding flow of ground water. There is no data to substantiate the assumptions of this section and these assumptions must be addressed.	WR2A

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Comment ID	Comment Text	Theme Codes
20038	Page 4.1-132 The wild rice standard applies to all waterbodies where wild rice is found to be growing. It is the expectation that the PCA will enforce the standard accordingly. This impact needs to be addressed.	WR1E,WR4F
20039	Page 4.1-135 The effectiveness of lime treatment process is very important in the final water quality of mine effluent. Therefore, the analysis of this process should be conducted prior to the construction of the facility and the results included in the DEIS.	WR1E
20040	The effectiveness of the evapotranspiration caps (i.e., vegetated soil layer) has not been demonstrated. This analysis must be done (GLIFWC Comment letter of June 30, 2008 and GLIFWC comment letter of February 6, 2009).	WR2L
20041	The effectiveness of the wetland treatment system is in doubt and must be remedied.	WE6
20042	The effects on groundwater levels at the mine site are unknown for both the proposed project and the mine site alternative because of insufficient analysis. This must be addressed.	WR2A
20043	Page 4.1-144 All waters of the state are protected by surface water quality standards and using the unnamed water to dilute the contaminants of the West pit is not appropriate. The pit lake is predicted to be in violation of surface water quality standards for hundreds or thousands of years. This condition is not the result desired in a successful DEIS and must be addressed.	WR3C
20044	Page 4.1-146 The DEIS points out that there is uncertainty as to whether the West Pit overflow would meet the Great Lakes Initiative standard for mercury and recommends additional analysis. This is too important to pass on and analysis must be included in the DEIS.	WR3I
20045	Table 4.1-77 There is insufficient data to support the claim in table 4.1-77 regarding flow and river morphology. More analysis is needed in the DEIS.	WR3J
20046	The west pit is predicted to exceed standards for all years for which predictions were made and, therefore, preventive measures are required to be added to the DEIS.	WR3C
20047	4.1.3.4 Tailings Basin Alternative Untreated discharge of tailings basin water to the Partridge River will exceed water quality standards. In particular the wild rice standard will be exceeded.	WR3I,WR4F
20048	The DEIS readily states that there is wide variability in the data and, therefore, reliable conclusions cannot be made. Because of the importance of water to the ecology of this area this variability must be understood before moving forward.	WR1E
20049	The effectiveness of the permeable reactive barrier (PRB) must be known and included in the DEIS. If it is ineffective, then pumping could be needed for hundreds or thousands of years. Today, the PRB is untested and has not been demonstrated to work in similar situations. In addition, the PRB would need periodic recharging/replacement, which would need to occur at regular intervals for as long as water treatment is needed (hundreds or thousands of years). This long term maintenance is at odds with Minnesota's goal of maintenance free closure and must be included in the DEIS estimated costs for closure, reclamation, and perpetual maintenance.	WR2D
20050	Page 4.1-155 Wild rice grows on the lower Partridge River and the 10 mg/l standard for sulfate applies. This standard would be exceeded by the PolyMet discharge. Furthermore, there are other projects (Mesabi Nugget Phase II and Laskin Energy) that are discharging water with elevated constituents. Given these existing sources, it is unlikely that PolyMet discharge would be able to discharge their untreated tailings basin effluent without violating the clean water act. This situation must be addressed in the DEIS.	WR3I,WR4F
20051	The DEIS tries to explain away predicted concentrations of dissolved aluminum in TB-15 that exceed water quality standards (see TB-15, page 1). However, it is clear that the total aluminum is dissolved that exceeds standards. This is a very serious condition that must be addressed in the DEIS.	WR3H
20052	Page 4.1-157 The DEIS claim that all parameters are expected to meet surface water standards during all flow conditions for all modeled years is not correct. The wild rice sulfate standard applies (10 mg/l) and would be exceeded. This serious flaw in the DEIS must be addressed.	WR3C

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Comment ID	Comment Text	Theme Codes
20053	Page 4.1-163 The DEIS incorrectly concludes that all parameters are predicted to meet all surface water quality standards in the Embarrass River under all flow conditions for all mine years. The wild rice sulfate standard applies and will be exceeded. TB-15 predicts that dissolved aluminum would exceed surface water standards. These are serious issues that must be addressed.	WR3I,WR4F
20054	Page 4.1-164 Treatment of the tailings basin effluent that is captured by the vertical wells must be an integral part of the tailings basin alternative. This treatment could occur in the WWTF already proposed for this project or in a second facility closer to the discharge point. However, treatment of the tailings basin effluent prior to discharge to the Partridge River is wrong and must be addressed. In addition, there are other existing facilities and mine proposals (Laskin Energy, Mesabi Nugget Phase II) that discharge, or are proposing to discharge water at this same location. Water quality of the discharge would exceed the wild rice sulfate standard that applies to the lower Partridge River.	WR5A
20055	4.1.4.2 Water Quality Page 4.1-187 Again, the DEIS incorrectly concludes that the NorthMet Project is expected to meet all surface water quality standards under all flow conditions for all mine years in the Partridge River. Wild rice grows on the lower Partridge River and the wild rice sulfate standard applies. The PolyMet discharge under the tailings basin alternative would not meet this standard.	WR3I,WR4F
20056	Hydrologic data presented in the DEIS indicates that this aquifer is saturated by tailings discharge water. Therefore, it is not possible for recharge from precipitation to occur.	WR2H
20057	From the data in the DEIS, a logical conclusion is that the existing LTVSMC tailings are contributing substantially to the level of constituents observed in the groundwater. It also true that the modeling of PolyMet contaminants at the basins does not take these or other existing constituents adequately into account. This oversight leads the authors of the DEIS to the illogical conclusion that seepage water from PolyMet, after passing through both LTVSMC and PolyMet tailings, will be cleaner than the existing seepage that is passing only through the L TVSMC tailings. It is not a logical conclusion that the addition of mine waste to the basins would cause seepage water quality to improve.	WR2F
20057	Over the many decades of operations at the tailings basin, thousands of gallons per minute of tailings basin water have been discharged through the bottom of the basin, into the groundwater. This water has then moved down gradient and into surrounding wetlands and as stated in the water quality section, ultimately reaching the Embarrass River. In addition, limited recent groundwater sampling shows groundwater contamination at the property line and at private wells north of the basin. It appears to be clear that the full extent of the contaminant plume and the existing contamination to groundwater has not been defined and that adding sulfide mine deposits will certainly add to the contamination. This situation must be corrected prior to any sulfide mining operations.	WR1E,WE2
20057	I am sending you this e-mail in support of the Polymet Mining Project in Northeastern MN. I have several reasons for supporting this project. First: economic impacts. - This project will contribute to a depressed economy, local, state, and national. - The materials from this project will not only create employment directly and indirectly to the economy, but also the materials needed for today's technology. Renewable energy, electric vehicles, computers, medical and the list can go on. - The careers that could then be available to our younger work force can be in the new technology of this project, in the environmental areas, with the vendors, etc. - These jobs will be supplying the metals needed for today's technology. Second: domestic advantages. - These metals will be domestic source needed and used by all in this country. - For this state and country to keep up with the advancing technologies of other countries, we need these metals. Third: environmental concerns. - The environmental requirements of Minnesota are strict. If we were to get these metals from a foreign source, I would question those environmental guidelines. - This project is going to use an existing site and facility. Lesser disturbance to the environment. - We do need these metals today. Mining and processing here versus in another country, transportation becomes both environmental and cost issues. - The Polymet Draft EIS and those involved with it, shows the issues and concerns of this project have been addressed and will be met. It's time to complete this stage of the project, and move on to the next.	EOO



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<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
20058	<p>The Northwest Mining Association (NWMA) appreciates the opportunity to comment on PolyMet Mining’s NorthMet Project Draft Environmental Impact Statement (DEIS). On behalf of our members, NWMA expresses strong support for the NorthMet Project. Based on the extensive documentation as outlined in the DEIS, PolyMet clearly has demonstrated it can produce critical metals for our nation while meeting and exceeding Minnesota’s strict environmental requirements to protect its air, water and land. NWMA is a 115 year old, 1,750 member, non-profit, non-partisan trade association based in Spokane, Washington. NWMA members reside in 40 states, including Minnesota, and are actively involved in exploration and mining operations on public and private lands. Our diverse membership includes every facet of the mining industry including geology, exploration, mining, engineering, equipment manufacturing, technical services, and sales of equipment and supplies. NWMA’s broad membership represents a true cross-section of the American mining community from small miners and exploration geologists to both junior and large mining companies. More than 90% of our members are small businesses or work for small businesses. Most of our members are individual citizens. PolyMet Mining is one of our corporate members. PolyMet’s NorthMet Project will create a domestic supply of critical minerals and metals needed in every aspect of our daily lives, from medical applications to cell phones and computers. The metals that PolyMet will mine also are essential for renewable and clean energy technologies, such as wind turbines and hybrid cars, which will help the U.S. become more energy independent. The U.S. can and should be more self-reliant for the minerals and metals we need. Despite reserves of 78 important mined minerals, the United States currently attracts only seven percent of worldwide exploration dollars. As a result, our nation is becoming more dependent upon foreign sources to meet our metal and minerals requirements, even for minerals with adequate domestic sources. Currently, America is 100 percent dependent on foreign sources for 18 minerals commodities and more than 50 percent import reliant on another 45 commodities (See 2008 USGS Net Import Reliance Chart below). Increased import dependency causes a multitude of negative consequences, including aggravation of the U.S. balance of payments, unpredictable price fluctuations, loss of high paying jobs and vulnerability to possible supply disruptions. We must not trade a dependence on Middle Eastern oil for an equally unhealthy dependence on foreign sources of minerals. PolyMet can produce these metals in an environmentally sound manner and create hundreds of stable jobs that will benefit Minnesota families and provide a true economic stimulus to the entire region. We urge you to expeditiously approve the permit for the NorthMet Project.</p>	EOO
20059	<p>1.1. The regional and local-scale models: basic setup. In the DEIS, the groundwater flow around the project is assumed to be described by the groundwater equation. That equation, given on page 6 of technical report RS-22, Appendix B, is a second-order partial differential equation with independent variables x,y,z, and t (time). There is no known method to find a closed-form solution {i.e. to give a solution as an actual formula}, so numerical computer simulations are used. In the DEIS, this involves the MODFLOW program, developed by the U.S. Geological Survey. Typically, a 3-dimensional spatial grid is used, along with a series of discrete time intervals. Properties of the cells in the model are based on known or estimated porosity of the subsoil and underlying rocks, and the presence of water sources or sinks. The values of the dependent variable (hydraulic head) are calculated at the grid points at various time intervals, being updated in successive iterations. The local-scale model for the mine site, as described in RS22, Appendix B, is done along the lines of the description above. {But there are some serious calibration issues, which I will discuss later.} The MODFLOW model is first mentioned in the DEIS around page 4.1-56, under the heading Evaluation Methodology. The local model covers an area of 100 square miles (about 10 miles by 10 miles). There were 8 levels, ranging from the surface deposits (about 1500 ft above sea level) down to a bottom level at 65 ft below sea level, estimated to be the bottom of the Biwabik Iron Formation. In the outer parts of the local model, the horizontal gridlines are about 100 to 200 meters apart; closer to the mine site, they are 10 to 30 meters apart. If this model had been correctly calibrated, then it might have been good enough to give valid indications of water flow into the mine pit and of drawdowns to the nearby groundwater.</p>	EOO
20060	<p>Interestingly, there even is some information in the DEIS that contradicts these values. For the hydraulic conductivity, we have Table 4.1-3: Bedrock and Surficial Aquifer Hydraulic Conductivity Estimates at the Mine Site. Here are the hydraulic conductivity values from that</p>	WR2F

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Comment ID	Comment Text	Theme Codes
20061	The points to be observed here are that the values for the various bedrock formations are reasonably comparable to the values in the MODFLOW assumptions, and that the horizontal rates in the MODFLOW for the surficial deposits are near the upper end of the range of the test results; however the tests give no evidence that would support the extremely low values used in the MODFLOW model for the vertical component of hydraulic conductivity.	WR2F
20062	Concerning the recharge rate, we can note that in the MODFLOW model for the Processing Plant and Tailings Basin, a value of 8 inches/year (or .0018 ft/day) has been used elsewhere in the technical memos. This is given in Figure 4-3 of Attachment 6 of RS-13. The figure, presented as a map, shows this value as applying to the entire area around the plant site and tailings basin except for the tailings basin itself and areas designated as bedrock (probably outcrops). {I did not find anything printed, either in the DEIS or the technical memos about the numerical value of this parameter, which obviously is needed in the MODFLOW model of the tailings basin area.} While the values for the two areas (mine pit and tailings basin) may not need to be identical, there is no reason to expect them to be very different. Indeed, the Plant and Tailings Basin are only a few miles apart, and the two areas are very similar in many respects.	EOO
20063	NOTE: The issue of non-unique calibration was already raised some time ago by the tribal cooperating agencies. I refer in particular to footnote 30, at the bottom of page 4.1-103 of the DEIS. As far as can be detected from reading the DEIS, this comment – which looked very significant to me on my very first reading of that part of the DEIS – has been completely ignored by everyone else who was involved in preparing the DEIS. This is very unfortunate, since many of the comments by the tribal cooperating agencies here, and at a number of other places in this DEIS are very insightful and could have led to considerable improvement in the DEIS.	EOO,G15
20064	What size of discrepancy in the model predictions could arise from this mis-calibration? To arrive at somewhat realistic parameter values, we probably would have to (1) adjust the vertical component of the hydraulic conductivity upward by a factor of 1000 for the wetlands and glacial drift, and (2) adjust the recharge rate upward by a factor of 5 for these same surficial features. The first change would bring the vertical component of hydraulic conductivity to a value similar to that of the Duluth complex. This still may be on the low side, but that will not matter very much. The second change would bring the recharge rate to 1.5 inches per year for the wetland deposits and 7.5 inches per year for the glacial drift. This latter figure is comparable to what was used in the technical memos for the Plant/Tailings Basin area.	EOO
20066	Now, what is the significance of the calibration discrepancy for this part of the DEIS? Given the significant increase in water that will flow into the mine pit, more sulfate will be leached out of the rock that is exposed in the pit, and more metallic ions (including arsenic, cobalt, mercury, nickel, and selenium) will be dissolved or suspended in the water also. It is difficult to predict the increased rates for these processes, but they probably will be significant. It also means that more water will have to be pumped out of the pit and treated in the WWTF (wastewater treatment facility). Since large amounts of water will have to be treated, a certain amount of the contaminants likely will be discharged to the Partridge River. In particular, it would be completely unrealistic to assume that the WWTF would be 100% effective in removing pollutants from the water that it discharges. Therefore, we can realistically expect a larger impact on water quality in that river, and also in the St. Louis River below its confluence with the Partridge River. This would include increased methylation of mercury, among other effects.	WR2F
20066	Any further change in the vertical rate of hydraulic conductivity probably would have fairly minor effects because the surficial deposits lie directly on top of the Duluth Complex rocks, which are very impermeable. On the other hand, the 5-fold increase in the recharge rate seems to translate into something approximating a 5-fold increase in the water that would flow into the mine pit. I do not claim that this is an exact calculation; it is only an estimate. Still it is clear that an open mine pit would be by far the easiest place for water in the surficial deposits to flow into, once excavation has begun. Accordingly, it is reasonable to conclude that the water flowing into the mine pit would increase by approximately 5 times as much.	EOO
20068	In both places, PolyMet claims that an exponential decay model should apply instead of the constant production model that was applied. I believe that the constant production is a closer approximation for what would be observed – even extending through a century or more. Accordingly, this point should not be conceded to PolyMet. Moreover, I will explain below why this point has practical	WR2E

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
20069	The attempted justification of the exponential decay model is given in Barr Engineering technical memo UA02, from Peter Hinck and Miguel Wong, dated September 19, 2008. There is a fairly lengthy but rather confusing verbal explanation, supplied by Stephen Day of SRK Consulting (a firm in Vancouver, B.C.), leading up to the following graph:	WR1E
20069	Does this represent an exponential decay model, or does it not? Some parts of it resemble graphs of transient phenomena followed by exponential decay, but (1) some parts of the data are in definite contradiction to this and (2) we don't see a sufficiently long run of the data to provide particularly strong empirical evidence. As far as the graph is concerned, the heavy red line (labeled as "brown") is drawn to show a linear model rather than an exponential decay model. A more fundamental flaw is that no clear conceptual reason is given as to why an exponential decay model should apply. Indeed, some reason of this sort would be needed in order to reliably conclude that an exponential decay model holds.	WR1E
20071	NOTE: In RS22, Appendix 2, it says that levels 2 to 7 of the local grid (ranging from 1350 ft above sea level down to 330 ft above sea level) correspond to pit bottoms at various stages of mine development. Level 2 is deeper than what other parts of the DEIS indicate for the mine depth.	WR1E
20071	An exponential decay model can only apply in a dilution problem if there is a fixed amount of solute. (I am very familiar with the exponential decay model because it is a commonly used example in introductory courses in differential equations.) The following assumptions also must apply: • clear water would be continuously poured into a container containing a solution; • the liquid in the container would be mixed with the clear water being added, and • the (diluted and) mixed solution would be continuously poured out from another side of the container. Basically, the exponential decay model applies when the amount of solute being removed at any time is directly proportional to what is present in the container at that time, and new solute is not being added. *	WR1E
20073	Do these assumptions apply to this mine-pit situation? I claim that the assumptions do not apply. The point is that the solute in the mine water will be continuously leached out of the rock on the walls of the mine pit. The rate of oxidation of sulfide ions in the rock, to form sulfate ions, should be proportional to the effective surface area of exposed rock. Similarly, as water flows into the pit over the exposed rock, the rate of leaching of sulfate ions to form dilute sulfuric acid also should be proportional to the effective surface area of exposed rock. Now, what is the effective surface area? At any stage in the excavation of the pit, there might appear to be a fixed amount of exposed rock surface. This does not, however, account for phenomena such as the inevitable cycles of freezing and thawing that occur for about six months of every year in Minnesota. There are inevitably going to be cracks in the rock faces of the pit, from various causes such as blasting. The cycles of freezing and thawing are going to expand the existing cracks and also will create new cracks. As cracks extend deeper into the rock, and as new cracks open, there will be new exposed surfaces where the processes of oxidation and leaching can occur. Therefore, we cannot claim that there is a fixed amount of rock surface available to produce leachate, and this rules out the exponential decay model for production of leachate.	WR2D,WR3A
20073	Does this discussion have any practical consequence for management of environmental effects of the proposed project? Yes, there definitely are such consequences. The point is that it will be a long time after closure of the proposed mine – probably several decades – before any significant decrease will be seen in the rate of leaching of sulfate, or of arsenic, cobalt, copper, nickel, and selenium (as mentioned on page 4.1-113 of the DEIS). In all probability, the rate of decrease probably will be very slow for some decades after that time. The continuation of sulfate leaching will lead to continued methylation of mercury downstream in the St. Louis River, and therefore continuation of fish consumption advisories for many more decades or even for centuries. It also means that very long term, or even effectively perpetual, monitoring of these pollutants, and very long term or perpetual maintenance of the wastewater treatment facility, will be needed. This is consistent with the position of the tribal cooperating agencies, as mentioned in footnote 12 on page 3-47 of the DEIS and in footnote 13 on page 3-49, that long term or perpetual monitoring and maintenance of the corresponding facilities will be needed for the tailings basin.	WR1E,WR3A,WR3I

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Comment ID	Comment Text	Theme Codes
20075	1.4 Implications for water transfers from the mine site. On page 3-10 of the DEIS it is stated that Mine Site process water will be piped from the WWTF to the plant site and/or used at the Mine Site to supplement flooding of the East Pit while that pit is being backfilled (with waste rock from various pits). As a result, it is claimed that these re-uses of Mine Site process water would eliminate the need to discharge any process water to surface waters. Usually, the term “process water” refers to water that is used in some industrial process. This statement could be confusing, since hardly any water-based processes take place at the mine site. After reading the DEIS and technical reports, however, it becomes clear that this term has been used to refer to almost all types of mine site water. There are several reasons to be skeptical about this claim.	WR2G
20076	(1) If more water is pumped out of the mine pit than what is needed in plant processes, then the surplus mine pit water would have to be disposed of somewhere, thus contaminating some nearby stream or local ground water.	WR1E,WR3A
20077	(2) Since we have seen that the amount of mine pit water is likely to be larger than predicted in the DEIS, the existence of surplus mine water, with resulting discharges, is unfortunately very likely. This is the situation that would be likely to hold during the first 10 years of mine operation, before backfilling of the East Pit is begun.	WR3A
20078	(3) Another problematic era is after closure of the mine, and especially after flooding of the West Pit is complete. We have seen in Section 1.3 that leaching of sulfate and metals likely will continue for many years. In page S-7 of the DEIS it is noted that West Pit overflow likely will be directed to the Partridge River, on page S-8 it is conceded that these overflows will initially exceed water quality standards after closure, and on page S-9 there is an indication of uncertainty as to whether the West Pit overflow would meet the Lake Superior mercury standard. These statements are accompanied by vague indications about the possibility of mitigation, but there is no mention of concrete measures for wastewater treatment after closure. Given the high likelihood of lingering water quality problems, the project plan and the DEIS really must include such measures and a specific plan for funding those measures.	WR1C
20079	(4) To whatever extent mine pit water is transferred to the plant area and the tailings basin, such a transfer may not be a positive step. While it might reduce the amount of water being discharged into the Partridge River, there could be a corresponding amount of water being added to the tailings basin. We will see later that the tailings basin may be even more problematic than the mine pit area. Thus, it could be a transfer of water from one problem area to another, or perhaps something worse than that.	EOO
20081	In this part, I will make some comments about the modeling of groundwater flow and solute transport. The EIS consultant staff made a moderately ambitious effort to construct a ground water model, but various aspects of the tailings basin design seem to have turned the modeling process into an impossible task. Therefore it seems important to comment on the implications of this design, not only for attempts to model the water and solute flows but also for environmental consequences.	EOO
20082	2.1 Consequences for model validity. Although the relevant sections of the DEIS discuss a tailings “basin”, actual reading of the DEIS will quickly reveal that the tailings disposal actually takes place above the local ground level, with the tailings being confined by dams that are constructed from a combination of waste rock and coarse tailings. PolyMet proposes to deposit tailings from its proposed processing plant directly on top of the former LTV taconite tailings basin. It is usually mentioned in the DEIS as LTVSMC (LTV Steel Mining Company). Indeed, the three existing cells (2E, 1E, and 2W) of the former LTV tailings basin are at respective heights of 60 ft, 125 ft, and 200 ft above ground level.	EOO
20083	In contrast, the regional model has only a single layer, corresponding to 640 ft above sea level, said to be below the bottom of the mine pits. {This would be slightly below level 3 in the local model.} The regional model covers 1000 square miles, roughly 40 miles by 25 miles in Figure 3-1 of RS22, Appendix B. The grid spacing in the regional model is 500 meters (1640 ft).	WR1E

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Comment ID	Comment Text	Theme Codes
20084	The tailings, both from the former taconite processing facility and also from the proposed PolyMet project, are a mixture of water and finely ground rock. As explained in the DEIS, the former LTV tailings basin is unlined and was constructed in stages beginning in the 1950's. Since it is unlined, there is nothing to stop water in the tailings basin from flowing into local groundwater or seeping out to ultimately flow into some nearby stream. As explained in technical report RS13, Attachment 6, there still are considerable amounts of water in cells 1E and 2E of the former LTV tailings basin. There are a number of known seeps on the north, west, and south sides of this basin, while RS74B gives estimates of the amount of subsurface seepage. The latter report mentions the following situation: "The bulk of this flow is subsurface seepage. All unrecovered seepage is assumed to reach the Embarrass River as groundwater flow during average and high flow conditions."	EOO
20085	There are two layers in the model of the existing situation. The top layer corresponds to the top of the existing LTV tailings, and the bottom layer corresponds to the surface deposits (peat and glacial drift). Additional layers are added to model future vertical expansion of the tailings basin. There obviously is a speculative element to this, but it seems to reflect the proposed design. It must, however, be noted that the model seems to apply to the original tailings basin design. In technical report RS13B, another design is discussed: Tailings Basin – Mitigation Design. It is not clear whether or not those modifications have been incorporated into the modeling reported in the DEIS.	WR2F
20085	The basic setup for the MODFLOW model is explained in technical report RS13, Attachment 6. The model for the tailings basin covers an area of 18 square miles. This is much smaller than the local scale model at the mine site. Accordingly, there could be some distortion in the water table contours predicted by the model because of boundary effects. The calibration of the model (including hydraulic conductivity and recharge rates) seems more plausible than what was done in the mine site model. The grid size is not explicitly given in the text of RS13, Attachment 6, but is indicated in Figure 4-1 of Attachment 6. The grid line separation appears to be 200 meters in the outer portions of the model area, which is somewhat coarse, but is much finer in the areas of the actual tailings basin.	EOO
20087	The basic setup reported so far seems fairly unremarkable: there are some deficiencies that could be remedied, but in general it seems plausible. Therefore, it was very surprising to find the following remarkable declaration on page 54 of technical report RS74B (Surface Water and Groundwater Quality Modeling: Plant Site): "This modeling was performed using MODFLOW and MODPATH. The transport of dissolved constituents through the Tailings Basin is complicated by many factors, including changing pond elevation, unsaturated flow conditions and numerous source areas with very different seepage travel times from each area. It was difficult to know a priori which of these factors would be important in the predictions that were to be made. Because of this, the first round of modeling (presented in the previously mentioned reports) attempted to simulate many of these complexities. The result was a complicated set of models that were difficult for the EIS contractor to validate and would be nearly impossible for the general public reviewing the EIS to understand. In order to provide for more transparent predictions, a second round of conservative modeling was undertaken for the Tailings Basin-Proposed Action."	EOO
20087	What are we to conclude from this? First of all, it seems that the new model is just as bad as the old one from a viewpoint of transparency. It seems that they should have told us something about what the old one predicted, even if it would have added to the length of this unreasonably long technical report. The most obvious suspicion about why they wouldn't publish it is that they didn't like the results for some reason. The report of the modeling results on pages 59-61 of RS74B mentions (supposedly temporary) exceedances of groundwater standards for sulfate, antimony, arsenic, and nickel, as well as (supposedly temporary) exceedances of surface water standards for silver, antimony, cobalt, and nickel. Thus, it seems likely that the first round of modeling would have produced even larger indications of exceedances of water quality standards.	EOO
20089	A similar withholding of documentation is encountered in Sections 8.1.2 and 8.2.3 of RS74B. The declaration in 8.1.2 is that "SRK Consulting provided mass load terms for each source area for each year of operations. This report is not intended to describe how these loads were computed, that will be done either in a revision to RS54/RS46 or in a separate technical memorandum provided by SRK." (Something very similar is said in 8.2.3.) The most recent draft of RS54/RS46 provided for the public comment process is dated July 20, 2007, which thus predates the technical report where the description is promised.	WR1E,PRO3

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Comment ID	Comment Text	Theme Codes
20089	In such a poorly documented use of spreadsheets, the formulas can be found only by painstaking inspection of many cells of the spreadsheet. This kind of report writing is a willful obstruction of the public comment process.	WR2K,PRO3
20089	Description of the spreadsheet models is sketchy at best. In particular, there is no narrative about what kinds of formulas were programmed into the spreadsheet cells. This does not seem like a method for presenting information, but rather a method for hiding information.	WR2K
20089	• The DEIS and technical report RS74B give only rather limited information about the methods that were used in the “second round of conservative modeling”. One source is in Section 8 of RS74B (entitled “Geotechnical Mitigation – Groundwater Quality Modeling”), which includes subsections 8.1 and 8.3, entitled “Modeling Methodology – Operations” and “Modeling Methodology – Closure” respectively. These mention using MODFLOW-SURFACT modeling to predict travel times through the basin, combined with a spreadsheet model to predict the concentration of dissolved constituents for water released to the environment.	EOO
20089	The original modeling was based on MODFLOW and MODPATH, which are widely accepted software packages developed by the U.S. Geological Survey. By contrast, we have no independent verification of the (mostly unspecified) methods used in the spreadsheet models.	WR2K
20092	• The DEIS briefly mentions on pages 3-31 and 3-32 that there has been a design change, effective as of June 2009. There is less than a page of description of the design changes. As I will explain in the next section, this design change is not adequately documented in the DEIS.	PD9
20092	Furthermore, to the extent that any mitigated design (or “Mitigation Design” as it is called in various RS documents) actually exists, the DEIS tells us very little about its probable environmental consequences, particularly water quality impacts. Specifically:	PRO3,G8
20092	• The wide spacing in the regional model, and the fact that it is 2-dimensional rather than 3-dimensional, make it effectively useless for predicting anything outside the immediate mine area. You could compare it to looking at a digital photo with extremely poor resolution. Moreover, the fact that the regional model calculates nothing at any levels above the presumed bottom of the mine pits makes this model even weaker for predicting environmentally significant variables. Indeed, the layers most likely to have interaction with surface waters are the layers closer to the surface.	WR3A,G9
20092	The DEIS does not disclose the fact (as mentioned in RS74B) that the EIS contractor was not able to validate the results of the MODFLOW/MODPATH modeling of the flow of dissolved constituents through and out of the tailings basin.	WR2F,PRO3
20092	This severely limits the value of further detailed study of this report, because the report applies to a tailings basin design that probably will not be constructed. And the same conclusion probably applies to sections of the DEIS that relate to this technical report or to RS22. Conceivably, some portions could apply to the new design, but other portions most likely will not apply. It is impossible to tell which is which; this also obstructs the public comment process.	WR2D,PRO3
20092	As surprising as the quoted statement from page 54 of RS74 may seem, an even more surprising statement appeared on page 61 of RS74B during the search for “exceedances”: “Because MDNR has decided that the Tailings Basin-Proposed Action has sufficient geotechnical uncertainty to determine that the Proposed Action should not be pursued further, PolyMet decided to not further refine models and develop mitigations that could be modeled so as to demonstrate no exceedances of standards. It is likely that a combination of refined model and modeled mitigations could demonstrate no exceedances.”	WR1E
20095	If PolyMet is allowed to postpone that documentation until the permitting phase, it would mean that a considerable amount of documentation is therefore unavailable during the EIS process, and in particular not accessible for inspection during the public comment period. Moreover, the DEIS fails to disclose that the design that the PolyMet Company proposes to use (the Tailings Basin - Mitigation Design) has not been documented in any detail and isn't intended to be documented until the permitting process. Since the Tailings Basin - Mitigation Design was formally substituted for the original design in June 2009 – four months before the October 2009 finalization date of the current Draft EIS, there really is no justification for the failure to disclose this important fact.	PRO1,PD8

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20095	• PolyMet claims in the above quotation from page 61 of RS74B that “a combination of refined model and modeled mitigations could demonstrate no exceedances”. First of all, this statement implicitly acknowledges that some of the modeling must have shown exceedances. Most troubling, the language of this statement gives a strong appearance that the PolyMet modeling is designed to demonstrate no exceedances rather than to provide objective scientific information.	PD8
20096	The water quality predictions in Sections 8.2 and 8.3 of RS74B for the Geotechnical Mitigation design are more optimistic than the predictions in Section of RS74B for the original design. You can see this by comparing Figure 6-25 (Predicted Concentration – Cell 2E: Proposed Action – Arsenic) with Figure 8-19 (Predicted Concentration – Cell 2E: Geotechnical Mitigation – Arsenic). These figures are shown in an attachment at the end of my comments. {Both figures are from RS74B.	EOO
20096	In that technical report, the phrase “Proposed Action” refers to the original design, in contrast to the current DEIS where “Proposed Action” refers to the Tailings Basin – Mitigation Design.} A very conspicuous difference is that Figure 8-19 lacks the blue curve labeled “Captured Water”. Clearly, this is because the horizontal drains in the original design have been removed from the mitigation design. There is no reason, however, why there would be less arsenic in the tailings water. It is just that no provision is being made in the mitigation design for capturing seepage, or is it that perhaps some future provision will be made for capturing seepage but that the arsenic in captured seepage was ignored when RS74B was prepared? Whichever case applies, it must be emphasized that the difference between Figure 6-25 and Figure 8-19 does not represent a real improvement, but rather a failure to account for all of the arsenic leaving the tailings basin. I also want to emphasize that these two figures are only samples: the corresponding figures in RS74B that apply to sulfate, antimony, cobalt, copper, and nickel exhibit the same kind of differences with no explanation provided.	WR1A
20096	These results for the original design and for the mitigation design were summarized in the text of section 6.2 and section 8.2 respectively of technical report RS74B. For the original design, exceedances were noted for antimony, arsenic and nickel, while temporary exceedances were noted for silver and cobalt. For the mitigation design, there only is an exceedance for antimony and a temporary exceedance for arsenic. It must be emphasized, however, that this does not represent a real improvement, but only the fact that the modeling of the mitigation design fails to account for solutes in captured seepage.	WR1A
20097	Why does the design of the tailings basin lead to such difficulty in the modeling process, and why does it have so many adverse environmental consequences?	RFI
20097	• There are issues of geotechnical stability, particularly the possibility of catastrophic dam collapse. Such a collapse would have horrendous consequences for the environment, for the safety of people in the area, and for the local economy.	GT2
20097	• Both the regional model and the local area model also suffer from the extreme sparseness of the data input. This is partly due to limited availability of historical stream monitoring in the area, but it could have been partly remedied if PolyMet or one of its sub contractors had taken the trouble to collect environmental data during the mineral exploration phase or as a preliminary to preparing this Draft EIS.	EOO,WR1E
20098	Another reason, which tends to amplify the adverse consequences is the sheer scale of the project: • The mine is expected to produce 91,000 tons of ore per day, or 11,680,000 tons per year. On the other hand, the total metallic content of various outputs will be around 48,000 tons per year. Thus, the metallic content is about 0.4% of the ore production, i.e. four-tenths of one percent. If we note that copper sulfide is about 80% copper, we can estimate that the metallic sulfide content being extracted is about 0.5% of the ore production. Even with an estimate that the concentrated output of the process has as little as 10% to 25% metallic sulfide content, we are still left with an estimate of only 2% to 5% of the mine output leaving the processing plant as finished product. This means that something in the range of 95% to 98% of the ore production is going to end up in the tailings basin. This will be over 11 million tons every year. It will be finely ground and mixed with a large enough amount of water to move this amount of material, and it will contain a considerable quantity of toxic substances such as sulfate, mercury, antimony, arsenic, cobalt, nickel, selenium, and silver. Since the material will be finely ground, the process of dissolving these toxic substances will be accelerated. One conclusion is inescapable here: the solution to an environmental problem of this scale will be complex and difficult.	EOO,WR1E

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Comment ID	Comment Text	Theme Codes
20098	• Because the former LTV tailings basin is unlined and the proposed PolyMet tailings basin also would be unlined, large amounts of polluted water will escape by subsurface seepage.	EOO
20099	It is also important to note that the Tailings Basin - Mitigation Design appears to be different from the Tailings Basin Alternative discussed in the DEIS which was first introduced prior to the date of the September 17, 2008 DNR memo.	WR1E,WR2D
20100	• The Tailings Basin Alternative provides for the capture and pumping of the tailings basin seepage but allows for the discharge into the Partridge River (especially after mine closure) with no definite provision for treatment. There should be a definite treatment plan, because any water that comes from the tailings basin is going to contain many toxic substances, such as sulfate, mercury, antimony, arsenic, cobalt, nickel, selenium, and silver.	WR1A
20100	• The PRB is an unproven technology; therefore a backup plan should be provided in case the test is unsuccessful.	WR1A
20100	• The PolyMet Mitigation Design vaguely mentions capture of tailings basin seepage but no definite provision is made regarding what would be done with any captured seepage. If this seepage is not handled properly, it would have serious adverse effects on groundwater in the Embarrass River basin. If seepage is not captured and treated promptly, it will make its way into wells and streams many years into the future, at which time the problem will have become much more difficult to remedy.	WR1A
20102	• Construction of a PRB of sufficient size to mitigate the groundwater problems would be a construction project of significant size. It is not clearly stated who would be responsible for paying for it.	WR1A,PD3
20102	• Although it is mentioned only once in the DEIS, it is true that the PRB would require periodic recharge. This would be analogous to replacing the cartridge in a drinking water filter – except on a much larger scale. So, we should recognize that even the PRB, just like other long-term mitigation measures, will require long-term maintenance.	WR1A
20104	1.2 Calibration issues. Once the basic setup of a MODFLOW model has been done, it must be calibrated before any predictive calculations are done. This means that the values of the parameters or coefficients in the equation must be determined or estimated. Some parameters cannot be determined directly, instead they are estimated by an essentially trial-and-error process. With trial values of the parameters of interest, you do calculations to predict values of things that have already been measured. A difficulty in this approach is that the number of parameters being estimated often exceeds the effective number of data points. The situation of an ambiguous result for this problem is called non-unique parameter estimation. An analogy in geometry is that there is a unique line going through 2 points, but if you only know where one of the two points is, then you don't know very much about the line.	EOO
20105	These provisions must be documented as part of the EIS process. No documentation of remediation of water pollution caused by these overflows and seepages is provided in this DEIS.	EOO
20105	Generally, we have to recognize that the tailings basin seepage, just like the mine pit overflow discussed in Part 1, will continue for many decades – and likely for centuries – after closure of the mine. The water pollution caused by these overflows and seepages will adversely affect future generations unless there are adequate provisions to deal with it ahead of time.	WR1A
20107	3.1 The need for financial assurance. We have seen, in connection with both the mine pit and the tailings basin, that there will be adverse effects to water quality that will continue long after closure of the mine and processing facility. The modeling may not be sufficiently precise to tell us the exact amount by which the various pollutants in the mine pit overflows and tailings basin seepage will exceed water quality standards, but we can conclude with a high degree of certainty that there will be significant exceedances and that these exceedances will continue for many years after closure of the facility. Continuing exceedances can be dealt with effectively only by means of continuous treatment of any contaminated water that leaves the mine site or tailings basin area. Therefore, the only responsible course of action is to make provision in advance for appropriate long-term treatment of contaminated water, long term monitoring of water quality, and long-term maintenance of the necessary facilities. This should include:	WR3I



*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
20108	• Determination in the EIS process of the appropriate parameters of the necessary treatment facility or facilities.	WR2G
20108	• Determination in the EIS process of the appropriate financial assurances, so that the burden of future cleanup costs is not passed on to Minnesota's taxpayers.	PD4
20109	In the history of mine cleanups in the U.S., a large number are associated with bankruptcies of mining companies. In those cases, the taxpayers have paid and are continuing to pay for expensive cleanups. In the case of PolyMet, the company has no assets other than this mine, and this proposed project is to be funded largely by Canadian and other non-U.S. partners. It is not clear how these sponsors could ever be held accountable by Minnesota state law for massive cleanup efforts.	PD4
20110	3.2 EPA requirements. It is stated in the DEIS that Minnesota regulations require determination of financial assurances during the permitting phase, because the costs will be known more exactly at that time. These regulations been developed during an era when we did not have sulfide mining proposed in Minnesota. On the other hand, the EIS process could include discussion of the basic parameters that would apply to that determination. The experience in states or regions with a history of sulfide mining shows that it is better to discuss financial assurances during the EIS process, and this is now reflected in Federal EPA regulations. The situation is very well summarized in the statement by tribal cooperating agencies in footnote 13 on page 3-49 of the DEIS: "It is the position of the tribal cooperating agencies that financial assurance should be fully explored in the DEIS. This is particularly important given the potential for very long-term/perpetual treatment, maintenance and monitoring that may be needed for the Proposed Action. Because of its experience in expensive cleanups of contamination from many defunct or bankrupt sulfide mines, EPA Region 9 has strongly urged other Regions over the past two years to require financial assurance disclosure in the NEPA process. New national rules for financial assurance are under development by EPA, because "Given the history of adverse environmental effects resulting from some hard rock mines, and the expenditure of public funds used in some cases to address environmental problems caused by mining, EPA believes it is necessary to analyze these factors in the DEIS." (from InsideEPA.com, Tuesday, August 25, 2009)." Because of the high probability of environmental contamination documented in my earlier comments, the taxpayers of Minnesota deserve to know during the EIS process what the long-term costs of remediation are going to be and what financial assurances are going to be required of PolyMet.	PRO1,PD4
20111	o The regional model for the area surrounding the mine is based on a grid that is insufficient to provide any useful predictions.	WR1E
20112	o Both the regional model and the local-scale model for the mine area suffer from sparseness of data input.	WR1E
20113	o The hydraulic conductivity values and the recharge rates for the surface deposits (wetlands and glacial drift) were set to implausibly low values during the calibration of the MODFLOW model. This has led to incorrect calculation of the amount of water entering the mine pit – estimated to be off by a factor of 5. This will lead to a significant increase in the leaching of sulfate and of metals such as of arsenic, cobalt, copper, nickel, and selenium.	WR2F
20114	I can make my point about this part of the DEIS without further reference to this article; it is mentioned only to document the fact that this problem has been recognized by others. In the DEIS, the model was calibrated to the water levels of some test wells near the location of the proposed mine pit. The parameters which could be adjusted were the hydraulic conductivity and the recharge rate. Hydraulic conductivity refers to the rate at which water flows through a medium, the recharge rate is the rate at which water in the medium is replenished (for instance by precipitation).	EOO
20115	o The MODFLOW model was calibrated by trial-and-error methods, even though more reliable methods are well documented in the scientific literature.	EOO
20116	o The issue of non-unique calibration was raised some time ago by the tribal cooperating agencies, but has been ignored by the other agencies involved in later stages of preparing the DEIS.	WR2F,PRO3

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Comment ID	Comment Text	Theme Codes
20117	o Transfers of water from the mine site to other areas such as the tailings basin area will magnify water quality and discharge problems in those areas. Please see items (1) through (4) in the text of section 1.4 for more details.	WR1E
20117	o The production of sulfate through the oxidation of exposed rock, as well as the leaching of sulfate and metals (including mercury, arsenic, cobalt, copper, nickel, and selenium) will continue at a high rate during mine operations and for many decades after mine closure, This will lead to exceedance of water quality standards for most of these solutes, and therefore to the need for long-term continuation of water treatment, water quality monitoring, and related maintenance activities.	WR1E
20119	o Although the setup for the original modeling of the tailings basin generally looks plausible, the underlying technical report RS74B claims that the EIS contractor was unable to validate it. No specific reason is given, and none of the results from the first round are presented, leading to a lack of modeling documentation to review as part of the DEIS public comment process.	WR2F
20122	o The original model for solute transport, based on MODFLOW and MODPATH has been replaced by a less transparent model for which the documentation is sketchy to non-existent.	WR2F
20123	o There is no independent verification of the mostly unspecified methods used in the spreadsheet models that have replaced the MODFLOW-MODPATH modeling of solute transport.	WR2K
20123	o It is stated in the underlying technical report RS74B that the documentation of mass load terms for the various source areas is not being documented in the DEIS or in any of the technical reports that have been made available during the DEIS public comment process.	WR1E,PRO3
20124	o The DEIS does not disclose the fact that the EIS contractor was not able to validate results of the MODFLOW/MODPATH modeling of the flow of dissolved constituents through and out of the tailings basin.	WR2F,PRO3
20125	o In the technical report RS74B, PolyMet says that “a combination of refined model and modeled mitigations could demonstrate no exceedances”. The language of this statement gives a strong appearance that the PolyMet modeling is designed to demonstrate no exceedances rather than to provide objective scientific information.	WR1E
20126	If a low value is used for hydraulic conductivity, then you have to use a low recharge rate in order to accurately match the water level in the test wells. Similarly, a higher value for hydraulic conductivity will have to be matched with a higher recharge rate. If you use low parameters, then the model predicts less water getting into the mine pit. Similarly, high parameter values lead to a prediction of more water in the mine pit. The difference between the two choices could be extremely significant for predictions of environmental interest, as I will explain later. Here are the hydraulic conductivity rates presented in Table 3-3 of RS22, Appendix 2:	EOO
20126	o The DEIS fails to disclose that the design that the PolyMet Company proposes to use (the Tailings Basin - Mitigation Design) has not been documented in any detail and isn't intended to be documented during the EIS process.	WR1E,PRO1
20126	o Water quality results reported in the technical report RS74B for the Mitigation Design are more optimistic than the water quality results reported for the original design. This does not represent a real improvement, but rather the fact that captured seepage water was not analyzed in the modeling for the new design – as had been the case for the original design. Thus, the DEIS fails to report likely exceedances of water quality standards for antimony, arsenic, nickel, silver and cobalt.	WR2E
20128	o The PolyMet Mitigation Design vaguely mentions capture of tailings basin seepage but no definite provision is made regarding what would be done with any captured seepage. If this seepage is not handled properly, it would have serious adverse effects on groundwater quality in the Embarrass River basin. If seepage is not captured and treated promptly, it will make its way into wells and streams many years into the future, at which time the problem will have become much more difficult to remedy.	WR1A
20128	o Because the former LTV tailings basin is unlined and the proposed PolyMet tailings basin also would be unlined, large amounts of polluted water will escape by subsurface seepage.	EOO

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
20128	o There are issues of geotechnical stability, particularly the possibility of catastrophic dam collapse. A collapse would have horrendous consequences for the environment, for the safety of people, and for the local economy.	GT2
20130	o The Tailings Basis Alternative includes a possible test of a permeable reactive barrier (PRB) to intercept and treat some of the tailings basin seepage. Concerns about the PRB include the following facts: (1) it is an unproven technology, (2) constructing it on a sufficiently large scale would be an ambitious undertaking, and (3) it requires long-term maintenance in the form of periodic recharge. None of the parameters of the design or required maintenance are discussed in the DEIS.	WR1A
20130	o The Tailings Basin Alternative discussed in the DEIS provides for the capture and pumping of the tailings basin seepage but allows for the discharge into the Partridge River (especially after mine closure) with no definite provision for treatment. There should be a definite treatment plan, because any water that comes from the tailings basin is going to contain many toxic substances, such as sulfate, mercury, antimony, arsenic, cobalt, nickel, selenium, and silver.	WR1A
20131	o Because of the high probability of environmental contamination documented in my earlier comments, the taxpayers of Minnesota deserve to know during the EIS process what the long-term costs of remediation are going to be and what financial assurances are going to be required of PolyMet. Therefore the EIS process should include the following:	PD4
20131	o Because there will be a long-term need for water quality mitigation, continuing for many years after closure of the proposed mine, and because of a long history of mining company bankruptcies which have forced taxpayers to pay for expensive cleanup efforts, there is a definite need for financial assurances to guarantee that PolyMet will pay for continued water quality monitoring and mitigation, as well as maintenance of the necessary facilities.	WR3I,PD3,PD4
20132	<input type="checkbox"/> Determination in the EIS process of the appropriate parameters of the necessary treatment facility or facilities.	PRO1
20133	<input type="checkbox"/> Determination in the EIS process of the appropriate financial assurances, so that the burden of future cleanup costs is not passed on to Minnesota's taxpayers.	PD4
20133	The rates for the various bedrock formations are from previous studies in the scientific literature or from recent testing, but the values for the surface features (wetland deposits and glacial drift) are more ad hoc or arbitrary. The Duluth Complex is known to consist of a particularly impermeable type of bedrock; nonetheless, the estimated value given for the vertical component hydraulic conductivity (0.0000033 ft/day) given for the wetland deposits and glacial drift is fully three orders of magnitude lower than the value of hydraulic conductivity (0.0024 ft/day) of the Duluth Complex. From the viewpoint of a scientifically educated layperson, this is inherently implausible. The supposed rationale is that water percolates very slowly out of the bogs. But it doesn't explain why such a grotesquely low value was chosen. It also doesn't explain why this low value is chosen for the vertical hydraulic conductivity of the glacial drift. Supposedly, this has to do with the high silt content of the glacial drift. It would seem, however, that this silt content also should affect the horizontal conductivity, which happens only to a very minor extent. So, we have to conclude that there is no convincing proof that this hydraulic conductivity value is correct.	WR2A
20134	o Based on the experience of states and regions with a history of sulfide mining, Federal EPA regulations strongly recommend discussion of financial assurances during the EIS process.	PD4
20135	It was a good idea to include the Tribal cooperating agencies' comments as footnotes to the DEIS text; they did a good job of technically evaluating the potential impacts described in the DEIS. As there are several areas of disagreement with the DEIS assumptions and projections, the Tribal comments and recommendations should be carefully considered in subsequent actions that will lead to the final EIS and decisions on whether or not to conduct, and how to conduct, the PolyMet mining operation.	G15

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
20136	I think the analysis of possible Hg effects did a good job of explaining the complexity of the relationship of Hg sources to its incorporation into fish tissues, and the uncertainties about the role ecosystem factors might play in contributing to its conversion to methylmercury. My concerns about the possibilities of the mining activities causing increased fish tissue accumulations in water bodies as far away from the mining site as the St. Louis River and waters in between were substantially reduced since the amount of elemental Hg produced would be very small. There could also be a sequestering effect on elemental Hg by tailings (as seen previously), and conversion to organic Hg might not be increased by the amounts of sulfate residues produced. However, this must be balanced against the uncertainties; associated with an imperfect understanding of the processes involved and their complexity, the somewhat nebulous estimates of contaminant concentrations (particularly sulfate) that would be present the runoff of seepage or overflow from the tailings basin and mine pits, and thus the ability to predict with confidence what will happen with regard to mercury. Considering the magnitude of the problem already, including fish tissue residues in lakes in the vicinity of the plant any likelihood of events leading to an increase is to be avoided. Therefore, the additional work being done to better define this possibility resulting from the Proposed Action is very important and must be considered at the environmental impact review stage, not after.	WR5A,WE8
20136	In my mind a big problem is the time frame over which the Proposed Action might require water treatment to prevent environmental impacts from surface and ground water contamination. According to the DEIS models, the Proposed Action could result in exceedances of state or USEPA water quality standards or "ground water evaluation criteria" (largely drinking water standards) for sulfates, arsenic, antimony, cobalt, copper, nickel, or selenium in ground or surface water collected onsite or adjacent to the mine or processing plant sites. Removal of these by the Waste Water Treatment Facility would of course be expected during the 20 years or so of plant operation, but is also expected to be needed for the additional 45 years or so "Post Closure?" period until the West Pit overflows into surrounding wetlands. Models indicate that further treatment could also be required for an indefinite period after that (decades to centuries) to prevent pollution of adjacent wetlands or the Partridge or Embarrass Rivers.	WR3I,WE6
20138	I think It is unrealistic that Polymet or the state would be willing to assume financial responsibility for treatment of seepages and leachates for this length of time. Too many domestic or foreign financial or economic factors could interfere with any such long-term funding plans. To further complicate matters, financial assurance figures and instruments can only be determined during the subsequent permitting phase of project review. This is far too unique and beautiful an area to be further degraded by the possibility of creating an uncontrolled, perhaps perpetual, pollution source, especially by a mining type (sulfide mining) with such a bad record for environmental damage.	PD3,PD4
20139	Added to the above uncertainties is the fact that the process for extracting the target metals at the plant site is new and has only been tested on a much smaller pilot scale, so hydrometallurgical residues going into and subsequently out of the tailings basin could be substantially different than the model-projected residues.	WR1E,PD2
20140	Based on the preceding considerations, I would conclude the DEIS provides insufficient information to assure me that water contaminant and Hg residue increases will not occur as a result of the mining, particularly when I have no information on assurances by PolyMet that they will provide treatment to control contaminants for as long as elevated levels are capable of leaving the disturbed area. For these reasons I reject the information in the DEIS as being an adequate basis for proceeding to the permitting stage, with the Proposed Action. As a result of the "Catch-22" related to obtaining information about financial responsibility (not available until the permitting stage), I will probably never be able to agree there is a satisfactory basis for conducting this mining operation (ie. have adequate assurances at the EIS stage that PolyMet will pay whatever is necessary to protect the environment, regardless of how long it might take).	WR4B,PD2
20141	I am writing to you as a citizen of Minnesota concerned about the Polymet NorthMet sulfide mining project proposed on 6,700 acres of public land in the Superior National Forest. Please accept these comments on PolyMet's Draft Environmental Impact Statement. I have serious concerns about the safety of this project and its potential impacts on Minnesota's natural resources.	EOO

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
20142	Concerning impacts of water quality, I understand that the water leaching from waste rock piles at the site is expected to exceed water quality standards for up to 2,000 years. this is unacceptable to me. It is unreasonable to expect that mining companies will be able to maintain water treatment facilities for that amount of time and it is an unfair burden to pass on to future generations in Minnesotans who will inevitably be left to pay for these operations. Additionally, it will be all but impossible to calculate sufficient financial assurance for a mining operation that is going to require such long-term care. in fact, a possible “mining moratorium law” such as in Wisconsin should be considered.	PD2,PD4
20143	In addition, the DEIS predicts contaminated waters to be discharged from the mine site into the Partridge River after the mine’s closure, as well as tailing’s basin discharges high in sulfates can turn mercury into forms that make fish dangerous to consume. it is unacceptable to proceed with a mine that already predicts these kinds of pollution outcomes.	EOO,WR4B,FM1
20143	It is my understanding that PolyMet proposes to use an existing mine tailings basin for the disposal of its tailings and toxic materials – but that the basin already has stability issues making it unsafe. Any failure of the basin to hold its contents would result in long-lasting and serious contamination PolyMet should complete a stability analysis of the basin and devise an acceptable design before being able to proceed with this project	GT2

**Sender Last Name:** Matonich

**Submission ID:** 1098

1202	The state of Minnesota, after six years of intense scrutiny by an independent engineering company, is finally moving forward on a project that could lead to economic revival in northeastern Minnesota. The proposed development of a new mining facility by PolyMet Mining Company at Hoyt Lakes is important to our region, i.e.m direct jobs, support jobs, local, state and federal taxes. However, the project has positive implications that go far beyond the scope of this one endeavor. The future of mining nad manufacturing in Minnesota is dependent upon bringing the MolyMet mine to production. Without state support, it will be virtually impossible to entice other corporations and entrepreneurs to invest the money, energy, and time of the type that PolyMet has expended if such efforts get thwarted by the hue and cry of a scant number of well intentioned but ill informed people. The PolyMet project offers a variable paradigm for the mining of scarce low-grade nonferrous mineral deposits. ANy modern mine must also conform to the rigorous standards that state, local and federal agencies have in place and will enforce. Taxpaying citizens of our area and state will gain substantially by allowing this project to move forward. A successful modern day and transparent mining operation is needed. At the present, mining in most of the regions of the world are not subject to the strict environmental standards in place in Minnesota. PolyMet should be grandted the opportunity to compete with those offshore polluters. However, PolyMet must operate in an environmentally safe manner, which the company has already demonstrated through corporate culture of compliance. Timing is critical. The United States is a net importer of copper, nickel and cobalt with a thrity billion dollar deficit balance of payment in minerals. This project can move America to self-sufficiency in mineral production. In these dire economic times with near record unemployment, a staggering number of people living below the poverty level and gargantuan state and federal spending deficits, the PolyMet project provides an opportunity for the creation of meaningful jobs crucial to homeland economic prosperity and national security.	EOO
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**Sender Last Name:** Mattison

**Submission ID:** 3668

*Alphabetical by sender's first name*

<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
1	Generally, I found the DEIES ominous and foreboding in its language and length and disturbing in its overall tone. It was an enormous challenge to attempt to read and digest the content of this document. Better organization and structure to reduce the redundant discussion would have better served the reviewing public. The sheer volume of the document presents a formidable obstacle to good public review and familiarity with the project and its implications for Minnesota's environment. At times the DEIS became annoyingly apologetic consistently minimizing probable impacts or emphasizing lower impacts when model error was equally predictive of greater impacts. A glaring example of this writer bias is demonstrated in the finding that a single (and possibly outlier) data point was used to speculate that waters receiving discharge of sulfate pollutants from the project were not sulfate limited in the methylation of mercury therefore the pollutant was less likely to be of significant consequence. This type of "minimized impact tone" often is allowed to creep into environmental review documents when the agencies responsible for preparing the document allow the project proposer (usually through its consultants) actually draft portions of the EIS. Whether the project proposers were allowed unwarranted authorship of the language in the DEIS or not the writers of the DEIS should strive to maintain a cynical objectivity that reflects their respective agency's recognition that their clients are the citizens of the state and the natural environment that sustains them rather than the project proposers. These cases of writer bias should be meticulously stripped from revisions of the DEIS and the FEIS	EOO
2	Secondly, the purpose and need statement for the project was inappropriately used to justify premature elimination of an important alternative, the underground mining of the desired ore. It is clearly a violation of the spirit and intent of the National Environmental Policy Act NEPA and the Minnesota Environmental Policy Act MEPA to eliminate an alternative to Polymet's preferred open pit mining project on economic considerations alone. Paraphrasing MEPA on this subject, regulatory agencies shall not permit the pollution, impairment or destruction of the natural environment so long as there is a prudent and feasible alternative. Economics alone shall not justify such actions. The underground mining of the desired minerals has the potential to avoid significant portions of the wetland impacts from the preferred alternative, reduce the oxidation and exposure to surface waters of sulfide containing ore thereby reducing potential for acidic runoff, sulfate and other polluting metals discharge to surface and ground waters, reduce air pollution and minimize wildlife and other impacts. This alternative should be fully developed in a revision of the DEIS or amended to the FEIS. Should this alternative be found to be significantly less polluting and to reduce other wildlife and wetland impacts to below significant thresholds the regulatory agencies would be obligated to entertain permit applications from Polymet for this alternative alone. Should Polymet then determine that mining the desired ore under the conditions imposed by following NEPA and MEPA were not feasible for them economically, the environmental review process would have performed as designed. Moreover, this process would have lead Minnesota to have come to the same conclusion about sulfide ore mining that several other states including Wisconsin have, that is that the mining of high sulfide containing ore is not yet feasible in the state while providing for the reasonable protection of natural resources and the environment. Premature elimination of this underground mining alternative in the environmental review process interfered with the logical and analytical process by which this determination could have been reached.	ALT8
3	Third, the segmentation of environmental, social and economic impacts from the land exchange with the Forest Service for an as yet unidentified parcel of land for separate environmental review is also contrary to NEPA and MEPA. Depending on the site ultimately selected there is the potential for significant environmental effects of the project that are not disclosed in the DEIS. Segmentation of the project to avoid full disclosure of the overall impacts of a proposed action is strictly forbidden by these statutes and supporting rules. The DEIS should be amended to include the impacts of the land exchange and then fully republished and re-noticed for public review. Similar to wetland replacement, only identifying to the extent possible the particular parcel or parcels of land involved in the exchange can the public be made fully aware of the complete impacts of the entire project.	PD1

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
4	<p>Fourthly, while the cumulative effects analysis in this DEIS represent a significant improvement from past efforts by the Corps of Engineers and Department of Natural Resources there remain significant errors of analysis made that require revision of the DEIS. The DEIS conducts cumulative impact analysis from within the silos of specific pollutant, impacted resource or project aspect without ever bringing them all into focus together with all other past and foreseeable future impacts. This particularly true of the assessment for cumulative impacts on fish tissue mercury concentrations. Fish tissue mercury is an especially sensitive impact category because the resource (fish) has already been stressed beyond acceptable limits, (fish tissue mercury concentrations have triggered human consumption advisories) and special regulatory efforts are being expended to reduce the problem. Furthermore, the MPCA has found that reductions in air emissions alone will not be sufficient to bring fish tissue mercury back within acceptable limits and therefore other efforts (TMDL's's) regulating other factors contributing to the problem to be scaled back in order to realized desired fish tissue mercury levels. In this setting the significance of past human activities is already significant. This drastically 3 lowers the bar for present and future projects impact significance on fish tissue mercury. Essentially, any project that can be shown to potentially increase fish tissue mercury should be considered as having significant adverse impact on that aspect of the environment. Furthermore, to make this assessment the cumulative impacts assessment should have incorporated discussion of the past atmospheric emissions of mercury to the natural environment and the added cumulative impact of atmospheric emissions on methylation of the ambient mercury as it relates to fish tissue concentrations and the fish tissue impact within the geophysical, aquatic and air shed mercury impact footprint of the project. Other discharges non-atmospheric (i.e. wastewater discharges) of mercury and sulfates from all other past, present and future discharges should then have been added to the impact footprint. Then all hydrologic alterations of the watersheds within the impact footprint that further facilitated methylation of available mercury in the environment should have been assessed including construction of water impoundments, lake level control structures, inundation of or alternate draining and flooding of all wetlands (not limited to riparian wetlands) from watershed alterations etc. should have been taken into account. At least impacts of the Whitewater Reservoir's construction and past operation (water level fluctuations) and the added fluctuations associated with the proposed project's impact on mercury methylation should have been assessed in addition to the several reservoirs downstream from the project on the St. Louis River and elsewhere. The relationship between water impoundments and hydrologic alterations has been well documented in Canadian studies of hydroelectric dams and in the Final Joint State/Federal Environmental Impact Statement on Flood Control Impoundment in the Red River Basin of the North prepared by the Corps of Engineers and the Minnesota Department of Natural Resources. The relationship between riparian and riparian or drained wetlands and mercury methylation is well established in Corps of Engineers work on the Rainy River chain of industrial impoundments and their operational plan involving operational and seasonal fluctuations of water levels in these impoundments. Finally all emission sources and water discharges of mercury and sulfur containing pollutants from the proposed project should then have been added to the past and reasonably foreseeable non-project impacts on fish tissue mercury concentrations in the broader project foot print. Environmental impacts accumulate by various means as described in NEPA guidance documents on the</p>	PD10,CR1
5	<p>And finally, one reasonably foreseeable future action by Polymet itself was casually dismissed in the DIES that may have serious implications for the overall cumulative impacts of the proposed project and the impacts of which should be incorporated into this assessment. Alternative E20 on table 3.2.4 (page 3-67) of the DEIS states that "There are additional mineral resources in the West Pit that would effectively be lost if the pit was used for waste rock and/or tailings disposal." Use of the West pit for waste rock or tailings disposal is thus eliminated from further consideration. The probability of future mining of unspecified mineral deposits in the West Pit making it unavailable as a disposal alternative is clearly established in this decision by Polymet. Environmental impacts of this "reasonably foreseeable future action" by the project proposer must be incorporated into the current DEIS. While this may be an exception to the standard criterion for reasonably foreseeable actions (detailed plans or permit applications) the probability of this future action is strong enough for the company to reject reasonable alternatives to the proposed action and thereby rises to the level of reasonably foreseeable. This future mining should be assessed in the revised DEIS and the final DEIS.</p>	G9

*Alphabetical by sender's first name*

<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
6	The summary findings (pages s-8) of the project impacts including Antimony, manganese and nickel concentrations exceeding EPA MCL's and sulfate exceeding groundwater evaluation standards is a significant impact of the proposed project that would favor alternatives including the no action or underground mining alternatives to prevent or minimize them.	ALT8,PD2
7	The discussion and land exchange with the U.S. Forest Service (page1-2) remain unresolved issues the finer points of which should have been developed and detailed in the DEIS. The public should be party to and reviewers of both the arguments for the mineral rights and the environmental impacts of the suggested land exchange. If the U.S. Forest Service is an unwilling partner in the land exchange or the access to the mineral rights within the National Forest Lands this debate should be conducted in full view of the public and documented in the DEIS. Failure to include the associated environmental or public resources at stake in the mineral rights access and the suggested land exchange is a critical omission from the DEIS and should be corrected by having these negotiations carried through to their ultimate outcome before final judgments can be made on the overall environmental impacts of the project.	PD1
8	On page 2-6 the DEIS sets forth an unacceptable rationale for not including estimates of financial assurance until the permitting phase. Since financial assurance issue may heavily influence economic viability, future public liability, financial assurance that future environmental impacts are sufficiently addressed after closure etc. the public must have at least reasonable estimates of needed financial assurance at the point of environmental review. Surely, those values can be estimated for each of the preferred and alternative project designs and projected future impacts using conservative (high values for sake of avoiding serious underestimates) to provide the skeptical reviewing public some measure of assurance that they are not being hoodwinked into receiving and monstrous future environmental and financial liability should the project move forward. The DEIS revisions and re-noticing of the revised final DEIS should be delayed until these numbers can be developed.	PD3,PD4
9	In Section 3.1.3 Proposed transport of ore on page 3-17 and 18 the issue of losses of ore from transport trains either by leakage through gaps in hinged doors or large pieces of ore falling out of rails cars is discussed. The center loading of fines and proper loading and or recovery of lost ore rock is offered as assurance that this spillage will not be of concern. The reviewing public should not be assured by these measures. Significant spillage from leakage and falling off of larger ore rocks may well be a significant source of all the pollutants at issue in this project with groundwater, wetland and surface stream and lake impacts. This source of sulfates, mercury and other metals was not properly 2 estimated in the DIES nor were the additional cumulative effects of this vast non-point source of these pollutants properly assessed in the DEIS. The DEIS should be amended to include this assessment.	PD7
10	The projected post-closure operating time of the proposed WWTF is questionable based on assumptions not well supported in fact or data in the DEIS. This contributes to uncertainty about the future financial assurance needed for the post-closure period of the project increasing the public risk of pollution or unpredicted economic burden on the general public should wastewater treatment be needed beyond the projected time frame. The uncertainty in this prediction should be better quantified and the implications for post closure WWTF operation costs and burden more fully developed in the DEIS.	PD5
11	On page in section3.2.1, No Action Alternative on page 3-51 the DEIS implies that the no action alternative would prevent the realization of the social and economic benefits of the Project. This the kind of project favoring speculative assumption referred to in the cover letter to these detailed comments. It has not been established that there would be, on balance positive social and/or economic benefits from the proposed project. Certainly there would be short-term isolated economic benefits to some but the DIES must remain objective and take the boarder long term view from the general society viewpoint. Long term environmental degradation and economic liability should financial assurance measures be inadequate are profound societal economic and social liabilities. The jury is still out as to which of these scenarios is the more likely. Skeptical objectivity on the part of the writers of the DEIS would avoid such unfounded project-favorable findings. Furthermore, the no action alternative may have cumulative long term benefits to the environmental setting that were not discussed in the DEIS. This discussion should be presented here.	ALT8



*Alphabetical by sender's first name*

<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
12	Section 4.1.1.2 Groundwater Resources on page 4.12 presents rather vague and unsupported assertions about the dynamics of existing groundwater systems at and in the vicinity of the proposed project. Many calculations throughout the DIES rely on the accuracy of the exiting groundwater condition yet many uncertainties and unknowns exist that may have major repercussions for predicted surface and groundwater impacts from the project. The lack of groundwater data prevent the full development of reliable models and predictions for impacts of the project. This is unacceptable because it has serious implications for assessing all water quality impacts, both project and resource specific impacts as well as cumulative impacts. The entire DIES is severely weakened for lack of adequate groundwater data. These data should be collected and used to better calibrate the ground and surface water models that were used to predict project related water quality impacts and presented in a future revised draft EIS.	WR2F
13	In the proposed action and project alternative evaluation the underground mine alternative was acknowledged as have benefits addressing the four primary environmental concerns with the proposed tailings basin alternative but was eliminated for economics reasons (in addition to mine safety and deposit geography concerns which in reality are not technical but other forms of economic considerations. The DEIS did not find the underground mine to be technically unfeasible, it simply did not meet the 3 expressed purpose and need of the project proposers. That purpose and need was solely based on economic considerations which, by NEPA and MEPA are not justifications for eliminating feasible alternatives. If alternative mining techniques are available that will prevent the significant adverse environmental impacts of a proposed project these techniques must be presented and assessed. Should the project proposer find that the more adequate environmental protections afforded by this alternative make the mining infeasible from a solely economic perspective the EIS process will have served its purpose. The EIS would have provided strong evidence that economics of mining the sought after minerals at this site cannot be conducted in a manor sufficiently protective of human health and the environment. The DEIS should be revised to include evaluation of the benefits of this alternative and if necessary provide the decisive evidence suggested above should that be the outcome.	ALT8
14	The evaluation of alternative means of ore transport in table 3.2-4 on pages 3-64 through 3-67 rejects evaluation of conveyors rather than rail transport that may have significantly reduced spillage of ore and associated (not well evaluated in the DEIS) environmental impacts. Again, this transportation alternative was rejected primarily for economic reasons. Technical feasibility reasons were also cited but not explanation was provided. For the same reasons referenced above regarding the rejection of the underground mine alternative this transport alternative should have been included for more detailed analysis and its potential for reduced impacts assessed. The DEIS should be revised to include this information.	PD7
15	On this same table the alternative of using the West Pit for waste disposal was eliminated because there were “additional (unspecified) mineral resources in the West Pit area that would be lost if the pit was used for waste disposal. This represents a reasonably foreseeable future impact of the mine project that should be assessed in the cumulative impacts analysis. The DEIS should be revised to conduct the required analysis.	G9

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<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
16	The mine site geology and hydrogeology presents a data poor and speculative understanding of ground water flows and groundwater/surface water interaction that make predictions of impacts on the groundwater regime on the site very clouded. Further field collection of groundwater levels and movement should have been gathered for this review. Many of the groundwater and surface water impacts of the proposed project rest on having a clear understanding of the dynamics of the existing groundwater system. To the extent the existing groundwater regime is unknown or uncertain, the future immediate and long term impacts of the proposed project and its alternatives become less and less predictable. The DEIS should be revised with more reliable groundwater data on which more reliable predictions of impacts can be based. The discussion of Effects of Groundwater Quality at the Mine Site on page 4.1-66 is disturbing in that it seems to accept at face value and without questioning (objective skepticism) that the limestone treatment of the exposed high sulfide Virginia Formation High Wall in the East mine pits will be effective in controlling acidity developing on the exposed rock face. This is another example of the authors of the DEIS tilting matters of any doubt in favor of unsupported, speculative assertions by the project proposer. While 4 acknowledging that the successful application of the measure has not been demonstrated the authors proceed to accept the assertion as reliable and proceed to base groundwater modeling of East mine pit through filling with processes wastewater and waste rock. This modeling of groundwater quality becomes totally speculative and unreliable in a DEIS of this importance. Either the groundwater modeling should conservatively assume the full acid production that might be expected to leach from the untreated High Wall or the efficacy of the limestone treatment demonstrated both on lab scale and field scale to assure the assumptions in the groundwater modeling are valid before incorporating them in to conclusions in the DEIS. Either of these alternative corrections in the DEIS require a rewriting of this section and revisions of the DEIS conclusions on this topic accordingly.	WR1E,WR2A
17	The discussion of long term water budget for the closed facility in this section of the DEIS would have the reviewer believe that the facility would contain (not discharge) contaminated wastewater or pit drainage/seepage from twenty years after initial mining in perpetuity. This stretches credibility beyond reason given the poor characterization of the groundwater regime presented in the DEIS. A more conservative prediction tempered by the uncertainty introduced into the groundwater modeling of the site would suggest discharges of the contaminated water from the site for many years after closure and if post closure financial assurance does not anticipate these discharges, the general public will be unreasonably burdened with the long term care and maintenance of this facility. The DEIS should be revised to reflect more conservative projections of long term discharge on contaminated water from the site and consequent need for more extensive post closure measures to adequately provide for treatment of these discharges.	WR3I
18	In discussion of process water treatment in the WWTF on pages 4.1-68 and beyond the DEIS seems to suggest that there are doubts whether the proposed WWTF can actually meeting the required for preventing antimony, arsenic and sulfate contaminants from reaching groundwater through seepage from the tailings basin. While the DEIS offers monitoring to determine if the WWTF is providing the needed reduction in these contaminants it does not provide discussion of any contingency plan should the monitoring demonstrate that the required removal of these important pollutants is not provided by the WWTF. A risk assessment of this situation should be provided with the development of a contingency plan including plant shut down should the necessary treatment levels not be provided by the WWTF. The DEIS should be revised to include this risk assessment and contingency plan.	WR2G
19	The discussion on page 4.1-27 of the DEIS of Effects on Water Levels in Colby Lake and Whitewater Reservoir from the proposed action reveals that the Whitewater Reservoir will experience increased water level fluctuations periodically draining and flooding bays of the reservoir. The consequent increase in mercury methylation from the operation of this reservoir and alternate flooding and draining of bays of the reservoir were not included in the discussion of mercury methylation or cumulative fish tissue concentrations of methyl mercury. The DEIS should be amended to include this impact of the project. This section erroneously concludes that because the Whitewater Reservoir will receive inflows from the Partridge River under high flow conditions the resultant low sulfate levels would limit mercury methylation caused by lake level fluctuation. Mercury and sulfate already residing in the Whitewater Reservoir are more that sufficient to support increased mercury methylation with the predicted water level fluctuations. The DEIS should be revised to correctly reflect this response. Similar assessments of mercury methylation resulting from predicted fluctuations in Colby Lake levels should also be added.	WR3F,WR4B,FM1,FM3

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
20	In discussion of nondegradation standards on page 4.1-127 and 128 the DEIS offers little assurance other than monitoring that the ultimate West Pit overflows in year 65 will not exceed nondegradation standards for mercury in the Great Lakes Basin. No contingency plan is provided should monitoring demonstrate that the predicted low mercury levels in the West Pit overflows fail to perform as predicted. The DEIS should be amended to develop possible contingency responses in this event.	WR4C
21	On page 4.1-164 in discussion of mitigation measures it is revealed that the wetting and drying of peat in the unlined overburden and storage area could be expected to accelerate methylation of mercury increasing methyl mercury in the drainage from this area. This prediction should have been a finding in the discussion of mercury impacts elsewhere in the DEIS and this discharge added to the cumulative impacts on fish tissue mercury. This should be corrected in the revised DEIS for the project.	WR1E,WR5A,FM1
22	Discussion of the waiver of Clean Water Act Section 401 Certification by failure of the MPCA to respond to the 2005 Corps of Engineers Section 404 permit on page 4.2-1 is troublesome. Certainly the result of scoping and negotiation of alternative facility designs that preceded the DEIS have altered the project sufficient as to make the Corps 2005 public notice of the project void. The Corps should republish a new notice of the revised project providing the MPCA another opportunity to conduct Section 401 water quality review based on the ample new information provided in the DEIS.	WE4
23	The discussion of wetland impacts on page 4.2-9 of the DEIS reveal that the hydrology and type of wetlands involved in the project are hotly contested. The distinction between bogs and cedar swamps would appear to be a significant one with major ramifications for predicted on-site and off-site impacts. This disagreement between the authors of the DEIS and the tribal cooperating agencies should be resolved in the field and the DEIS revised if necessary based on these findings. The promise of future monitoring to resolve this dispute and determine accuracy of predicted impacts is an unacceptable substitute for pre-project groundwater and wetland studies that would more accurately assess wetland characteristics before the project is permitted. Suggesting future monitoring to correct for possible weaknesses of the DEIS is contrary to the spirit and intent of NEPA and MEPA that require justification beyond economics to pollute, impair or destroy Minnesota's natural environment.	WE1,WE2,WE3
24	Likewise, the plant and tailings basin wetland impacts methodology was contested by the tribal cooperating agencies. More accurate and conventional methods were proposed by the tribal cooperating agencies that would take into account unique differences between Cell 2W and Cell 2E settings. These methods should be applied and results used in preparing a revised DEIS and the FEIS.	WE2
25	The DEIS in Section 4.5.4 addresses mercury bioaccumulation in fish. In section 4.5.4.3 project related effects on mercury are discussed. This section relies on an extremely small data set to propose that the sulfate concentration in the Embarrass River watershed is not the limiting factor in determining methylation rates. The establish MPCA strategy for addressing sulfate effects on mercury methylation cannot and should not be dismissed on the basis of "limited monitoring" that was only "NEAR" the Embarrass River. The increased sulfate loading to the Embarrass River and downstream chain of Lakes may well be significant in triggering mercury methylation. The promise of future monitoring should not be substituted for a finding of significant adverse effect of mercury methylation leading to increase fish tissue mercury levels in fish from the proposed project.	FM1,FM2
26	Likewise, the tailings basin alternative would be expected to result in increased methylation of mercury that would impact the Partridge River and fish tissue mercury levels in the impoundments downstream on the St. Louis River. Each of the alternatives would result in further degradation of streams, lakes and existing fish tissue consumption advisory situations in the impacted areas contrary to provision of the Clean Water Act.	FM1,FM5
27	The potential for increased sulfate loadings to area wetlands, lakes and streams from fugitive dust and particulate matter emissions even after control measures are employed were not evaluated for the DEIS. This should be corrected in the revised DEIS and FEIS.	AQ1

*Alphabetical by sender's first name*

<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
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396	On page 4.14-5 Wildlife Corridor Impacts are discussed. Consistent and unjustified minimization of resource specific and cumulative impacts are found throughout the DEIS but this is the most egregious example. Cumulative wildlife corridor losses should be considered significant even if the incremental impacts are attributable to the project are found to be relatively minor. This is an example of the “nibbling” effect at a resource the dismissal of which as insignificant is specifically prohibited in explanation of cumulative impacts in NEPA Guidance Documents. The DEIS should be revised to comply with NEPA guidance on this topic.	WI5
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<b>Sender Last Name:</b>	Matton	<b>Submission ID:</b> 358
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396	I am in support of the PolyMet project. PolyMet can produce these metals in an environmentally sound manner and create hundreds of stable jobs that can support families. Based on the documentation outlined in the DEIS, I am confident that impacts to the air and water will be minimal. As a person who lives, works and plays in Northern Minnesota I understand the need to ensure a safe environment project. Let's get on with a project that will do nothing but enhance the Iron Range.	EOO
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<b>Sender Last Name:</b>	Mattson	<b>Submission ID:</b> 184
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176	I am writing in regards to the draft EIS on the NorthMet project in Hoyt Lakes, MN. The environmental review process the Polymet project endured took over five years and cost them approximately \$20 million dollars. This is very likely the most reviewed and scurtanized industrial project in the history of the world. The review produced a nearly 2000 page document addressing every possible enviornmental threat as well as multiple possible remediation processes. The Polymet will produce copper and multiple precious metals from the northmet deposit. Copper metal is utilized in wiring, plumbing, circuit boards, integrated circuits, etc. Cars, computers, electric lighting all are not possible without copper. Nickel can be used in products such as stainless steel, rechargeable batteries and is used in airplane components. Platinum, one of the precious metals, is a necessary component in catalytic convertors. All products are derived from natural resources. Every American relies on products made from these materials everyday. I would rather have the metals we need come from Minnesota than from China or South America. If we produce these products, we know they are being produced in the cleanest and safest possible way. If we do not produce these products here, we will still use these products, but will not have influence over the environmental conditions under which they are produced. If the metals are produced here we know that the people laboring are working for a good wage. We know that we do not have to rely on less stable parts of the world for resources that we require. Polymet, a privately funded operation, has spent five plus years now on its environmental permitting process, meeting all the guidelines laid out. Polymet will create good jobs that harvest resources we all need. If we do not get these materials here on our terms, with our labor, we will need to get them someplace else. My preference, and that of the union I represent, is to permit nonferrous mining in Minnesota to produce the vital metals, and jobs, we need.	EOO,G5
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Comment ID	Comment Text	Theme Codes
1188	The United States no longer has stockpiles of strategic metals or minerals. We depend(trade) on many countries to supply our needs for metals. Nearly everything we eat or touch originated from some form of Mining. We depend(use) potash and the Nitrogen(Huber Process) as a fertilizer for our food..from a mine or a gas well. In a sense farming and logging are a specialty subset of Mining. In farming we attempt to replace some of the removed minerals, by mining some more. Many of the places we trade(depend) with for metals or minerals are not our friends and do not have are best interest in mind. Countries such as Kazakistan, Russia, Mongolia and China. Many countries are unstable and supplies are questionable, such as Congo, Ecuador, Bolivia, Venezueala, or any Sub Saharan country. There is a continuing trend among countries to use critical resources as a lever to enhance their economy or hold sway over others. Recently China indicated they are considering restricting the export of Rare Earth elements, such as Niobrium and Tantalum. China is a major source of these elements. Very little of these elements occur in the US (or have been found). These as you are aware are used in high tech capacitors and magnets. Bolivia has made ovatures that they will resist 'exploitation' of their Lithium deposits. The US, unless I'm in error, has no Lithium deposits. Lithium of course has found its use for ubiquitous batteries for laptops and all sorts of electronic equipment, not to mention the proposed use for electric vehicles. The very industry, green energy, which this country hopes to exploit. The US imports 40% of the Cu used domestically. Their are no active Ni mines in the US. We depend on a low cost dependable supply fo these for modern society. They are everywhere from aircraft to medical equipment to wind turbines to cell phones. The US is already dependent for 60% of our petroleum needs. History has shown that this has not and is not working out well. We are forced to depend(trade) with countries which have diametrically opposed ideas of human rights and freedom of the individual. This trade supports and enriches their systems and objectives and creates a poorer United States. It is in the strategic interest of the United States economically, and politically to be able to produce or have a domestic supply of Metals and Minerals. Metals and minerals mined find their way into EVERY PRODUCT we use, eat, live in or wear. It would seem counterproductive at best to eliminate from our domestic supply the minerals which are required to advance to an energy indepedent and greener society. The windmills, electric vehicles and alternative energy projects (including laptop batteries) are not possible without Nickel, Copper,Paliadium and the other REE. True these can be produced elsewhere, and will be if this project is not successful, but the consequences are greater dependence on foriegn governments, greater air pollution worldwide, exploitation of workers in third world countries and the opportunity lost to create meaningful employment in Minnesota (that will pay taxes) and a new industry. Lets go forward into a more secure, stable world and help produce the advanced greener industries we need by building this facillty.. Northmet.	EOO
2778	The comments listed below are numerous and urgent. I know you have seen them many times. I would like to add that we have a duty to protect these areas for future generations and not just think of the economy of Minnesota for a few years. A 20 year mine that will make a few people rich and leave behind pollution and damage for hundreds of years is not acceptable. Mining companies cannot 100% prove that they will not injure the environment beyond the mine. Cleaning up afterwards is a poor option. The wealth we have in the land and clean waters cannot be measured in dollars. Please accept these comments on the PolyMet Mining Corp. NorthMet mining project Draft Environmental Impact Statement. I have serious concerns about the safety of this project and its potential impacts on Minnesota's natural resources.	EOO,G2
<b>Sender Last Name:</b> Matyska <b>Submission ID:</b> 26		
24	I'm for the project, and I think we should just quit the monkeying around and go on with it already. I've looked at all the information that I can, and I see no problem with it. That's all. Let's do it.	EOO
25	I support the project, and I believe that all the pollution concerns have been addressed to everyone's satisfaction, and most people are for it, and the only people I feel who remain against the project are environmental zealots who can never be satisfied, and so I just -- I would just say that we support the project.	EOO
<b>Sender Last Name:</b> Matz <b>Submission ID:</b> 3629		

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
3910	Please do not allow our pristine Boundary Waters area to be ruined by mining of any kind! It's a sacred place which should be saved for generations to come.	EOO
<b>Sender Last Name:</b> Maxwell		<b>Submission ID:</b> 3184
725	To Whom It May Concern, I am very concerned about the PolyMet Project. It doesn't seem to have been publicized very well in my part of the state. And yet there could be a major impact on the environment which will affect recreational areas that are used by many of us Minnesotans who don't live on the Range. I respectfully request that there be a time extension for written comments, more public meetings around the state in places other than Aurora/Babbitt and Blaine, and that statements by citizens and a public discussion be allowed during each meeting. Sincerely, Margaret Maxwell	PRO6
3724	I am very concerned by the potential long term effects of the type of mining proposed by PolyMet and other mining companies. The land areas and watersheds will mostly likely be forever altered in ways that are not compatible with current use – for the beauty, peace, and recreational activities. Are the short-term benefits so large that they outweigh the long term problems for the people of Minnesota? Are there studies that show the “new” mining techniques are 100% effective. I want my grandchildren to have the places of refuge as I have.	G2A,G7
<b>Sender Last Name:</b> Mayer		<b>Submission ID:</b> 3456
3735	I would encourage you to not yield to the hysteria surrounding this issue. Further I encourage you to go through the entire process, not to employ any short cuts. This is a delicate issue and all the evidence should be considered. Thank you Steve Mayer	G10
<b>Sender Last Name:</b> McCauley		<b>Submission ID:</b> 1036
1136	Laborers Local 1097 and it's 1 000 members support PolyMet Mining's NorthMet Project. For many years we have known about the precious metals that our area can deliver. Now we need the project to move forward with permitting to create new jobs desperately needed for our area. PolyMet will provide millions of dollars of local and state support. They will employ hundreds of people in the plant with just as many spin off jobs that will provide a huge economic benefit to Minnesota. Thank you for your time and we will look forward to seeing this project move forward.	EOO
<b>Sender Last Name:</b> McClure		<b>Submission ID:</b> 3125
3497	Please keep mining out of this very pristine and unique area. I have traveled in the BWCWA since I was a young boy. It is unlike any other park in the USA. I would like to some day bring my yet unborn grandchild to visit this area, please ,please do not allow mining of this type anywhere near the BWCWA.	EOO
<b>Sender Last Name:</b> McDowny		<b>Submission ID:</b> 3398
3688	What happens to the Northeast MN where the mines have been exhausted? Se we then, clean everything up and begin a new mine to keep up the economic boost? Given the risks and minor benefits our economy would pursue with this operation, I think it to be very absurd that this is even being considered. My only hope is that my great, great grand children can have the same experiences on Birch Lake that I have had.	EOO
<b>Sender Last Name:</b> MCEA		<b>Submission ID:</b> 3756

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
1	Mine Baby! MINE!	EOO
1	We need jobs that will support families.	EOO
2	On behalf of the 1,070 members of the Duluth Area Chamber of Commerce, I am writing to support an adequacy decision on the draft Environmental Impact Statement for PolyMet Mining Company. While PolyMet proposes to operate on the Iron Range, many of our local chamber members will serve as vendors and service providers to this new business – spreading the positive economic impact. Minnesota law has established a comprehensive and challenging environmental review process. PolyMet has been in the midst of this process for more than five years. It has invested a considerable amount of time and more than \$20 million in studies and other research to support the development of the Environmental Impact Statement. While this is a significant commitment, it is necessary to demonstrate that the project can move forward without harming our environmental and natural resources. PolyMet has made such a demonstration. In addition to developing mitigation strategies for potential environmental challenges, the company also has done an excellent job developing an environmentally friendly proposal: • The project will manage waste rock aggressively, categorizing it and using special liners and ultimately covers to minimize the amount of water that contacts waste rock and treating water that does contact the rock. • Air emissions will be negligible, in part because PolyMet will use the sulfur contained in the ore to fuel the processing of the ore. • Byproducts of processing will be non-hazardous and managed equally aggressively in specially designed containment cells. • No process water will be discharged. I also am impressed with the financial assurance requirements that will ensure all closure costs will be paid for by the company, even in the unfortunate case of a bankruptcy. Minnesota taxpayers will not end up footing any clean-up bills. State regulatory authorities will ensure that PolyMet will mine minerals in a manner that meets state laws. I do not have the same confidence about mineral mined in countries that might not even have such laws. PolyMet has done an excellent job of following state and federal laws and rules associated with environmental review. It is now time for state and federal entities to follow those same rules. I am confident that an adequacy decision is supported by the facts. Thank you for the opportunity to comment on this exciting and needed proposed project.	EOO,G4A
2	The Duluth Building & Construction Trades Council is a Council of 15 Unions with approximately 6000 members. On behalf of the Duluth Building & Construction Trades Council and our many members we are writing to comment on and support Polymet's EIS. " ". We have worked closely with Polymet for many months and are very knowledgeable about the effort they have made to make sure this project is safe environmentally. They have explained to us a number of times how they will process and operate to ensure an environmentally safe operation. Comparing this mining operation to those in the past that were not environmentally friendly is wrong. Today's technology is far superior to that of the past. It should also be clear that Polymet is not in the BWCA's watershed. As local citizens we are very concerned about anything that would harm the environment; therefore we have made a very concerted effort to educate ourselves on Polymet's project. We understand the need to balance resources and the preservation of our water and air. We feel that this EIS supports Polymet's effort to develop an environmentally and economically sustainable project. This mining location contains the second largest deposit of cobalt in the world. Currently the United States is importing 80% of its copper. Polymet will be a domestic supplier of critical metals and will reduce our dependence on foreign metals and create a large tax base for the area and state. It will bring life back into a mining facility that now sits idle and once employed hundreds. It is estimated that Polymet would create 900 permanent jobs, 400 at the mining facility and 500 spin off jobs. It will create 1.5 million much needed construction man hours. Northeastern Minnesota has one of the highest unemployment rates in the state. The tax base is becoming smaller, schools are being forced to merge, and government agencies are being forced to cut back their services. We are asking that you approve Polymet's EIS.	EOO

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
3	As the President for the Hibbing Chisholm Breakfast Rotary, I have been directed by my local club inform you of our support of the proposed PolyMet project in Hoyt Lakes, MN. Our club is made of up of business leaders in the community and at this point in time we are painfully aware of the need for quality jobs and a diversity of our business mix. We presently have 1400 miners laid off at the 2 mining companies located in Hibbing. Mining is still the base of the Northeastern Minnesota economy and the PolyMet project will create four hundred living-wage jobs along with several hundred secondary jobs in our region. Even though PolyMet is 45 miles away from Hibbing we will be heavily impacted by the high quality jobs that this new type of mining will create. This, diversity of mining jobs are extremely important to our region if we hope to maintain and expand our economic base over the next 50+ years. All this will be done while using a former mine site, rail and utility infrastructure. According to all the information that I have seen, PolyMet will extract and produce these metals in an environmentally sound way and will generate significant economic activity in a depressed part of our state. The Hibbing Chisholm Breakfast Rotary hopes you will look favorably upon this new business venture.	EOO
4	I don't think there is any safe way to mine copper no matter what this company preaches. We have done enough iron ore mining in northern Minnesota already. We don't need to start mining copper in this area with all the risk to the water in that area. Your welcome to read my letter at the two meetings your holding.	EOO,G7
5	I'm writing to offer my support for the PolyMet Mining & NorthMet Project. As you are well aware, PolyMet Mining has been doing everything in their power to design and minimize environmental impact with this project. I personally think it's high time to award PolyMet the permits needed to move forward. As you must be aware, we as a nation are in need of "JOBS". We must compete with the world market. Not only will PolyMet employ around 400, it will also create spinoff jobs in our area. If I remember right, several years ago when the highway 35 bridge collapsed we didn't spend years worrying about environmental impact studies. We needed action now, not eight years down the road. I'm sure Mr. Arkley, you as an educated man, know what I'm saying. Thank you for your time and effort in this matter.	EOO
5	I support the "NorthMet" project. Our area needs all the economic help it can get and this would definitely help. I hope that the project can move forward with being held up by lengthy court proceedings generated by special interest groups who really have no stake in the future of this area. Thank you for letting me share my thoughts.	EOO
6	It is my understanding that Polymet will be a 0 discharge plant in terms of water and thus there will not be any contamination of the local watershed. It is also my understanding that Polymet has	WR3D
7	There are so few areas like this left in the Country & the state – we hate to see them contaminated & spoiled for future generations!	G2
10	My name is Paul Knuti, I'm from Embarrass, Minnesota. My comments reflect two things: one, overall support for the project and for the Environmental Impact Statement as written, with my only concern that there is sufficient money for monitoring all emissions during the plant construction period and during the operating period of the plants in effect. Secondly, I hope there is sufficient monies in reserve in the event that there is an environmental accident or some other consideration that is not anticipated. So adequate monies for monitoring the process and adequate reserves in the event that there is an environmental accident. Those are my comments.	EOO,G4A



*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
11	My name is Jim Glowacki, my home address is 7300 Birch Point Road, Britt, Minnesota, 55710. My wife and I are 30-year residents of the area. My wife is a school teacher. I'm a business owner; I own three businesses with the full-time staff of 20 people. In addition, I'm on the Board of Trustees for the Nature Conservancy, and I've taken a great interest in this project both from a jobs creation and environmental standpoint. I think we need to seriously consider making this PolyMet project happen if it meets the environmental requirements of the EIS process. I see this -- this PolyMet model as being a model that can be used throughout the world. If we can demonstrate that new mines can be operated and permitted in an environmentally friendly way, I think we're going to be ahead of other countries and processes and this model can be used and Minnesota can be seen as a model of creating sustainable jobs and mining in an environmentally friendly way. So it also has other residual, you know, economic benefits in terms of perhaps selling the technology and mine development process to other developing countries who have the same kind of mineral base we do. Thank you.	EOO
12	Big Picture: The Range needs this economic boost! With the downfall we have been distressed, among the highest employment rates, we are also paying for these unemployed to go back to school and some are getting oversea comp.. We live here because we love the wilderness and all luxuries of recreational activities. We are not going down to the metro in "Special Interest Groups" proposing they stop infrastructure expansions which are contributing to acres per foot of impervious surface pollution runoff! So why are these special 'interest groups making such an issue? There are ways to follow through with this project in an Eco-friendly manner-such as: Management preventions for pollution control, recycling, water consumptions, using a high effluent treatment process and applying "green" technology ( solar, wind and geothermal). Keep these jobs here so they don't go overseas!!	EOO,G2
13	As an out of state outdoor enthusiast I wish to comment about the behind closed doors aspect of this meeting regarding a permit process of PUBLIC Lands. What is the reason for excluding public comment about mining permits since that industry has a poor history of environmental stewardship. Trusting this industry to take care of public lands during their subsidized rape of public domains is ridiculous. This is how superfund sites get started, and to do this to an area like reeks of shortsighted pursuit of a few jobs at the expense of an area that continues to provide steady employment in the tourism access industry. You have apparently been in the scorched earth chapter of conquest of North America for too long. So the operative question is, Who do you really work for? It doesn't appear to be the general public, perhaps the special interests?	G10
14	I believe that this project poses a serious long-term threat to (1) the wetlands, surface waters, and groundwater of Northeastern Minnesota, (2) the taxpayers of Minnesota, and (3) the long-term economic health of Northeastern Minnesota.	G1,G2
15	The mine will destroy thousands. of acres of wetlands and release massive amounts of greenhouse gases. Allowing this to happen would be, the height of irresponsibility. Minnesota needs responsible, sustainable economic development instead of archaic, outmoded, destructive resource extraction industry.	G2
16	To whom it may concern, HlanQ1 <a href="http://cuffmabzdktf.com/">cuffmabzdktf</a>, [url=http://qdvfamyowlc.com/]qdvfamyowlc[/url], [link=http://iokgtxfqzcrs.com/]iokgtxfqzcrs[/link], http://lmajqqbqmhef.com/	G15
17	While there are many more solid reasons for rejecting the PolyMet proposed mining, I am also quite disturbed that public hearings have been restricted to only two sites, and that at the northern Minnesota site the public was denied the opportunity to speak.	PRO6
18	I urge you to add public meetings on this proposal to Duluth, Ely, and the Fond du Lac Indian Reservation. It is crucial that as many of the public that will be impacted by the proposed mining be heard.	PRO6
18	I have grave concerns about the proposed PolyMet mining in northern Minnesota. Foremost among these concerns is the very likely environmental damage from such mining. You are probably aware of several studies done recently on similar mining projects, such as the Brohm Mine in South Dakota where sulfur in the ore no greater than that of the PolyMet proposed mine site resulted in significant acid mine drainage. A 2006 study of sulfide mining environmental impact appraisals showed that 76% of the mines had significant water pollution, although all the proposals predicted no water pollution at all.	G7A

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19	No mine!!!! THE damage it will do is NOT worth it. Mining is a destructive endeavor. We need to protect our lands, not rip them apart.	EOO
19	Regarding PolyMet ..... I say, "No, no, no!" They broke the law in Floodwood, MN regarding the wetland replacement. They have no business being here now.	EOO
20	As a business owner in Minnesota, I support the PolyMet Mining's NorthMet Project. PolyMet's 400 plus employees and hundreds of spin-off jobs are needed during this poor economic period. PolyMet will provide millions of dollars for local and state businesses who support families, as well as, paying taxes which support all government bodies. ThePolyMet project has been designed to minimize environmental impacts, reusing a brown field site, reusing existing infrastructure, minimizing disturbance of wetlands, and utilizing multiple safeguards to protect the environment. With Minnesota's strict environnient requirements to protect air, water, and land this project should go forward and be monitored as with all mining concerns. After reviewing the DEIS it certainly appears that the environmental impacts will be minimal. It is time that we as Americans begin to control our own destiny once and again. We have been turning our industrial base over to foreign concerns long enough. PolyMet has provided ample information, shown extreme patience, and should now be approved for the good of Minnesota and the United States of America.	EOO
21	The White Community Hospital Board of Directors and Administrator strongly support the PolyMet Mining Project. We are a 16 bed critical access hospital with a 55 bed nursing home located in Aurora, MN and excited to see the significant economic benefits that PolyMet will generate. They will contribute to the local and state economy, increase needed employment opportunities and support our area communities. Polymet's EIS has evaluated, in detail, all the elements of potential environmental concern for a new mine. The public can be confident that the draft EIS offers regulators the information they need to issue permits so that PolyMet can operate in a way that protects natural resources. Poly met has also demonstrated it can produce these critical metals while following Minnesota's strict environmental requirements to protect air, water and land. Again, the White Community Hospital supports and recognizes the tremendous benefit the PolyMet Mining Project will provide to this region.	EOO
22	The Iron Range Construction Liaison Committee is made up of local unions and union employers. Our purpose is to promote the construction industry and show the cooperation between labor and management On behalf of the committee and our many members we are writing to comment on and support Polymet's EIS. We have worked closely with Polymet for many months and are very knowledgeable about the effort they have made to make sure this project is safe environmentally. They have explained to us a number of times how they will proceed and operate to ensure an environmentally safe operation. Comparing this mining operation to those in the past that were not environmentally friendly is wrong Today' s technology is far superior to that of the past. It should also be clear that Polymet is not in the BWCA's watershed. As local citizens we are very concerned about anything that would harm the environment; therefore we have made a very concerted effort to educate ourselves on Polymet's project We understand the need to balance resources and the preservation of our water and air. We feel that this EIS supports Polymet's effort to develop and environmentally and economically sustainable project. This mining location contains the second largest deposit of cobalt in the world. Currently the United States is importing 80% of its copper. Polymet will be a domestic supplier of critical metals and will reduce our dependence on foreign metals and create a large tax base for the area and state. It will bring life back into a mining facility that now sits idle and once employed hundreds. It is estimated that Polymet would create 900 permanent jobs, 400 at the mining facility and 500 spin off jobs. It will create 1.5 million much needed construction man hours. Northeastern Minnesota has one of the highest unemployment rates in the state. The tax base is becoming smaller, schools are being forced to merge, and government agencies are being forced to cut back their services. We are asking that you approve Polymers EIS.	EOO

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23	<p>I am president and co-owner of Northern Industrial Erectors located in Grand Rapids, Minnesota and want to express my thoughts and opinions to you and the DNR regarding the proposed PolymetProject. It is very clear that Polymet has completed an extensive environmental impact study and is able to demonstrate that they are fully competent to operate the proposed facility in an environmentally friendly atmosphere. Based on the documentation, I am very confident that this mining operation will have minimal impact on our environment. In addition Polymet is proposing to utilize an existing bankrupt taconite facility and create much needed jobs for our north country. Just what good is this facility now to the state of Minnesota and to the local residents? Absolutely nothing - so why not give them the permits to start producing a product that will create real jobs and a steady tax base. We in northern Minnesota cannot survive without having private industry as our main job base. Most of our young leave the area as soon as they finish school to good jobs elsewhere. Our town's and school's populations are dwindling because of the loss of jobs in the industrial sector. Private investors are what we need to rebuild northern Minnesota not government sponsored entities that operate on subsidies. The majority of land in Minnesota is soil. On soil you can grow different commodities that produce a product. Every grower knows and understands that to prosper from your planting you have to fertilize. In my opinion these growers pollute the land and waters way more than a metals plant ever could. In northern Minnesota we have only two commodities - timber and rock. We can and will make an honest living from them if you let us. Mr. Arkley, please stand behind this project during this permitting phase and onto inception. Our people need good jobs and Polymet is willing to provide them.</p>	EOO
23	<p>As commissioners of the Department of Employment and Economic Development (DEED) and Iron Range Resources (IRR), we are writing to offer our institutional and personal support for the NorthMet Project being proposed by PolyMet Mining Corporation. PolyMet seeks to develop Minnesota's first open-pit copper-nickel and precious metals mine, using portions of the former LTV Steel Mining Company taconite facilities located near the Iron Range cities of Aurora, Hoyt Lakes and Babbitt. The company plans to employ environmentally-smart mining and processing techniques to harvest and benefitiate these important resources at a site where such work already has taken place for half a century. Their NorthMet project represents a \$600 million investment in our state that intends to create 300 construction jobs, 400 permanent mining jobs, 650 permanent "spin-off" jobs, \$15 million annually in state and local revenue and \$45 million in federal revenue. These outcomes are critical to our nation, our state and the Iron Range area, especially as we climb out of the deepest economic downturn our country has seen in many years. DEED and IRR are economic development organizations that work with businesses and communities to retain and create quality jobs for Minnesotans. Less than a decade ago, we were dealing with the aftermath of the LTV bankruptcy and the ensuing closure of LTV's taconite plant at the PolyMet site, which put 1,400 people out of work. A state agency team worked with Cleveland-Cliffs and Minnesota Power to bring these valuable mining assets out of bankruptcy, with the hope that this infrastructure, equipment, buildings and land might one day be put back to work producing value-added products such as those contemplated by PolyMet. The NorthMet Project will restore much-needed economic prosperity to many individuals, families and communities of the Iron Range. Copper and nickel are crucial commodities that support housing, infrastructure and industry. Platinum, palladium, gold and other precious metals are used in computers, cell phones and catalytic converters, devices that not only drive our economy but protect our environment. Today's world needs and demands these materials. As Americans, we should mine and process such minerals here in an environmentally sustainable way, rather than let such activity ensue elsewhere on the globe where it may not be so carefully undertaken. It is within this context that we support this project, sincerely believing that it can be undertaken in an environmentally responsible manner, recycling valuable industrial assets to extract. strategic minerals our modem society requires, and is so doing, creating wealth and quality jobs upon which we build sustainable communities. We thank you for allowing us to submit these comments on the PolyMetNorthMet Draft Environmental Impact Statement. DEED and IRR are very supportive of this project. Please feel free to contact us if have any questions about our comments.</p>	EOO

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
24	<p>This letter is in support of the PolyMet Mining Project. As an educator in the St. Louis County School System, I have watched as enrollment declines due to families having to move from the area to find a job that provides a livable wage. Along with declining enrollment in the K-12 schools, often when our students choose higher education, we face losing them to other areas where they can find a job in their chosen profession. PolyMet Mines will offer an opportunity for up to 400 full-time positions, as well as 500 spin off jobs that will lead to challenging and exciting careers for our experienced and young. PolyMet Mining's contribution to our local and state economic base will be widespread not only by increased employment opportunities, but with a larger tax base, and increased county revenue from property taxes. PolyMet will provide millions of dollars in local and state taxes to support our communities and educational system. I Welcome PolyMet into "my back yard". I have attended both Open Houses that PolyMet Mining made available to anyone who wished to attend. They provided all the information anyone needed to know regarding the project. It was interesting, exciting and I feel very confident that this project is environmentally safe and essential. Minnesota has the precious metals and is very strict in their environmental requirements and PolyMet is committed to protecting our air, water and land. The metals from this mine are needed for so many applications (medical, cell phones, computers, many products we use every day). I also know that that the United States has the Environmental Regulations that other countries do not even consider when looking at mining, manufacturing, or saving our planet, in general. It is time that this mine be permitted and have these metals mined domestically. PolyMet has invested much to make this an environmentally safe project. Move forward. No response needed to this letter.</p>	EOO
24	<p>I am a member of the International Union of Operating Engineers, Local 49. I am writing to comment on the Polymet project and the EIS. The area Polymet intends to use for the precious metals mine and production site are located in an area that was home to LTV, a now non-functional mine in Northeastern Minnesota. Mining on this site has taken place for decades prior to LTV going out of business. Now we, the residents of Northeastern Minnesota, have a chance to see new life injected into an economically depressed area. We are currently dealing with our children growing up, moving away and having very little chance of coming back and making a living here. Our schools are closing and consolidating due to decreased enrollment. We need this project to help sustain a future for the residents of this area. Please don't misunderstand, we will not sacrifice our environment just for jobs. We believe that this project will continue, as has been demonstrated in the EIS to protect and monitor the environmental impacts of this great state and country in which we live. As a 35-year member of the International Union of Operating Engineers, Local #49, I may or may not get an opportunity to work on this project but, I will in any case benefit by the positive impact through hundreds of spin off jobs of this project in our area. Please approve this EIS for Polymet so we can move forward for a change.</p>	EOO
25	<p>I am writing to express my strong support for the PolyMet Mining Co to develop a copper, nickel, platinum, palladium, gold and cobalt mine and process ore at the former LTV Steel Mining Company plant near Hoyt Lakes. As President of Air Liquide Large Industries U.S. LP I have a continuing interest in knowing PolyMet will produce these metals in an environmentally sound way and provide our young people with multiple opportunities for challenging and exciting careers while providing critical metals needed in medical applications, electric cars, catalytic converters, cell phones, computers and other essential everyday products. I believe PolyMet's EIS has evaluated, in detail, all the elements of potential environmental concerns for a new mine and the public can be confident the draft EIS offers regulators the information they need to issue permits so that PolyMet can operate in a way that protects our natural resources. In closing, I want to thank you for taking the time to read this letter and I look forward to hearing I have been successful in obtaining support for PolyMet to proceed with the permitting of this mine.</p>	EOO
25	<p>I am writing in support of PolyMet. I am a business agent for the International Union of Engineers, Local 49. We have some 13,000 members in Minnesota, North and South Dakota. It is our members that run the machines needed to build these projects. We, like everyone else are experiencing double digit unemployment. Many of our members continue to live in this area but most commute in many cases hundreds of miles for work. We need this project to help sustain the economics of the area. We believe the safeguards Polymet is proposing for the mining, production, and watershed will have a positive impact on this area and will not add an undue stress to those who live and visit this area. I ask that you approve the EIS and move Polymet forward.</p>	EOO

*Alphabetical by sender's first name*

<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
26	<p>Wells Fargo is a leading employer in Northeastern Minnesota, having 19 offices and over 400 team members who work, live and play in the region. As Senior Vice President and District Manager of business banking for the region, I know first hand the positive impact the PolyMet Mining Co. project could have on our area economy and Wells Fargo's ability to maintain and grow operations in the small communities we serve like Ely, Eveleth, and Hoyt Lakes, to name a few. The impact would likely reach to our Duluth operations. As an Iron Range native, born and raised in Eveleth in a railroad family, I also lived through the 80's, when unemployment was high and the economy struggled. My hometown population dropped, people moved away and eventually my high school, like many others, merged with a neighboring community. I watched as neighborhoods full of well-kept homes fell into disrepair. I still see the signs of that strain, both on the physical assets of the communities across the Iron Range and on families and friends living in the area. The PolyMet project can ease this strain and strengthen the regional economy by creating sustainable economic development. The project being proposed by PolyMet Mining Company would create that sustainable economic development, and I believe it would do so in an environmentally sustainable manner. The 400 jobs that PolyMet will create will lead to the creation of hundreds of other jobs throughout the region; these employers and jobs will be a catalyst to strengthen our base at Wells Fargo.</p>	EOO
27	<p>As a citizen concerned about the economic health of the State of Minnesota and the need to create jobs, I am pleased to support and endorse PolyMet Mining's NorthMet Project. The mining of nickel, copper and other precious metals from this project will clearly add to the vitality and growth of northeastern Minnesota's economy. However, I am equally concerned about the vitality of this state's natural resources. We cannot have increased economic value at the expense of our natural resources. That is why I am confident that our environment will remain safe due to the prudent safeguards the state has in place in order to make our mining industry safe in regards to our natural resources. I continue to have angst at seeing our state and country less competitive with foreign economies. We cannot survive economically if we don't actually produce raw materials that can compete in the global marketplace. This NorthMet project will give our state a good opportunity to compete on a global basis and will also produce complimentary industries which again will add to our economic vitality. This of course leads to more jobs and a healthier tax base. As an investor in the mining industry I believe the PolyMet project stands out in how thoughtful collaboration between state, federal and private parties can produce an outcome that is balanced and good for both the environment and the economy. This collaborative process is a model on how such projects can be done the right way.</p>	EOO
28	<p>As the Executive Director for the Hibbing EDA, my job is to support the development of new businesses with quality jobs and to promote the existing business community. The proposed PolyMet project will accomplish all of the goals. Even though PolyMet is 45 miles away from Hibbing we will be heavily impacted by the direct jobs as well as the secondary support industry jobs that are necessary with a large project of this nature. Hibbing is blessed with a large number of companies that support the existing taconite mining industry and we expect PolyMet will also need our business community to be successful. At this point in time Hibbing is also painfully aware of the need for quality jobs as we presently have 1400 miners laid off at the 2 mining companies located in Hibbing. Last week I was also notified that Internet, Northern Castings was going to be permanently closed, terminated 77 remaining jobs. Mining is still the base of the Northeastern Minnesota economy and the PolyMet project will reuse a former mine site so the environmental impacts will be minimal. According to all the information that I have seen, PolyMet will produce these metals in an environmentally sound way and will generate significant economic activity in a depressed part of our state. It is abundantly clear to me that the PolyMet project is the type of quality economic project that I am continually in search of and the data shows that the environmental impact will be at an acceptable level for those of us who have made the Range our home for generations and hope to remain here for generations to come.</p>	EOO

*Alphabetical by sender's first name*

<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
29	<p>PolyMet Mining Corp. is currently attempting to permit a job-creating project in Northern Minnesota. As long term investors in the state of Minnesota, as shareholders of Poly Met, and as beneficiaries of a strong investment climate, we support PolyMet's NorthMet project. We would like your support in helping this project move forward. As you are aware, PolyMet has submitted a draft Environmental Impact Statement (EIS) to the people of Minnesota. We urge you to take action to help the EIS gain approval and to help make the NorthMet project a reality. The approval of this project will enhance Minnesota's status as a state that welcomes investment. According to Forbes, Minnesota is currently #17 on their list of The Best States for Business, but it is a lowly #30 when it comes to the regulatory environment. By giving approval to the NorthMet project, we believe Minnesota will clearly improve its perception within the investment community. Heartland Advisors is an investment management firm in Milwaukee, Wisconsin. We have been investing globally and in Minnesota-based publicly traded companies for over two decades. As of June 30, Heartland had over \$30 million worth of investments in Minnesota-based companies. Minnesota has generally proven to be a friendly environment for investing, and we hope it can remain so. The NorthMet project has undergone more environmental engineering and review than any company we have ever witnessed, and we are confident it will be a flagship operation for environmentally sustainable minerals extraction. By approving this project, we believe Minnesota will not only demonstrate that the state is open for business, but it will be giving the people of Minnesota a landmark mining operation that will be admired around the world. We believe the approval of North Met will be a positive for Minnesota's business climate. In our opinion, your help in advancing the approval of NorthMet will only lead to a greater level of investor faith in the North Star State going forward.</p>	EOO
30	<p>I have reviewed the Draft EIS for the NorthMet project and want to congratulate you and your staff for your diligence in assembling what I believe is likely the most comprehensive examination of a project to date in Minnesota. As I understand the EIS process, it explores potential impacts and mitigation strategies for those impacts. It is not meant to supply definitive answers to all possible operating scenarios. With that in mind, I believe the project should be allowed to move forward. This project has the ability to significantly improve the economic situation in Minnesota and provide a much needed boost to both construction and permanent jobs. The US is no longer the driver of the world economy and as such we need to have a more strategic position with regard to the metals that the NorthMet deposit holds. I feel that PolyMet has demonstrated it can produce these metals while following the state's strict environmental requirements. There will be opportunities to learn from this project and to understand better the actual conditions that are created. All the work done by the MNDLR on Minnesota sulphide ores over the years has created an understanding of the mechanism and severity of acid rock drainage. We understand it and can safely deal with it. A society that remains static and does not continue to grow and develop is not a society that we can afford to have today in this global economy. Approve this project and continue your diligence on protecting Minnesota's environment while developing her natural resources for the benefit of all.</p>	EOO
31	<p>My name is Mark Mandich. I am a county commissioner in Itasca County. I am a strong supporter of Poly Met Mining's NorthMet Project. The economic impact of this project is huge for northeastern Minnesota. Our unemployment up here is worse than the state average. As a person who lives, works and plays up here, I do understand the environmental issues, and I believe that the EIS lays the proper groundwork for developing an environmentally and economically sustainable project, and I wholeheartedly support it.</p>	EOO

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<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
32	The electrical industry in Minnesota has been hit harder than most industries during this current recession. With nearly 50% of our member out of work for up to two (2) years, and no end in sight, electricians throughout the state are looking to support their families any way they can. On a daily basis, I hear about workers going through divorcees, bankruptcies, and losing their homes. The devastation this long and terrible recession is causing our families is terribly troubling. The PolyMet Mining Company proposal to build a copper-nickel-precious metal mine and processing facility near Hoyt Lakes offers our members some hope to wait out this recession. Construction will require about 1.5 million man hours of construction over a two-year period; some of my members are bound to be part of that construction work force. PolyMet has made your job relatively easy by proposing a very environmentally friendly project. Much of the infrastructure for transportation and processing will be recycled from the old LTV plant. Stockpiles will be managed so water infiltration is minimized and so any water that does percolate through the piles is collected and treated. Sulfur in the ore will be used as fuel in the process, and waste streams will be managed. Air emissions will be much less than other facilities in the region – so much less that they are considered a minor source. The draft environmental impact statement for the project has done a very thorough job of looking at all the potential impacts and offering options for mitigation, where appropriate. The draft EIS should be deemed adequate so that permitting can begin quickly, and so our members can start working to build the facility.	EOO
33	My name is David, and I would like to support the Project that is proposed for Polymet. I have looked at what the concerns are, and understand the DNR's desire to do what is the best for the state of Minnesota. It looks as if the Polymet company is going to meet the stringent requirements of the state. I would rather that we have a plant operating in Northern Minnesota than have more jobs go to China or one of the other countries that would be willing to do the same process with less regulation. I feel we need to think not only of what is best for Minnesota, but what is best for the planet.	EOO
34	As the owner of a small business in Northeastern Minnesota, I have followed with keen interest the development of the proposed Northmet Project, otherwise known as Polymet. I believe Polymet and the DNR have gone the extra mile to insure environmental safeguards second to none. Operational and mine closing issues have been addressed as well. The positive economic and positive environmental impact to the local area, State of Minnesota, and the United States will be significant. I strongly support the acceptance of this Draft E.I.S. and urge you to issue the necessary permits to begin construction of the plant and mine sites.	EOO

*Alphabetical by sender's first name*

<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
35	<p>I appreciate the opportunity to participate in the public comment process for the draft environmental impact statement for PolyMet Mining Company and its NorthMet mine proposed near Hoyt Lakes, Minnesota. I am provost of Mesabi Range Community &amp; Technical College, the college that serves the Citizens and businesses and industries of the Iron Range, where Hoyt Lakes is located. The majority of our students are from the Iron Range and are the beneficiaries of generations of iron mining that has built and supported schools of excellence, that has provided jobs for tens of thousands of parents and grandparents, and that has managed to protect our environment and honor our natural resources. Our students understand that if they work hard, meet the requirements of their degrees and work to high standards and expectations, they will be successful in whatever career they may choose. I'd like to think the same advice applies to PolyMet. Additionally, I view PolyMet as an important partner in helping our graduates lead successful, meaningful lives in their hometown communities. The success of Poly Met translates to workforce and community development - factors that also drive the success and sustainability of the college and, most importantly, benefit our learners. PolyMet has worked hard - very hard. The process of developing this draft environmental impact statement has taken nearly five years and has required an investment of more than \$20 million. (This is on top of the years of research and millions of dollars required just to enter the environmental review process.) PolyMet has met the environmental review requirements that the state and federal agencies have established. All of the issues raised in scoping documents have been addressed in the draft environmental impact statement and alternatives, where appropriate, have been offered. The draft impact statement demonstrates that PolyMet will be able to meet permitting requirements. And PolyMet will meet the state's financial assurance requirements, so taxpayers won't have to foot the bill for any clean up that might be required should PolyMet fail to do so. Finally, PolyMet has gone the extra mile - it has exceeded expectations by identifying the worst possible things that could go wrong and then creating safeguards to address that worst imaginable situation. PolyMet will protect our environment, my students' environment. PolyMet will create hundreds of jobs, jobs my students can help fill. Please make my participation in this public process meaningful. Please determine that the draft environmental impact statement is adequate and begin permitting this exciting neW development that is essential to the long term vitality and sustainability of the Iron Range and beyond.</p>	EOO,G4
36	<p>This letter is submitted to provide my comment on the proposed NorthMet mine and processing operations proposed by PolyMet Mining Company near Hoyt Lakes, MN. I have many years experience in the mining industry and specifically in the environmental issues related to the mining industry. I am familiar with the environmental review process through direct experience related to my past responsibilities at a local mine. It is clear to me that the environmental review process for the proposed project has resulted in a thorough and comprehensive draft environmental impact statement (DEIS). I conclude that the DEIS has thoroughly examined the potential environmental impacts of the proposed project. I am aware of the concerns that some citizens have expressed about the project, but these concerns do not support the conclusion that the DEIS has failed to examine the issues. The concerns about the project are properly addressed in the permitting processes. I urge that the DEIS should be declared adequate to enable this project to progress into the environmental permitting phase.</p>	EOO



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Comment ID	Comment Text	Theme Codes
37	The economy of Minnesota is an ecosystem just like the ecosystems found throughout the State. When one part of the ecosystem is struggling, it has a negative impact on the related parts. The Building Trades in the twin cities metropolitan area are struggling. The economic recession has devastated the industries that have kept our members employed, As many as fifty percent (50%) of our members are sitting on the bench on any given day. The PolyMet Mining Company proposal to build a copper-nickel-precision metal mine and processing facility near Hoyt Lakes offers our members some hope to wait out this recession. Construction will require about 1.5 million man hours of construction over a two-year period. Some of my members are bound to be part of that construction work force, but we don't have time for delays. PolyMet has made your job relatively easy by producing a very environmentally friendly project. Much of the infrastructure for transportation and processing will be recycled from the old LTV Plant. Stockpiles will be managed as water infiltration is minimized and any water that does percolate through the piles is collected and treated. Sulfur in the ore will be used as fuel in the process and waste streams will be managed. Air emissions will be much less than other facilities in the region; so much less they're considered a minor source. The draft environmental impact statement (EIS) for the project has done a very thorough job of looking at all the potential impacts and offering options for mitigation, where appropriate. The draft EIS should be deemed adequate so that permitting can begin quickly so our members can start working to build the facility. Thank you for the opportunity to comment.	EOO
38	The economy of Minnesota is an ecosystem - just like the ecosystems found throughout the state. When one part of the ecosystem is struggling, it has a negative impact on the related parts. The Building Trades in Minnesota are struggling; the economic recession has devastated the industries that have kept our members employed. As many as 50% of our members are unemployed on any given day. The PolyMet Mining Company proposal to build a copper-nickel-precious metal mine and processing facility near Hoyt Lakes offers our members some hope to wait out this recession. Construction will require about 1.5 million man hours of construction over a two-year period; some of my members are bound to be part of that construction work force. But we don't have time for delays. PolyMet has made your job relatively easy by proposing a very environmentally friendly project. Much of the infrastructure for transportation and processing will be recycled from the old LTV plant. Stockpiles will be managed so water infiltration is minimized and so any water that does percolate through the piles is collected and treated. Sulfur in the ore will be used as fuel in the process, and waste streams will be managed. Air emissions will be much less than other facilities in the region - so much less they are considered a minor source. The draft environmental impact statement for the project has done a very thorough job of looking at all the potential impacts and offering options for mitigation, where appropriate. The draft EIS should be deemed adequate so that permitting can begin quickly-and so our members can start working to build the facility. Thank you for the opportunity to comment.	EOO
39	I am writing in response to the EIS. I haven't changed my views on allowing copper mining in Monnesota.	EOO
40	Also why hasn't Poly Met had to put up or sigh a waiver for a potential clean up after the mining is over. It has happened numerous times in the past with copper mining leaving a huge mess of contaminants and not paying for a clean up.	PD4
41	I don't think you can protect our water from being contaminated from the sulfide. Your going to risk our water for 20 years of mining.	WR3A

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<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
42	<p>As you may determine from the letterhead, I am a resident of Florence, Kentucky. Also, in the interest of full disclosure, I wish to state that I own stock in the PolyMet Mining Company. I started investing in PolyMet in the late 1990's when I realized that the United States was completely deficient in producing the raw materials (copper, nickel, cobalt, platinum and palladium) required by our industrial base for the production of the goods needed to maintain and enhance our standard of living as well as providing the equipment necessary for the safety of our country. Our country needs copper ore for the construction, plumbing and wiring of new homes and businesses; nickel for the batteries required by the electronics and defense industries; cobalt for hybrid vehicles; and palladium and platinum for the catalytic converters used by the automobile industry. The northeast area of Minnesota is the only area in the United States that contains all of the ore mentioned above, and, currently has the infrastructure already in place to produce this much needed commodity. Furthermore, PolyMet will provide good, safe, well paying jobs to an area that is currently experiencing a very high rate of unemployment. In addition to the advantages previously listed, the PolyMet project has been designed to minimize impacts to the environment by reusing a brown field site, reusing existing infrastructure, minimizing disturbance of wetlands and utilizing multiple safeguards to protect the environment. It is also important to note that the draft EIS is a detailed, independent review; federal, state and tribal agencies have shaped the development of the draft EIS, which was written by an independent third party. PolyMet has invested tens of millions of investor dollars in studies to comply with every EIS request and permitting process. As an investor in PolyMet, I have a keen interest in the success of the environmental review and permitting process and have been following it closely. I appreciate the opportunity to express my complete support of both the EIS and the PolyMet project and I look forward to the MDNR issuing the Permit to Mine after the review process is completed.</p>	EOO
43	<p>On November 24, 2009, the Virginia City Council went on record in support of the Environmental Impact Statement for the PolyMet Mining Company's project to develop a copper, nickel, platinum, palladium, gold, and cobalt mine at the former LTV plant near Hoyt Lakes. Enclosed please find a copy of Resolution No. 09140, in support of the PolyMet Project. The City Council encourages the Minnesota Department of Natural Resources to approve the draft Environmental Impact Statement for the PolyMet project, which will provide a huge economic benefit to Minnesota, especially Northeastern Minnesota, and also utilize a former mining plant. If you have any questions, please feel free to contact me at (218)748-7500. Thank you.</p>	EOO
44	<p>Having authored the Minnesota Reclamation Act of 1969, and having participated in the subsequent hearings and process leading to the adoption of the regulations needed to implement the Act, I have every confidence that the DNR has the capability and experience to responsibly oversee and regulate the potential development of non-ferrous mineral projects in our state. Starting with the PolyMet project, which the DNR has been assiduously reviewing for the past three years, I would hope that the EIS process can be completed, allowing PolyMet to move forward with the development of its project. Thousands of jobs and significant economic benefits will flow from the careful and environmentally responsible development of non-ferrous mining projects in Minnesota, Final approval and permitting of the Poly Met undertaking will start this positive resource development for our state.</p>	EOO
45	<p>As a descendant of the Merritt Brothers, who discovered the iron ore deposits on the Mesabi Iron Range, I would like to express my thoughts and feelings to you and the DNR regarding the proposed PolyMet Project. I feel that PolyMet has completed an extensive environmental impact study and is able to demonstrate that they are fully competent to operate the proposed facility in an</p>	EOO

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<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
46	The people of Northern Minnesota, specifically the Mesabi Iron Range, have suffered from the boom & bust economy for almost 100 years. PolyMet has proposed using a former bankrupt taconite facility that left nearly 600 employees without jobs, health care, and pensions, as well as the State of Minnesota without the then stable tax base of nearly 50 years. Northern Minnesota cannot survive without private industry. Our schools and cities population are dwindling due to the loss of jobs from the private industry sector. Our children leave the area as soon as they graduate from high school because there is no industry to keep them here with good paying jobs. PolyMet will create 400 full-time jobs with an annual payroll of \$40 million and more than 500 spin-off jobs with a \$242 million payroll in St. Louis County alone. Construction of the \$600 million project will require about 1.5 million construction hours over two years. As a former Executive Board member of Millwright Local 1348 in Virginia, Minnesota, and Millwright Local 548 in St. Paul, Minnesota, I feel that this project will significantly contribute to the state and local economy at a time when we really need the jobs and economic benefit. Let's move forward with the permits to allow this project to begin and to create much needed jobs in the area.	EOO
47	environmentally friendly and safe manner. The EIS should be clearer; PolyMet is not in the Boundary Waters watershed.	WR3B
48	I am writing to express my support for PolyMet Mining Company's permit request to develop a copper, nickel, platinum, palladium, gold and cobalt mine and process ore at the former LTV Steel Mining Company plant near Hoyt Lakes. This project is immensely important to the economic health of Northeast Minnesota, and equally as important, PolyMet has demonstrated that the mining will be done in an environmentally responsible manner. I support the project because I am a native and current resident of Duluth, and the economic health of Duluth is closely linked to the health of the Iron Range. If the economy on the Iron Range is thriving, all of Minnesota benefits as well. We can be confident that the environment will be treated with care because the people that work for PolyMet are from the area. Everyone has a stake in maintaining the environmental health of our area. Please issue PolyMet the necessary permits as soon as possible. This is the right project at the right time, and the mining will be done the right (i.e. responsible) way. Thank you for your time.	EOO
49	I would like to extend my support for the Polymet mining project in Northeastern Minnesota. If we are going to have a modern life style, we are going to have to mine somewhere in the world. I think we will be a lot more environmentally conscious with mining here, than perhaps some of the other countrys of the world would be. And last, but not least we could really use some jobs in Northern Minnesota!	EOO
50	I am in favor of the PolyMet Project. I do not live too far from it, so I would be affect by any mistakes if made. I think the Environmentalists are more interested in eventually shutting everything down up here not just this one operation.	EOO

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
51	<p>The environmental review process serves a critical function for proposers and for regulatory agencies, identifying potential issues associated with a project and suggesting ways to mitigate them before the first shovel of dirt is turned. The Draft Environmental Impact Statement (DEIS) developed for PolyMet Mining Co.'s NorthMet project has offered a comprehensive review of all potential issues identified in the Scoping Environmental Assessment Worksheet and offered mitigation alternatives, where appropriate. It should be deemed adequate and permits for the project should be developed. If the environmental review process is to fulfill its promise, it must be balanced and reasonable. It must move forward according to established laws and rules and resist attempts to distort its purpose. PolyMet has followed all the laws and rules associated with environmental review, It has invested more than four years and more than \$20 million following those rules. That investment of time and money has provided extraordinarily detailed research and other data that have informed preparation of the DEIS. The DEIS has been developed by an independent contractor with the oversight and direction of no less than two federal agencies, two state agencies and several tribal governments. The PolyMet DEIS documents the following:</p> <ul style="list-style-type: none"><li>• That PolyMet will be a minor source of air emissions.</li><li>• That PolyMet will not discharge process water.</li><li>• That PolyMet will generate non-hazardous waste streams that will be managed appropriately.</li><li>• That Poly Met will ensure waste rock stock piles are managed based on acid-generating potential with a combination of foundation drains, liners, collection systems and covers.</li><li>• That PolyMet will re-use existing processing and transportation infrastructure.</li><li>• That PolyMet will generate very few greenhouse gases because it will use sulfur found in the ore as fuel in its processing.</li><li>• That PolyMet will ensure closure costs are covered because it will set aside resources in advance and according to a plan approved by the Minnesota Department of Natural Resources.</li></ul> <p>Minnesota's environmental review process also considers alternatives to proposed projects, and we suggest also considering this alternative: If the United States does not have a domestic source for the critical metals PolyMet will produce, it must import them from countries that lack Minnesota's strict environmental regulations, generating considerable greenhouse gas emissions transporting the ore for processing and then transporting the metal to the U.S. for consumption. This is not the environmentally sound alternative. PolyMet will produce metals our members - and every single person in this state - use every day. It will produce those metals while meeting or exceeding Minnesota's strict environmental requirements. And it will create significant economic benefits - hundreds of jobs and millions of local, state, and federal taxes. PolyMet has met every test in the environmental review process. The DEIS should be determined to be adequate and permitting based on the information contained in the DEIS should move forward immediately.</p>	EOO

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**Comment ID    Comment Text    Theme Codes**

51 The Minnesota Chamber of Commerce, represents more than 2,400 businesses statewide whose vision is to work together to make our state a better place to do business. We work toward that vision not only by encouraging sound economic development but also by preserving the vast natural resources that make Minnesota a unique place in which to live and work. PolyMet Mining Co.'s proposed copper-nickel-precious metal mine proposed for Northeastern Minnesota is an excellent example of an extraordinary economic development opportunity designed with the uppermost in environmental protection. The Draft Environmental Impact Statement (DEIS) for the project demonstrates not only its job-creating potential but also its commitment to an environment. With unemployment of more than seven percent, Minnesota needs jobs. PolyMet will help fill this need by keeping about 300 construction workers on the job for two years. Once fully operational, PolyMet will support 400 families with full-time, stable employment and a payroll of about \$40 million. More than 500 spin-off jobs also will be created as a result of the project; the annual impact of those jobs will be more than \$242 million. PolyMet also will generate tens of millions of dollars annually in royalties and state, local and federal taxes. All that economic activity will be created as PolyMet mines metals that each of us uses every single day and that oftentimes aren't available from domestic mines. Some might prefer the alternative of importing these metals. Some will suggest that they want the convenience of cell phones and computers and hybrid cars and wind turbines and catalytic converters, but they want other countries with little or no environmental protection to produce them. PolyMet offers a much more responsible alternative: Produce these minerals in Minnesota, right under our noses, so we can be certain that they will be mined and processed in ways that meet our tough standards and so we can shrink the carbon footprint from transporting imported metals from mine to processor to the U.S. The United States needs the cobalt, copper, gold, nickel, palladium and platinum that PolyMet will produce. At the Minnesota Chamber, we insist that the metals we use be produced in way that protects the environment, in short, the way that PolyMet proposes. The DEIS demonstrates PolyMet's commitment to the environment on each of its 714 pages. It has adequately addressed each of the issues identified in the Scoping Environmental Assessment Worksheet. It's time to start permitting this exciting project. Thank you for the opportunity to comment.    EOO

52 Being a native of Northern Minnesota and witnessing first hand the major swings in the area economy, I am in full support of the PolyMet Mining NorthMet Project. My support is based on the following reasons: • PolyMet Mining has invested significant resources both in terms of time and money in bringing the Draft EIS to this point and has endured repeated delays to ensure that all questions and concerns are brought to light are being addressed prior to the start of the project. • The tax contributions to all levels of government, the direct jobs at the mine and the spin-off impact are tremendous and are desperately needed to help level the economic swings of the region. • As a person who resides, works, plays, pays taxes and votes in the region I am abundantly aware of environmental impacts. The resources of time and money spent to make sure all environmental issues are addressed prove to me that project is economically viable while working within the current environmental regulations. • The metals that PolyMet will be mining and refining at the NorthMet Project are essential to all of the modern conveniences that Americans desire in their everyday lives. Many of these metals are not produced in the United States, thus requiring importation. The countries that produce these metals in many cases do not have the safe guards in place to protect the environment that will be required of the NorthMet Project. I am more confident of having the metals mined and refined at a permitted site with the ability to mitigate and eliminate the environmental impact, than the environment of another country without any environmental regulations. Thank you for the opportunity to submit a comment on this project that is essential to the State of Minnesota and to the United States of America.    EOO

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
53	I am writing to encourage you to support the PolyMet Mining project. This is a very important project to Minnesota but more importantly, northern Minnesota. I am a Registered Respiratory Therapist at Grand Itasca Clinic & Hospital and have lived on the Iron Range my entire life. I have felt the benefits of a booming mining industry and the effects of a declining industry. It is extremely important to encourage the growth of a healthy and safe mining industry. Our communities/state depend upon it. PolyMet will help to support our local communities plus also feed into our State economy and in today's state of economic distress we can not afford to discourage new jobs and spin off jobs. My husband and I both have grown up on the Range and would love for our children to have the opportunity to do the same. Without our mining industry this is not possible. Please think long and hard about this opportunity to boosting our local and state economies. I strongly believe that this is a great opportunity for us. This is a company who has invested a lot of time and money into the research of producing a valuable product safely. Please support us here on the range by supporting PolyMet. We need the jobs!	EOO
54	I have been a resident of northern Minnesota most of my life, 4 years in Illinois. My dad worked at Erie mining for 30 yrs and I worked there during the summers while attending college. I am very familiar with the area, as opposed to some, out of the area, whom may want to influence the permitting process. I would very much like to see this mine come to being. It would diversify the manufacturing base and supply our country with a domestic source of strategic minerals. It would also open up the area to several other non-ferrous mining operations in the area. I have read some of the EIS and also some of	EOO
55	the plans that Polymet has to eliminate the possibility of acidified runoff. That is the problem that I feel is the biggest facing this project. You gentlemen at MNDNR had better make sure that this acid runoff problem is sufficiently being handled while the mine is operating and, more so, after the mine has closed. I am a pharmacist and I have had enough chemistry to know the problem that exists here. If you feel that Polymet has not put in place sufficient safeguards, let them and the public know. Ferrous mining caused pits to be formed that I have fished in and swam in as a child in Sparta. I would hate to see acid runoff into any river or lake in northern Minnesota. We are in need of jobs and I support Polymet in their effort. So MNDNR, do your job.	WR3D
56	This letter comes to support the Polymet Northmet project in northeastern Minnesota. After eight years of study and work, I believe that both Polymet and the Minnesota Department of Resources have addressed the issues related to nonferrous mining and taken the steps to handle the by products and to mine responsibly for the environment and the residents of the state of Minnesota. The entire state will benefit from the revenue produced from metals found to be underground at the site of the former LTV mine site outside of Hoyt Lakes MN. Anyone who visits the site will recognize that the large vacant expanses of land are a natural choice for another mining operation. As a resident of Aurora, I know that the Polymet proposed mining operation would bring new life to this area of Minnesota. Our educated and skilled workforce also has concerns for the survival of the environment and the desire to do the right thing for future citizens. For future generations to live and work here, Polymet's Northmet project will make a great difference in the survival and positive growth of this nature-blessed area of Minnesota. The required continual monitoring and response to resulting problems in the mining processes will maintain the quality of our natural resources, waters, and lands. Please register my support for this well-studied and proposed mining operation, Polymet Northmet.	EOO
57	I have watched the EIS review process and although I think that it is very necessary, I do think that it has dragged on way to long. There are very important reasons for the EIS and I do appreciate the fact that DNR has completed at least the draft portion. I do have a vested interest because I live within 5 miles of the proposed site, I do care about the air, water and land. My life will be affected by any ecological mishaps and therefore I do appreciate your thoroughness. There will always be worldwide needs for our natural resources. Thankfully we have the opportunity to provide them in an ecologically safe manner. If this was left up to some other countries to provide it could and probably would be an ecological disaster. I feel that Polymet has crossed all of the T's and dotted all of the I's and it is time that we move on to the permitting phase of this project. We are struggling with a weak economy and high unemployment. Let's move ahead and put this phase behind us.	EOO,G10
58	I support Polymet Mining's NorthMet Project. This project will provide significant economic benefits to the economy of Minnesota, at a very low environmental cost.	EOO

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**Theme Codes**

- 58 As a business that has supplied valuable equipment and service support while helping to create and sustain well-paying jobs on the Minnesota Iron Range for well over seven decades, Milwaukee-based P&H Mining Equipment hereby declares our support for the NorthMet Project plan that has been developed by PolyMet Mining for consideration by the Minnesota Department of Natural Resources. Our P&H MinePro Services - Iron Range employees based in Hibbing are most proud of our role as suppliers of highly reliable, productive equipment and efficient, safety-focused service support to mining operations across the Iron Range. Our customers are justifiably proud of their ability to efficiently and safely produce valuable iron ore while applying increasingly sophisticated and effective technology that safeguards and minimizes the impact of their mining operations upon the ecosystem that encompasses the Minnesota Iron Range. We have invested in valuable service support and logistics management facilities in the Hibbing and Virginia, Minnesota communities. Above all, we have recruited, trained and developed a solid team of mechanics, electricians, welders and service support administrative employees from the region, and they are very highly regarded by our customers on the Iron Range for their devotion to quality, service and safety management excellence. In so doing, we have helped strengthen the communities in which we are based through positive generation of wages and tax revenues as well as numerous charitable community involvement contributions. For these reasons and more, we urge the Minnesota Department of Natural Resources to consider the merits and the overall social and economic good that can result from allowing the PolyMet NorthMet Project to move forward to the development and operations phases. We believe the PolyMet organization has the necessary capital, technology and above all people resources that will ensure valuable outcomes for Minnesota. They include ... • Investment in operations, infrastructure - and above all, well-paying, long-range jobs and careers for the residents of the Iron Range region and their families. • Beyond an estimated 400 jobs created within the PolyMet NorthMet operations, many more jobs will result as firms including P&H MinePro Services -Iron Range invest in expanded facilities and equipment on behalf of what will be a world-class, state-of-the-art mining operation. • Investment in businesses and jobs will result in a strengthened tax revenues base for both the regional economy as well as the State of Minnesota going forward. • PolyMet has access to the most advanced environmental protection technology and strategies available in the world today, and they can be counted upon to carefully apply that valuable know-how to help responsibly safeguard the Minnesota Iron Range regional ecosystem. • As our global civilization transforms itself with regard to application of renewable energy sources, the important minerals that can be extracted by the PolyMet operations can help in that transformation as they will be applied to wind turbines, hybrid transportation vehicles and other "green" technology as demand will continue to increase. In a world that sometimes undergoes volatile economic, social and political transformations, it will be vital for our United States of America to have a safe and reliable source for the kinds of metals that are so abundant within the PolyMet ore body. The PolyMet project would contribute in many ways to the necessary strengthening of our communities on the Iron Range while safeguarding our environment and helping to strengthen our nation's economy. PolyMet employees can and will be counted upon to be environmentally responsible partners within the Minnesota economy. We are grateful to the Minnesota Department of Natural Resources for considering our position with regard to the PolyMet
- 59 spent over 20 million dollars for the EIS in order to provide an environmentally sound project. I have reviewed the summary and conclude that the extensive EIS document and the rigorous review that the current regulating agencies have done would suggest that Polymet and the regulating agencies have done their due diligence. This plant will be environmentally safe. My cabin is within 15 miles of the plant. I have no concerns about the effect that Polymet will have on the environment or wildlife in Northern Minnesota. Jobs: Polymet alone is projecting over 350 jobs excluding the spin-off jobs. In an area that currently has an unemployment rate of over 10%, these jobs would be a welcome relief to the unemployed. The impact to the local school districts would also be significant through the school trust fund. Given the current state of the Iron Ore industry, we need this new industry to insure jobs now and for our children. In closing, we all have to weigh the risks of projects with the rewards. Due to the current rigorous environmental regulations in the State of Minnesota, the environmental risk is very small yet the reward to the state is very large. I strongly encourage you to grant Polymet the permits required to make this project a reality.

EOO

EOO

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
60	The economy of Minnesota is an ecosystem - just like the ecosystems found throughout the state. When one part of the ecosystem is struggling, it has a negative impact on the related parts. The Construction Industry throughout the state of Minnesota is struggling; the economic recession has devastated the industries that have kept Skilled Construction Laborers employed. Too many of our members are sitting on the bench on any given day. The PolyMet Mining Company proposal to build a copper-nickel-precious metal mine and processing facility near Hoyt Lakes offers our members some hope to wait out this recession. Construction will require about 1.5 million man hours of construction over a two-year period; many of our members will find work as a part of that construction work force. But we don't have time for delays. PolyMet has made your job relatively easy by proposing a very environmentally friendly project. Much of the infrastructure for transportation and processing will be recycled from the old LTV plant. Stockpiles will be managed so water infiltration is minimized and so any water that does percolate through the piles is collected and treated. Sulfur in the ore will be used as fuel in the process, and waste streams will be managed. Air emissions will be much less than other facilities in the region - so much less they're considered a minor source. The draft environmental impact statement for the project has done a very thorough job of looking at all the potential impacts and offering options for mitigation, where appropriate. The draft EIS should be deemed adequate so that permitting can begin quickly - and so our members can start working and paying income tax again to build the facility and help to strengthen Minnesota's economy. Thank you for the opportunity to comment.	EOO
61	I support PolyMet Mining's NorthMet Project. There are many reasons for this project to be approved such as; by allowing the mining it will provide many jobs to support our economy and the metals that will be mined are necessary to environmental friendly technology. With the jobs that will be offered by PolyMet it will provide millions of dollars for local and state taxes that provide for the communities and educational systems. Now is the time to say yes and allow there to be more jobs available that will stimulate our economy, which will only be beneficial. The research that has been done on mining these precious metals it has provided nothing but positive feed back that our environment will be barely harmed, if at all because of following Minnesota's strict environmental requirements to protect air, water and land. PolyMet is also limiting its impact on the environment by reusing a brown field site, reusing existing infrastructure, minimizing disturbance of wetlands and utilizing multiple safeguards to protect the environment. As a person who works in Northeast Minnesota, I understand the need to balance the use of resources like minerals and preservation of resources such as water and air. I wholeheartedly support PolyMet Mining's NorthMet Project and hope this letter has persuaded you in supporting the project as well.	EOO
62	I am in support of the PolyMet Mining project. PolyMet will significantly contribute to the state and to our local economy. Employing approximately 400 men and women along with all the extrapolating jobs is crucial to the future of the Iron Range.	EOO
63	Please note that this project is NOT in the Boundary Waters watershed. I am confident that the DEIS	WR3B
63	documentation will show that the impact to the air and water will be minimal as our State has strict environmental requirements. Last but certainly not least, this project is critical for the production of Domestic Production. The United States must stop getting our metals from foreign suppliers that may or may not make sound environmental practices. Thank you for your cooperation.	EOO



*Alphabetical by sender's first name*

<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
64	IBEW Local Union 949 represents some 2,100 working men and women in the state of Minnesota. Many of them live, work and/or play in the Arrowhead region of Minnesota. The economic devastation to that area in recent years is horrific. The current recession has reduced the already scarce job market. The lack of jobs directly relates to bankruptcies, divorces, mortgage foreclosures and even suicides. The PolyMet Mining Company's proposal to build a copper-nickel-precious metal mine and processing facility near Hoyt Lakes offers the hope of relief for the working men and women in that area. Construction will require about 1.5 million man hours of construction over a two year period. PolyMet's 400 employees and the hundreds of spinoff jobs will provide a huge economic benefit to Minnesota and the Arrowhead region through wages, taxes and an increase in disposable income. PplyMet's proposed mine will domestically produce critical metals while following Minnesota's' strict environmental requirements to protect air, water and land. I believe their proposal is environmentally responsible. Based on the extensive documentation as outlined in the DEIS, I am confident that impacts to the air and water will be minimal. The environmental review process has been lengthy and thorough; the draft EIS addresses potential environmental impacts and how to mitigate them, and lays the proper groundwork for developing an environmentally and economically sustainable project. On behalf of the membership, Officers and staff of IBEW Local Union 949, I am asking that permitting move forward quickly. This project is responsible, safe and necessary. I fully support the project, and ask that you do too.	EOO
65	I'm writing this letter to encourage support for the proposed Polymet mine in Hoyt Lakes, MN. I work for Road Machinery & Supplies Co. We support the taconite mines, the paper mills, road and bridge contractors, and timber harvesters in Northern Minnesota via three branches in Duluth, Virginia, and Grand Rapids. Our economy depends on projects like Polymet, and I think the State of Minnesota and its residents should be as supportive and accommodating as possible to an opportunity like Polymet. I have met some of the Polymet senior management and its equity partners. They have invested their entire careers in the mining industry and understand what it takes to run a safe, efficient and successful mining operation. The depth of review they have performed to satisfy the public that the project will be environmentally sensitive is impressive. And I am encouraged by the prospects for good paying jobs and relative prosperity that this project will offer to the residents of Northern Minnesota. I have worked in the construction and mining industry for over twenty years, and during that entire time, we have not seen the range of growth opportunities that we have before us now. Polymetis one -great quality opportunity that we need to embrace now and we will see positive impact on many fronts for many years to come.	EOO
66	In fact, a possible "mining moratorium law" such as in Wisconsin should be considered.	EOO
67	I had trouble with your email address. Kept coming back undeliverable. This project must go forward. It's time we take better advantage of our natural resources. This project will benefit the State and our Country. If, for some reason, people stop the project, it will be a shame. Go-Go-Go	EOO

*Alphabetical by sender's first name*

**Comment ID    Comment Text**

**Theme Codes**

67	I am proud to offer these comments in support of the finding that the draft Environmental Impact Statement (EIS) prepared for PolyMet Mining Company adequately assess all impacts associated with the proposal and that permitting for this important project should begin immediately. As a St. Louis County Commissioner, I also would be proud to have PolyMet operating not only in my county, but also just south of my home. PolyMet has demonstrated that it puts the environment first, and that's just the kind of neighbor I want to have. The draft EIS is voluminous, and contained within its more than 700 pages are the kinds of details that tell me that PolyMet will be able to operate safely, protect our environment and put people to work producing metals that each of us uses every single day. As a neighbor of the PolyMet project, I was impressed by a number of the details, including: PolyMet will emit very little air pollution. In fact, it will be considered a minor source. PolyMet will not discharge any process water into the environment. PolyMet will use the sulfur contained in the ore itself as a source of fuel for processing instead of relying on coal, gas or electricity. PolyMet will re-use the shuttered Erie Plant - ensuring that this incredible industrial infrastructure is put to good use instead of turned into scrap. PolyMet will have a comprehensive plan for managing waste rock. As a St. Louis County Commissioner, I also was impressed by the other details in the draft EIS. Constructing the facility will keep construction workers busy for 1.5 million hours over three years, meaning they won't have to sit on the bench looking for work. PolyMet will create full-time jobs for 400 people in my county, at a good wage that can support a family. In addition, more than 500 spin-off jobs are expected in my county alone, with an economic impact of more than \$250 million each year. PolyMet will pay considerable local, state and federal taxes - dollars governments like the county can use to provide essential services. In addition to being a local elected official, I have worked an entire career in the mining industry. I am proud of this industry and the contributions it has made to individual families, to communities, to our region and to the state. While I realize not everyone in Minnesota appreciates the contributions that mining makes, I know that everyone still wants the products made from the minerals we work hard to produce in an environmentally sound manner. People in St. Louis County know that we rely on the minerals that PolyMet will mine for our computers and cell phones, for our electrical wiring and our artificial hips. And people in St. Louis County know that, in order to get permitted in Minnesota, PolyMet will have to do it right and to protect our environment. That's what we expect of our neighbors. Please issue a determination that the draft EIS is adequate and issue the permits for PolyMet Mining Company.	EOO
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*Alphabetical by sender's first name*

<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
68	<p>As a retired taconite miner, school board member, and lifelong 61 year old resident of Ely, born and raised here, who has raised a family here, I do support the PolyMet - NorthMet Project that is proposed for operation between Babbitt and Hoyt Lakes, MN. The reason I live here is because of our quality of life in Northern Minnesota. At one time, it used to be a much more thriving area when we had our logging, mining operations, and former resort industry operating on a larger scale. Those industries using our Natural Resources provided living wage jobs to the various local communities and a much-needed tax base for our schools and government entities. Now that the majority of resorts have disappeared (1960's-70's), the lumber mills have closed (1970's) and mining employment has diminished, this would be a needed shot in the arm. This is an opportunity to revitalize our economy and keep our children in the area, and possibly draw some of those that have left, back to the area, their hometowns. It is estimated that the royalties from these minerals in the Duluth Complex will be in the area of \$1.4 Billion for the Permanent School Trust Fund. These funds are sorely needed to address the inadequate funding of our schools in Minnesota and the loss of 150,000 Minnesota jobs in the last decade. Ely, at one time had 1,771 children in our local schools in the mid 1970's, a city population of over 6,000 due to the resort, logging and mining industries. Today, Ely has 538 children in school and a population of around 3,500. We cannot survive solely on a tourist-based economy as some have said. I believe that after hearing presentations by PolyMet, and also touching on reviewing the Draft EIS on-line, it appears that the NorthMet Operation, following State and Federal EPA laws, (and MSHA and County Mine regulations for miners) will protect our air, land, and waters here in NE Minnesota. We know that our air and waters are also precious Natural Resources and we would not want to damage them. So, it is important to do all that is necessary to protect them as this project and any future developments move on with adequate safe-guards and assurances for mine operation and closure in the future. This project is important to our local, state and national economies in that we would be employing Minnesotans using our Natural Resources, and more broadly U.S. industries. The materials mined and produced here would be able to be refined and used in wind generators, motors for hybrid cars, copper wiring, nickel for stainless steels such as in bearings, heart stents, and surgical tools. Platinum would be used in catalytic converters for automobiles, and many of the other PGM's for use in multitudes of electronic devices and other products. This would make us able to promote our U.S. Industries instead of importing from countries that do not address environmental standards as we do and we end up with the pollution from those countries eventually in one form or another anyway. Take, for example, Beijing's air pollution at the Summer Olympics. We need to support this operation, here in the U.S., and promote our own economy with proper environmental and worker safeguards. We should make it happen here. Thank you for the opportunity to</p>	EOO
69	<p>I have reviewed the Draft EIS for the Polymet project and am in support of the project. The information provided in the EIS details how the project will minimize the impact to the wetlands and other existing natural resources. Polymet will be required to meet applicable environmental requirements/standards for emissions. Meeting these requirements will assure the natural resources are protected. The project will provide much needed employment and economic benefits to the region. Please include my comments in support of the project.</p>	EOO

*Alphabetical by sender's first name*

<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
70	The purpose of this correspondence is to indicate my support for the PolyMet Mining project near Hoyt Lakes, Minnesota. I am strongly in favor of a reasonable and thorough environmental study that analyzes the present and future impact of the proposed PolyMet Mining operations on our natural resources, including water and air. Although I have not reviewed the draft EIS, I am satisfied that the DNR has completed a very comprehensive review of the project, and that PolyMet has taken extreme precautions to minimize any detrimental effect upon the environment. As a result, I recommend that Permitting be approved, so that the project may proceed. Of course, any activity could be objected to on the basis of the activity's potential effect upon our environment. Mining operations will have some effect, including the fact that employees will consume gas to drive to their places of employment. However, even tourists who wish to enjoy our beautiful lakes, streams, and woods, affect the environment, as they also consume gasoline to arrive at their destination, restaurants that cater to the tourists use paper and plastic products, canoes and boats are made of steel, aluminum, plastic, etc. My point is that there should be a balancing of the need for productive jobs in our Region, State, and Nation, with the minimal effect upon the environment. Consideration should also be given to the fact that the minerals that PolyMet is proposing to provide by this project, are necessary for the world population. If the PolyMet project does not proceed, the minerals will be provided by a foreign company, possibly supported by a foreign government, and possibly subject to much less scrutiny with respect to its mining operations. It is likely that our local environment, as well as the world's environment, will be protected more by permitting this project, rather than by encouraging foreign mining operations. Should there be any questions concerning this letter, please feel free to contact me.	EOO
71	The economy of Minnesota is an ecosystem - just like the ecosystems found throughout the state. When part of the ecosystem is struggling, it was a negative impact on the related parts. The Building Trades in the Twin Cities Metropolitan Area are struggling! the economic recession has devastated the industries that have kept our members employed. As many as 50% of our members are sitting on the bench on any given day. The PloyMet Mining Company proposal to build a copper-nickel precious metal mine and processing facility near Hoyt Lakes offers our members some hope to wait out this recession. Construction will require about 1.5 million man-hours of construction over a two-year period; some of my members are bound to be part of that construction work force. But we don't have time for delays. PolyMet has made your job relatively easy by proposing a very environmentally friendly project. Much of the infrastructure for transportation and processing will be recycled and so any water that does percolate through the piles is collected and treated. Sulfur in the ore will be used as fuel in the process, and waste streams will be managed. Air emissions will be much less than other facilities in the region - so much less they're considered a minor source. The draft environmental impact statement for the project has done a very thorough job of looking at all the potential impacts and offering options for mitigation, where appropriate. The dtaft EIS should be deemed adequate so that permitting can begin quickly - and so our members can start working to build the facility.	EOO
72	This project is strongly needed in Minnesota. If not for the tac money that the man on the jroject can produce, then for all of the construction people on unemployment who are get off the unemployment rolls but for the people who live in the range that need jobs and better way of life	EOO
100	I support mining in Minnesota. I think we have a very good record here. A lot of the materials that this PolyMet project is working with are basically the same materials that we've been digging up in the past. I mean it's adjoining mineralization. We need -- we need to have jobs that provide for the economy of our nation, to build the infrastructure that we need, the equipment that we need, supply the metals that we need to make equipment actually function. Any complex piece of equipment, including such things as solar-powered units or electric-powered units, require a great amount of different types of metals, and this particular project is going to be a real asset in providing some of the metals that we have not been able to produce in this country in the quantities that we need them in. And that's all I have to say for now, thanks.	EOO

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
100	I'm Walt Hautala, and I'm the Chairman of Biwabik Township and I'm also on the Mesabi East School Board, and I also manage a business in this area and own a business, so new jobs are very important to me. And as I watch the TV, I see the government giving money away, spending billions on stimulus. Well, I thought wow, here they're giving money like that and here's this business trying to get a start without asking for money. That's why I think it's really important to support this. Also, being a business person, I have gone through permitting with DNR, Army Corps, etcetera and, I know they do an excellent job and very thorough, so if they're okaying this or agreeing to it, it's got to be good. The local residents, some people say we're going to pollute the area, the waters. Well, we have our kids living here, we have our grandchildren here, we're not going to allow them to do something that would hurt our own family. And also, there's a lot of talk by the environmental people, and I'm not sure, I'm not really up on that, but it seems like there would be issues like the smoke coming from China or the lead in toys, that if they -- if they are interested in something like that, why don't they check into that? Then I see other businesses locating outside of the United States. Well, here again, we've got somebody that's trying to do something within our boundaries. So that's another reason to support it. Of course one very important reason, we certainly need the jobs in this area and also in Minnesota and throughout the country. Thank you.	EOO
101	Exxon wanted a sulfide mine in the Crandon, Wisconsin area. Many folks did their homework, could not find a single example of a "clean" mine. Fortunatly, after many years of fighting a Wisconsin tribe bought the land. End of discussion. There is NO number of jobs woth jeopardizing the whole Lake Superior watershed region. Do the right thing- for the sake of our children and their children.	G2
103	My name is John Malevich. I'm a retired purchasing manager at Arcelor Mittal Steel in Virginia, Minnesota. I'm totally supportive of the PolyMet project. I would do anything to get this to move ahead, to help PolyMet, including writing any letters beyond this point, politically or otherwise. That's it.	EOO
104	I just basically want to say that I think this is a project we need. Jobs up here are true and hard to difficult -- hard to find, everybody knows. I've checked some of the data, I think the environmental impact will be low and I'm looking forward to it taking off.	EOO
105	I didn't prepare anything to tell anybody anything except I know a lot of stuff that they should do because I worked there for 41-and-a-half years and I worked on almost everything in the plant, and I know a lot of things that should be done before start-up because a lot of the things were froze and there was a lot of water supply systems that weren't fixed right because they were all broken. And I know many different things on everything in the plant, so if they wanted to know anything, call me up. That's short and sweet.	EOO
106	I just wanted to stay that I'm in favor of this new construction out here. I'm a boilermaker and my trade depends on this. I was working out at the original LTV site when it closed. I was there when the workers there got their pinks slips and I saw the looks on their faces. I'll never forget that, ever. And I'd like to see it open back up, not only for me, I don't even know if I'd be able to work there, but just the jobs that it will create. I used to live in the Twin Cities, now I live in northern Minnesota and I know that northern Minnesota is a place that's here all the time, it's not just here on weekends, it's 24/7 up here. So the people who live up here support the town and build the town and build the area. So that's really all I have to say.	EOO

*Alphabetical by sender's first name*

<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
107	<p>My name is Dan Harp, I live in Aurora, Minnesota. And I guess I'm not necessarily a supporter of the mine or the environmentalists. I'm a supporter of doing what I think is the right thing to do, and I'm a supporter of reasonableness. And I'm hoping that this project does not get forced to a 100 percent guarantee on anything because I don't think that's reasonable and it can get in the way of progress and an opportunity to try out new technologies. We need a place to try out things and this particular location has been a mining location for decades and the infrastructure is in place. I think if you're looking for a place that would have minimal impact, this is a great spot to try. And no one is asking to do things the way that they were before, so I think the environmentalists haven't been reasonable in their arguments when they talk about doing things the way that they were 50 years ago; that should not be applicable. Therefore, I'm hoping that we can try a new technology, monitor it to see how it's working, and perhaps it could be a stepping stone to furthering this technology or other technologies that might work better than this. At least maybe this one would work. But expecting 100 guarantee I think impedes all entities in this case. So I'm hoping that there has been more than enough study. I know that it has gone on for some time, I'm told, but I do not know for sure, that the study has gone on far greater than was ever expected in the typical environmental study process, and I haven't heard of negative results. So in light of that, I'm hoping that they will vote to proceed with the permitting. The second concern I have is even though you permit something, that they don't put things on it that make it something that you can't do. For example, a recent commercial where they have a little child on a bike surrounded by a square, you can ride the bike but you can't go out of the square. In other words, you let them ride but you don't let them ride anyplace. So I'm hoping that we permit this, but we don't put so many things on it that they still can't do anything with it. See what happens when I get a captive audience? Let's see, what else do I have? In terms of jobs, I think it's very relevant, but I don't think it should be the argument in terms of the permitting process. I think all parties are diminished by using the economic side of the argument because that's not what the environmental process is about; it's about can it be done and can it be done safely. So I'm not a miner, I'm not an environmentalist, but I'm an advocate of being reasonable and reasonable expectations. Thank you.</p>	EOO
108	<p>Brian Nelson, Cloquet. I strongly support the PolyMet project. I believe that -- that that mining operation and the balance of nature works together. They have a process for, I talked with the people out there, taking care of the waste, managing the waste. I grew up here, I -- I use all of Minnesota's natural resources. I hunt, fish, camp, hike, bike. I have -- I'm married, two boys, we enjoy it all. And we need the work, we need the jobs. Our economy could be stimulated with this project. 400 permanent jobs for 20 years, the construction jobs that would be created, it -- the tax dollars, the revenue, the schools. We don't want to close the doors to the northland, we want to keep as many people up here working and living and enjoying the environment. And I just strongly support this project. Thank you.</p>	EOO
109	<p>My name is James P. Glowacki. I live at 7300 Birch Point Road, Britt, Minnesota, 55710. I'd like to record these comments regarding the PolyMet project: I'm a business owner in northeastern Minnesota. I own three businesses. I have a staff of 20 full-time people. And in addition to being a business owner up here, I'm on the Board of Trustees for the Nature Conservancy, so environmental concerns are important to me and making sure that the PolyMet permitting process, you know, assures that the environmental needs of our residents are met. Having said that, it's equally important that we make this project happen, that we use the PolyMet project as a -- as our effort to show the rest of the world that we do mining right and we've set the example on how mining and the environment can co-exist. And, again, I'd be available for any further, you know, comment. And that concludes my remarks.</p>	EOO
110	<p>I'm Marlene Pospeck of the City of Hoyt Lakes. And my comment is that because I know that the socioeconomic benefits of a project are weighed equally with the environmental impacts of a project in the EIS, it would behoove the presenters to talk about the socioeconomic benefits or impacts of the project as well as the environmental impact. That way the people would be able to weigh the environmental impacts with the socioeconomic benefits and make better decisions, I believe. Thank you.</p>	PRO6
111	<p>Secondly, having read a portion of the DEIS and having discussed the issue with individuals and groups, I would not like to see this mine proposal go ahead. Considering what has happened with similar mines, environmental degradation as a result is inevitable. The land, water, and air are the bedrock upon which every human endeavor is built; should we compromise these, through actions such as the PolyMet mining operation, we compromise our future.</p>	EOO

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
112	Firstly, I believe that there should be open public forums for public comment held in both Duluth and Ely, in addition to the locations already scheduled.	PRO6
113	Also, because of the difficult time of year (holiday season and restricted travel due to inclement weather), the comment period ought to be extended. The majority of the public is as yet *uninformed* about the reality of the project; there has by no means been enough time for the public to understand the Draft EIS and form a response to it.	PRO6
114	My family has lived on Birch Lake for four generations. My great grandmother-purchased o'ur property on the lake in 1928 and my family and t live there permanently ,to this day. To be honest, the mining industry has employed members of my family over the years. However, I cannot support the current proposal for sulfide mining under and -around Birch Lake.	EOO
114	In addition, the DEIS predicts contaminated waters will be discharged from the mine site into the Partridge River after the mine's closure, along with tailing's basin discharges high in sulfate concentrations. Here too, the anticipated pollution should be unacceptable to all Minnesotans responsible for maintaining a healthy environment in our State's natural and Wilderness areas.	WR3A,FM1
114	I understand that Polymet's project will result in Water leaching from waste rock piles that is expected to exceed water quality standards for up to 2,000 years. This is unacceptable to me, and should be unacceptable to every Minnesotan concerned for the quality of life they pass on to future generations. There is no way to assure that mining companies can or will be able to maintain water treatment facilities for two millennia. It is simply absurd to expect that a calculus can be devised which accurately derives the economic, technological, and cultural exegencies affecting a mining operation over two thousand years!	PD2
115	If these issues cannot be resolved in a manner that preserves and protects our wilderness and natural areas for posterity the project should not be allowed to proceed.	EOO,G2
115	As a property owner on the east side of Sand Lake in Lake Co., MN, I have serious concerns about the safety of this project and its potential impacts on the Sand Lake Peatland SNA.	G2
116	My name is Leslie Zamzow. I grew up in Solon Springs; WI., but am currently going to the University of Minnesota. I really miss being home, and have a lot of fond memories from when I was little that-are surrounded by the little lake that we have in town. I hope that you don't put in that mine because, that little lake means A LOT to me. It is where my brothers, and I go fishing, tubing, and swimming in the summer. If the lake becomes polluted by the Brule River then there will be no way to enjoy it as I used to. I am also concerned about the Brule River. Canoeing and Kayaking down the river is a great summer activity that my family, and I take part in every year when my Uncle comes back to Wisconsin from Washington. So please don't put in that copper mine, because I know that I am not the only one who truly enjoys the Boundary Waters in Northern Wisconsin, and Minnesota.	EOO
117	I believe that most of the support for this project is coming from the cry that it will "create jobs." However clean water. air, future existence, all of these will surely be polluted and or lost. Certainty these costs are too high to consider proceeding with the project.	G2
117	I personally know that MN fish is considered dangerous for consumption by children due to mercury and dioxins by CleanWater Action which derive this info from scientific testing. I would like to be able to tae my child fishing and actully eat the fish without endangering her. We need to decrease or at least slow down our pollution burden in MN. Many of our lives freedoms and chance to participate in outdoor activities arebeing encroached as it is.	EOO,WR4B
<b>Sender Last Name:</b> McElrath		<b>Submission ID:</b> 1699
2185	Please accept these comments on the PolyMet Mining Corp. NorthMet mining project Draft Environmental Impact Statement. I am a former long-time Minnesota resident, and still love to visit her many beautiful northern areas. I have serious concerns about the safety of this project and its potential impacts on Minnesota's natural resources.	G11

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
2186	The PolyMet DEIS describes significant environmental issues associated with this proposed mine. These issues should be resolved before this mine is approved by the Minnesota Department of Natural Resources and the U.S. Army Corps of Engineers. As the old Native American saying goes "WE DO NOT INHERIT THE EARTH FROM OUR ANCESTORS, WE BORROW IT FROM OUR CHILDREN" Please think of our children!	EOO,G10
<b>Sender Last Name:</b>	McElroy	<b>Submission ID:</b> 1203
1318	Please think of future generations – keep them in consideration. I understand the historical XXX Northern Minnesota has with mining, and yes it is easy to understand why families support mining for short-term economical gains, but keep in mind the longevity of some of the most beautiful land this country has to offer, and everything it offers.	G11
<b>Sender Last Name:</b>	McGilligan	<b>Submission ID:</b> 206
205	I am responding to the draft EIS for the Polymet Mining North Met project. Because of the heavy metals and sulfide acid that is produced by these mining methods, there is no safe way to protect our northern Minnesota environment from the effects of this mining. No one anywhere has devised a method of mining that mitigates these effects. No amount of assurances by the mining companies can change that fact. This project and others like it should be stopped.	EOO,G7A
<b>Sender Last Name:</b>	McGillivray	<b>Submission ID:</b> 1040
1141	I am a home owner in MT.Iron I Virginia MN and a land o\yner in Elisberg township and on Sabin lake near Biwabik. In the commlng years we will build our retirement home on Sabin- Lake. As you may know Sabin Lake is. part of the Embarrass River system which is specifically named in the DEIS. I am convinced the project and mining will be the safest and most envimmentally freindly mining operation in the State if- not in the World. The DEIS isan amazing document. Nice work. I fully support 'PolyMet Mining and the NorthMet Project.	EOO
3550	retiremnt home on Sabin Lake. As you may know Sabin Lake is part of the Embarrass River system which is specifcally named in the DEIS. I am convinced the project and mining will be the safest and most envirnmentally freindly mining operation in the State if not in the World. The DEIS is an amazing document. Nice work. I fully support PolyMet Mining and the NorthMet Project. -- Todd McGillivray 5421 Daffodil Ave Virginia, MN 55792	EOO,G2
<b>Sender Last Name:</b>	McKay	<b>Submission ID:</b> 3374
3664	It seems that corporations will promise anything to be able to do what they need to increase their profits. When they say that they are confident there will be no pollution, history shows that ¾ of all operations have caused pollution and damage to the environment. Damaging Minnesota's environment for temporary economic gain is not worth the risk. The long-term affects of mining pollution are apparent in past operations and to reverse the affects of this proposed operation would probably exceed the small economic gain provided in the short-term.	EOO,G2
<b>Sender Last Name:</b>	McKenzie	<b>Submission ID:</b> 2558



*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
3123	I am deeply concerned about the proposed sulfide ore mine by North Met. The environmental impact study includes no provisions for clean-up, reserve funds for accidents or other compensation for the potentially significant environmental damage that could be caused by these mines. I urge you to require a more rigorous study of the impact of this substantial operation before granting approval to the impact study. It is discouraging that the taxpayers of Minnesota would vote to increase their own taxes in order to preserve clean water and wetlands, only to be undermined by mining operations such as this one.	G1,G4A,G6
<b>Sender Last Name:</b> McMillan		<b>Submission ID:</b> 2201
999	We have learned a lot about the autoclave and the hydrometallurgical processes they're going to employ. We think it's excellent they're going to utilize a large number of the existing assets from the old LTV in Cleveland-Cliff's facility. Most importantly, we don't feel that this is an either/or situation. We feel that PolyMet can both benefit the environment and the economy at the same time. Minnesota Power stands ready to supply PolyMet with electricity from an increasingly cleaner fleet of assets that include new wind generation, hydroelectric generation, biomass generation and a fleet of retrofitted coal generation, so we have a power supply that we think is cleaner and that matches the processes that PolyMet is going to employ. The economic benefits of this project are undeniable. The Iron Range badly needs to diversify the industries it depends on. Copper-nickel provides one such opportunity to diversify. Northeastern Minnesota badly needs the jobs, not only to diversify its economy from dependence on taconite, but also	EOO
1000	KIRBY A. KENNEDY & ASSOCIATES (952)922-1955 awful lot of unemployed people up there. This project would employ at least 400 people directly and countless more indirectly. The University of Minnesota at Duluth has determined that there's about a 1.6 multiplier, so every direct job that's created, there's 1.6 additional indirect jobs that are created, and the economic effect of that, benefit of that is exactly what northern Minnesota needs. Speaking from the state of Minnesota's perspective, the state also needs new revenues to address a structural and ongoing deficit problem, and this project, with potential for additional copper-nickel mining elsewhere on the Iron Range, would provide much-needed revenues to the state to support K-12 education and to support general funds' pending needs. These are high-valued minerals that would result in a tremendous influx of revenue for the state. In closing, I strongly believe that PolyMet can do right by the environment, do right by the region and do right by the economy and mine these minerals that are so vital to our development. (Oral comment concluded.)	EOO
2609	My name is David McMillan, and I live in Duluth, Minnesota. I am the senior vice president of Elite and executive vice president of its largest business, Minnesota Power, and I'm here to make sure people understand Minnesota Power supports the NorthMet project as described in the draft environmental impact statement. I want to explain why we're supportive of this. The company and myself are very familiar with PolyMet, very familiar with its officers, the assets that it will use to mine and process this ore and the processes that it will employ to make sure that the environment's treated properly. We're very confident that PolyMet can and will protect the environment and the natural resources we all depend on in northeastern Minnesota. We're equally confident that the State of Minnesota and its regulatory processes are capable of assuring that the environment will be protected, and we believe this is reflected in the draft environmental impact statement.	EOO
<b>Sender Last Name:</b> McMillen		<b>Submission ID:</b> 2331
2792	The PolyMet DEIS describes significant environmental issues associated with this proposed mine. These issues should be resolved before this mine is approved by the Minnesota Department of Natural Resources and the U.S. Army Corps of Engineers. PLEASE take NO chances on defiling the waters of Minnesota. As a native Minnesotan who has canoed the Boundary Waters, I want NOTHING negative to impact that entire area. Mining of any kind simply isn't compatible with pristine waters and country.	G7

*Alphabetical by sender's first name*

<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
2842	The PolyMet DEIS describes significant environmental issues associated with this proposed mine. These issues should be resolved before this mine is approved by the Minnesota Department of Natural Resources and the U.S. Army Corps of Engineers. I strongly feel the mine should NOT be approved. The disastrous effects of mining are well known and I fear the worst case scenario. Under no circumstances do I want the BWCA defiled in any way. It is an incomparable gem, and I speak from experience, having canoed those waters during the years I was a resident of Minnesota, the Land of Sky Blue Waters. Keep it that way!	EOO
<b>Sender Last Name:</b>	McNamara	<b>Submission ID:</b> 2725
3178	This is a really bad plan. Northern Minnesota is far more valuable as a nature area than as a mine. Please stop this project. It will damage the water quality.	EOO,G7B
<b>Sender Last Name:</b>	McReady	<b>Submission ID:</b> 290

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
304	<p>Conservationists with Common Sense (eWCS), an organization with over 4,000 members all across the United States, works to preserve recreational access to and multiple uses of public lands and waters. We submit the following comments on the PolyMet EIS. In regards to economic development, CWCS supports the use of common sense, the best available scientific data, objective analysis, and broad public input on the part of government agencies and elected officials when making and implementing land management and environmental policies. We believe a healthy natural environment, including clean air, water and soil is essential to present and future generations. But, along with being environmentally, economically and socially responsible, the human factor must be put back into land management policies. The needs of local communities and all users can and must be balanced with the conservation of sensitive natural environments. Common sense is needed in addressing economic development for the betterment of all. In this present depressed economy, jobs are very much needed all across the country and especially in northern Minnesota. The proposed NorthMet project at the former LTV Plant in Hoyt Lakes, a non-ferrous mining project of PolyMet Mining, would create 400-450 new, highquality permanent jobs with additional spin-off jobs. PolyMet's patented hydrometallurgical processing technology - PLA TSOL - makes recovery of both base and precious metals possible with high levels of recovery. This is a clean technology with no smelting involved and is the only process that can recover the platinum, palladium, gold and silver without using cyanide. This process is new to Minnesota but is used in Ontario, Laos, New Zealand, and even in southwestern U.S. With forever increasing use of computers, cell phones, iPods, medical eqUipment, appliances, catalytic converts in cars, and numerous other products, the need for these precious metals is in great demand. It would be far better to mine these metals here in Minnesota where we have strict environmental protection laws and regulations rather than continuing to get these metals from the polluting mines of China and Russia where they have no environmental protection laws. It is the acid rain from these overseas mines that is polluting our north country!The Friends of the Boundary Waters, Northeastern Minnesotans for Wilderness, the Sierra Club, and Ely business Piragis Northwoods Company have supported the production of a propaganda film opposing the PolyMet project. Even though PolyMet's process uses clean, energy efficient technology for low grade sulfide ore, the film shows polluted areas from other mining sites of a higher grade sulfide ore. The film states concern for the precious waters of the Boundary Waters, but the PolyMet project is not within the Boundary Waters watershed. Much of the propaganda film is aimed not at PolyMet, but at other proposed mining projects. All of these projects are outside of the Boundary Waters and there is no buffer zone to the Boundary Waters. And, if there were any impacts to the Boundary Waters you can bet that cwes and the people living and making a living near the Boundary Waters would be the first to get after the mining companies. PolyMet has set aside \$600 million to correct any possible problems and to address reclamation of the area at the mine's closure. This amount is to be adjusted yearly. It's interesting to note, that in the 1978 BWCA Wilderness Act if the President declares a national emergency mining could take place within the Boundary Waters, but no one wants to do this. Energy usage required for the hydrometallurgical process would be about half compared to a traditional smelter. The opportunity to "recycle" the former LTV site (an already big hole in the ground) also makes the project more viable in the current global marketplace for base and precious metals. The concern about the huge footprint of mining is unjustified as other developments ha</p>	EOO,G4
2639	<p>My name is Nancy McReady. I was born and raised in Ely, Minnesota. I still live thereon Fall Lake, one of the lakes that is in the Kawishiwi watershed. My husband works at Northshore Mining Company in Babbitt, and it's been a good job that provided a good income for our family and also allowed me to be a stay-at- home mom. The importance of this mine is pretty personal. I have two replaced knees; one is titanium; one is cobalt, and those are some of the minerals that may be mined in this project. And our towns just need jobs. We need young families moving back to town to help enrollment at our schools, and tourism is a big part of our economy, but it doesn't provide a livable wage to support a family, and these mining jobs will. And that's about all I have to say.</p>	EOO

**Sender Last Name:** Meagher

**Submission ID:** 3239

*Alphabetical by sender's first name*

<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
3563	Our family owns private property along the Dunka River, South of Babbitt and East of Hoyt Lakes and are very concerned with the overall impact on our natural resources that Polymet will bring to the environment with there proposed mining project. Our natural resources are currently in a fragile state and it is in the best interest of all of us to protect them and by letting this project go through for financial gains sends a bad message to all. The DNR is an agency that promotes sustainability for our resources not working along side companies that look to destroy such commodities like wetlands, forest re-generation, wildlife habitat, etc. I am against this project and any others like it. Please do not let my faith in your organization dwindle with the authorization of this project.	EOO,G2C
<b>Sender Last Name:</b> Mehrman		<b>Submission ID:</b> 227
233	We are writing this communication to indicate our very strong support for the PolyMet Mining NorthMet Project. Along with the extensive economic benefits to our depressed Arrowhead Region it is clearly evident that PolyMet is committed and capable to mine and process these critical metals in an environmentally safe, sound and conscientious manner. The mining and processing of natural resources such as these are key to keeping our national economy strong and viable. American cannot blindly continue down the path of becoming a largely Service based economy, dependent entirely upon other nations for the supply of much needed goods and natural resources. PolyMet and their many local employees will provide the metals along with sustainable, good paying, jobs needed to keep us a strong global leader. Please do not be unduly swayed by those elements of our great state that would prefer that the residents of the Arrowhead Region attempt to provide for our families on the subsistence wages provided by low income, tourism based service jobs. We are confident that the rules, regulations, processes and procedures that are currently enforced by the State of Minnesota will ensure strict environmental compliance by PolyMet yet allow this dynamic and important project to come to fruition and provide the economic boost so badly needed during these trying times and for many years to come.	EOO
<b>Sender Last Name:</b> Meier		<b>Submission ID:</b> 3204
3540	I respectfully ask. How can this project not go through? The jobs created from this extensively researched and properly prepared mining project would be a savior to not only the citizens of Northern Minnesota but to people of neighboring states as well. The EIS for this project has been in development for more than 4 years at a cost of nearly \$20 million dollars under the watchful, scrutinizing eyes of the MNDNR. Do the right thing for the good of the people, pass this draft EIS and help our Country be great once again. Sincerely, Dale Meier Below is from PolyMet Mining Corp. news letter	EOO
<b>Sender Last Name:</b> Meineke		<b>Submission ID:</b> 167
157	Many of the metals to be produced by the PolyMet project are sourced outside the US. The PolyMet development will enable strict control of air and water emissions, and worker safety not required by most foreign sources. Minnesota has air and water regulations among the most stringent in the US and the world. Because of continued demand, these metals will be produced somewhere and Minnesota is the source of choice, where we can regulate the development. The US has and continues to lose manufacturing jobs to foreign countries, which restricts our economy and erodes the US currency. Development of natural resources is the foundation of any countries economy. The PolyMet project is the type of stimulus the US economy needs, an opportunity for Minnesota. This project will produce many high paying jobs and tax revenue, plus reduce the US reliance on foreign sources of the metals PolyMet will produce and improve the US balance of payments. These are the building blocks necessary to restore the US economy. As an engineer and business person, I find no reasons to expect this new metals industry in Minnesota will not be regulated to protect and safe guard the environment. The economic stimulus of the PolyMet project is an opportunity for Minnesota. Therefore, I support PolyMet's NorthMet project.	EOO,G5

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
<b>Sender Last Name:</b> Meister.pdf <b>Submission ID:</b> 3123		
503	o Air pollution over the BWCAW and surrounding areas.	AQ4
1067	o The division of wildlife corridors especially concerning species on the threatened list such as the Canadian Lynx.	WI5
3071	o No field sampling has been done to track ground water movement.	WR2A
3072	o Water quality impacts on macrophytes especially Wild Rice.	WR4F
3494	o Long term impacts on humans and our relatively unspoiled environment.	G2
3495	o Tired of the "take the money and run" philosophy that has ruined this country. The Superfunds have run dry. It is time to be proactive and avoid these high-risk, mega-impact projects that do way more harm than good for the state.	G4
3537	o Cumulative impacts over time from the acid mining.	CR1
3538	o No financial plans if disaster occurs.	PD4
<b>Sender Last Name:</b> Melander <b>Submission ID:</b> 317		
331	The economy of Minnesota is an ecosystem - just like the ecosystems found throughout the state. When one part of the ecosystem is struggling, it has a negative impact on the related parts. The Building Trades in Minnesota are struggling; the economic recession has devastated the industries that have kept our members employed. As many as 50% of our members are sitting on the bench on any given day. The PolyMet Mining Company proposal to build a copper-nickel-precious metal mine and processing facility near Hoyt Lakes offers our members some hope to wait out this recession. Construction will require about 1.5 million man hours of construction over a two-year period; some of our members are bound to be part of that construction work force. But we don't have time for delays. PolyMet has made your job relatively easy by proposing a very environmentally friendly project. The draft environmental impact statement for the project has done a very thorough job of looking at all the potential impacts and offering options for mitigation, where appropriate. The draft EIS should be deemed adequate so that permitting can begin quickly-and so our members can start working to build the facility.	EOO
<b>Sender Last Name:</b> Melby <b>Submission ID:</b> 1117		
101	4. Consider extensive Public input.	EOO
272	3. Protect tailings and rock piles from ever leaking or collapsing and spilling pollution into rivers, Lakes, water supply, and wetlands.	GT2
502	We strongly believe a thorough analysis of the following (not all inclusive) should be completely addressed before mining in Minnesota: 1. Perpetual financial guarantees to the public for any clean up created by sulfide mining.	PD4
529	As a family we have been harvesting wild rice in the true Native American process for 30 years in most areas of Minnesota. We have great concern about increasing Sulfate concentration by 20 mil./liter. Wild rice cannot survive above 8 mil/liter. It seems Tribal rights guaranteed by treaty will be violated.	WR1E,WR4F,PD5,CR1,CR
530	2. Analyze impact of increased mercury on the water and air as effect fish & wildlife.	WR1E,WR4B,WI5,FM1,AQ
770	4. Consider extensive Public input.	EOO

*Alphabetical by sender's first name*

<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
1225	I am writing to you as a citizen of Minnesota concerned about the PolyMet sulfide mining project proposed on 6,700 acres of public land in the Superior National Forest. My name is Tim Melby. My wife and I have resided at Finland, Minnesota on 40 acres for over 25 years where we have raised 3 children. We are both university graduates and our children are pursuing higher education of which our eldest graduated from the University of Minnesota. We all have concerns with Sulfide mining in Minnesota and particularly on the 6700 acres in Superior National Forest and public land. One concern is the water quality in locations that have sulfide mines and upon investigation we find no clean sulfide mines. Apparently the DEIS has not found any clean Sulfide mining operation anywhere.	G7B
1329	3. Protect tailings and rock piles from ever leaking or collapsing and spilling pollution into rivers, Lakes, water supply, and wetlands.	GT2
1966	2. Analyze impact of increased mercury on the water and air as effect fish & wildlife.	WR5A,WI5,FM1,AQ6A
3267	As a family we have been harvesting wild rice in the true Native American process for 30 years in most areas of Minnesota. We have great concern about increasing Sulfate concentration by 20 mil./liter. Wild rice cannot survive above 8 mil/liter. It seems Tribal rights guaranteed by treaty will be violated.	WR4F
3713	1. Perpetual financial guarantees to the public for any clean up created by sulfide mining.	PD4
3814	We all have concerns with Sulfide mining in Minnesota and particularly on the 6700 acres in Superior National Forest and public land. One concern is the water quality in locations that have sulfide mines and upon investigation we find no clean sulfide mines. Apparently the DEIS has not found any clean Sulfide mining operation anywhere.	G2A,G7A
<b>Sender Last Name:</b> Meller		<b>Submission ID:</b> 3022
3441	The perpetual effects of mining could last for centuries if not properly regulated. The gain of Poly Met mining cannot begin to justify the destruction of such a fragile and beautiful vestige of the North Woods. Please assure that the already tenuous state of the boundary water's water quality is protected and preserve this land.	G7
<b>Sender Last Name:</b> Metcalf		<b>Submission ID:</b> 2350
2828	The PolyMet DEIS describes significant environmental issues associated with this proposed mine. These issues should be resolved before this mine is approved by the Minnesota Department of Natural Resources and the U.S. Army Corps of Engineers. These issues cannot be resolved; therefore the mining company should not be allowed to pollute our northern forests and waters. This is totally unacceptable.	EOO,G2
<b>Sender Last Name:</b> Metso		<b>Submission ID:</b> 3590

*Alphabetical by sender's first name*

**Comment ID    Comment Text** **Theme Codes**

3859 Krech Ojard & Associates, P.A. is a member of the Area Partnership for Economic Expansion (APEX), a business development organization led by top executives and senior managers from many of Northeastern Minnesota’s largest, most successful companies. The goal of APEX is to strengthen the regional economy by creating sustainable economic development. On behalf of both Krech Ojard and APEX, I want to state that I strongly support the NorthMet project being proposed by PolyMet Mining Company in Northeastern Minnesota. Through this project, PolyMet will significantly contribute to the state and local economy at a time when both the resulting jobs and related economic benefit are sorely needed. Not only will PolyMet’s 400 employees and the hundreds of spin-off jobs provide a huge economic benefit to both the Arrowhead region and Minnesota, but PolyMet will also provide millions of dollars in local and state taxes to support our communities and educational systems. More importantly, these economic benefits will not accrue at the expense of environmental protection, for as the comprehensive and detailed Environmental Impact Statement demonstrates, PolyMet will generate this economic activity while it is protecting our air, water and land. In addition to the economic benefits note above, PolyMet’s NorthMet project will provide a domestic supply of critical metals needed in medical applications, electric cars, catalytic converters, cell phones, computers and other essential products – products that are used by APEX members and others on a daily basis. Under current production, these metals are mined in one country, processed in another, and then transported to the United States. Not only does this create unnecessary greenhouse gas emissions associate with the transportation of these metals, foreign suppliers of these metals do not necessarily follow sound environmental practices, creating an even greater global environmental impact. In summary, the draft Environmental Impact Statement outlines the many choices PolyMet has made to protect our environment, and has documented that PolyMet can mine these critical metals, create these jobs and contribute to our regional, state and national economy while at the same time protecting our environment. Consequently, the draft EIS should be deemed to be adequate, which would then allow for the appropriate permits to be issued and this long-awaited project to begin.

**Sender Last Name:**    Metter **Submission ID:** 3357

3648 I believe that if these mines are built in northern MN there will be lasting effects for over 100 years to come. I would really like to see something happen here to stop this from falling through. EOO

**Sender Last Name:**    Meyer **Submission ID:** 2205

2613 I'm David Meyer from Roseville, Minnesota, and I support the PolyMet mining project because I believe it would create much-needed jobs in Minnesota, and I believe with modern methods the project can be accomplished while still preserving a safe and healthy environment in Minnesota. That's really all I want to say. EOO,G6

2762 The PolyMet DEIS describes significant environmental issues associated with this proposed mine. These issues should be resolved before this mine is approved by the Minnesota Department of Natural Resources and the U.S. Army Corps of Engineers. I am very much against such mining in this area of MN. I want our wilderness protected it is such a precious natural resource. "We did not inherit the earth from our ancestors we have borrowed it from our children!" EOO

**Sender Last Name:**    Micks **Submission ID:** 1930

390 Harmful To Wildlife - The DEIS does not adequately address the mining project's impact on Canada Lynx and Grey Wolf Habitats. It also does not address the destruction of existing wildlife corridors. The project is located on land the USFWS designated less than one year ago as critical habitat for the Canada Lynx. WI1,WI5

**Sender Last Name:**    Middendorf **Submission ID:** 3348

*Alphabetical by sender's first name*

<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
3640	Considering the reality of water shortages in the South Western United States, its very shortsighted to underestimate the value of clean, healthy water. Aside from the impact of tourism, for our own survival; we must fight to protect sources of quality water. We can live without the minerals, but there is no substitute for water. Building this mine will go against any benefit the economies of the area or company may gain for the people of the Midwest; potentially the whole country. For the safety + well-being of people + ecosystems we cannot do this.	EOO,G7B
<b>Sender Last Name:</b> Midderdorf		<b>Submission ID:</b> 3337
3630	This project idea is disgusting. If those metals are so necessary, why can't recycling efforts for used electronics be improved? With the uncertainty of water sources with shrinking aquifers, water shortages are going to be, and already are, a dire issue in this country. We cannot live without electronics if need be, but we will not make it without quality water sources. I strongly urge you, please consider the well-being of your constituents. As for the jobs, we can survive by other means, but that will be compromised with this project.	EOO,G7B
<b>Sender Last Name:</b> Miettunen		<b>Submission ID:</b> 1091
1195	I support the PolyMet Mining North Met Prtojecl.	EOO
<b>Sender Last Name:</b> Milanese		<b>Submission ID:</b> 3744
1	C. Human Health Fish consumption advisories already occur for fish caught from many of the water bodies into which the project would drain. The risks of methylmercury contamination are examined in Comments II.N. Minnesota's fish tissue water quality standard for mercury is 0.2 mg/kg. At this level of mercury contamination, it is recommended that people not consume more than one fish per week. More than that is not considered safe. But for many people, fish constitutes an important nutritional and/or cultural part of their diet. People consuming more than one fish a week from impaired waters, or fish with higher levels of mercury than 0.2 mg/kg, are at risk of harming their health. The NorthMet project with its potential for increasing the mobilization of mercury, poses a human health risk to people who consume fish. The problems of geotechnical stability of the tailings basin (discussed in Comments II.K.), poses another serious risk to human health. The contents of the hydrometallurgical residue cells in particular will be extremely hazardous. Should the tailings dams fail (with an acknowledged "low margin of safety"), toxic materials would drain into water bodies from which human communities obtain drinking water. In addition, the DEIS also reviews the potential for mining to release amphibole mineral fibers to air and water. Exposure to these fibers has been connected to cancer and other health problems. The PolyMet project is in proximity to the Peter Mitchell Mine and Silver Bay Processing Plant, which has been associated with releases of amphibole fibers. "...amphibole minerals are present in the Duluth Complex and in close proximity to the NorthMet deposit. Thus, there remains an uncertain level of potential health risk from airborne amphibole fibers for the Project" (DEIS pg. 4.6-60). Recommendation: The EIS must fully examine the potential impacts from mercury contamination in fish and the resulting impacts on human health from fish consumption. It must include a new tailings basin design that has a reliable degree of stability. And it must more thoroughly examine the risks of amphibole mineral fibers in the project's ore and its impact on human health.	FM1



*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
1	B. Socioeconomic Impacts The DEIS presents a one-sided evaluation of impacts to communities and economies in the region. The only potential negative impacts from the project cited in the DEIS are that “the Project would further reduce access to the site for hiking, fishing and hunting” and “generate some noise and light which may impact the recreational experience,” and “some impacts may experienced by recreational users of Whitewater Reservoir due to water fluctuations” (DEIS pg. 4.10-21). Absent from the DEIS is a meaningful assessment of other potentially negative impacts. Missing, for example, is any analysis of impacts to tourism and recreation, impacts on real estate values and sales, impacts to commercial fisheries if mercury contamination occurs. The Superior National Forest estimates that these public lands bring over \$200 million in tourism and recreation to the region annually (personal communication, Jim Sanders, Supervisor, SNF). But the DEIS provides no evaluation of this project’s potential impacts on this sustainable, important industry. The DEIS is devoid of any evaluation of reasonably foreseeable negative impacts, such as the impacts to communities from potentially contaminated drinking water, and impacts on fisheries from mercury contamination. There is not even an analysis of the impact on communities, schools, and the tax base when the mine closes in Year 20. This biased representation of impacts is not fair to those communities most directly affected by the mine’s closure. Particularly disturbing is that the DEIS describes the “No Action Alternative” as the option that entails on-going population and employment decline. No data are provided to support the conclusion that not building the mine will lead to ever declining jobs and dwindling population. And no evaluation is provided to show how the Proposed Action won’t lead to those same outcomes when the mine closes. Recommendation: The EIS must do a complete analysis of the potential negative impacts to communities, employment, and the economies of the area from this project. It must evaluate the region’s reliance on environmental amenities such as tourism and recreation. The EIS should include an analysis of the impacts to the region when the mine closes. And it must assess the potential impacts from scenarios that include water contamination.	SE4,G1,CR1
2	-Inadequate assessment of the potential for contaminants to leak from the tailings basin, despite the presence of the existing tailings basin from which existing seepage could have been measured.	WR2E
3	-Failure to assess mercury exposure through the collection of biotic samples such as fish, as most mercury monitoring programs today include.	WR1E,FM2
3	-Inadequate sampling of water chemistry of area lakes and streams affected by past iron mining activity as a method of comparison and prediction for the methylation effects of additional sulfate discharges	WR1E
3	-A lack of useful data or supporting information on which to base predictions of methylation risk due to field sampling that was too little and of poor data quality.	WR1E
3	Dr. Engstrom notes many similar issues with insufficient data, overdependence on modelling, and inadequate sampling regarding the analyses for potential mercury methylation and sulfate contamination.	WR1E
4	Recommendation: Additional data collection must be conducted, and the results of this disclosed in the EIS. The technical experts repeatedly indicate that real world data is far more reliable and predictive than models with potentially faulty and layered assumptions. In nearly all cases, the data needed can easily be collected. See Dr. Siegel’s and Dr. Engstrom’s reports for complete recommendations for additional information and collection methods.	WR1E
5	-Lack of a detailed reclamation plan (that should be tied to a financial assurance analysis) for necessary closure activities.	PD4
6	-Providing additional documentation about groundwater modeling, including water table maps and model assumptions	WR2F
7	-Installing a series of shallow piezometer nests and water table monitoring well along appropriate transects from the existing tailings pond to determine such things as flow direction	WR2A
7	-Installing approximately 6 additional monitoring wells in bedrock south of the proposed mine area to determine how groundwater in bedrock moves across the site.	WR2A

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
8	-Installing several piezometer nests south of the mine and adjacent to the Embarrass and Partridge Rivers to better understand groundwater interactions with the rivers.	WR2A
8	-Obtain direct measurements of head and water chemistry downgradient and perpendicular from the existing tailings basin to assess leakage and solute transport.	WR2A
9	-Collect biotic samples and analyze for mercury contamination	WR1E
9	-Design a well constructed sampling program to assess methylmercury production that includes more and strategic sampling sites	WR1E
10	B. Problematic DNR Public Meetings The DNR held two public forums for providing information and opportunities for comment on the DEIS. One forum was in Aurora, MN, the other in Blaine, MN. Despite requests from the environmental community that additional forums in other more accessible locations be organized, the DNR refused to do so. Forums in Duluth and Minneapolis or St. Paul at a minimum should have been held, for these are centers of populations in the state. The DNR and USACE organized the forums in a manner that did not allow for oral public conversation, questions, or comments. Stenographers were available to take oral comments in a private space, but the public gathered at the event was prevented from hearing questions, answers and remarks from others. However, several politicians were given a formal platform during the presentation part of the gathering, to support the project. In some cases, the information these political leaders provided was inaccurate. The forums were biased events, in which only supporting comments were publicly heard, and no negative remarks were permitted in a public forum. This was an unbalanced event that deteriorated into a political rally in favor of the project. The fundamental purpose of the public forums – to provide a public space for citizens to learn, ask questions, and comment on the proposed project – was not achieved.	PRO6
10	2.) By not calculating the financial assurance, the DEIS fails to provide a full understanding of needed closure activities and closure costs. Water treatment actions are “one of the most important components of closure, especially from a financial standpoint...” (Chambers 2010). The DEIS acknowledges a need for water treatment for at least 45 years after mine closure. Given the predicted water contamination that may last for 2,000 years, it is obvious water treatment will be needed for a long time, if not in perpetuity. The DEIS does not clearly outline what the water treatment plan will be, and provides no cost analysis. Dr. Chambers provides a way of estimating these costs, something the DEIS did not do: “Again, as a rough estimate, the net present value of a chemical precipitation only system for the mine is \$27 million, and for a nanofiltration only system for the mine \$37 million. These costs include 20 years of operating costs... The closure water treatment systems will need to operate for at least 45 years, and the existing treatment systems will be 20 years old when closure begins. Given that the closure operating period is over twice as long as the 20 year mine operating period for which the cost estimates were made, and that the treatment systems will quite likely need to be replaced and upgraded during this 45 year period, using a figure of twice the cost estimate for the operating mine would seem to be a reasonable estimate. That would place the net present value of the Closure water treatment in the range of \$54 million to \$74 million for financial surety purposes” (Chambers 2010). This is a very large amount of money. The public will be liable for this cost or be forced to accept the water contamination if financial assurance is not properly calculated or if the mine operator goes bankrupt. As a result, the public has a right to be provided with thorough estimates as early as possible to properly understand the risks associated with this project. It is alarming that the only financial estimate provided in the DEIS, the Project Preliminary Closure Cost Estimate Summary (DEIS pg. 3-48), does not appear to contain water treatment operating and capital costs. If water treatment is not a component of financial assurance calculations, Minnesota taxpayers and human and natural resource health will be placed at unacceptable risk by this project. Recommendation: Financial assurance calculations must be included in the EIS. Water treatment operating and capital costs must be a component of financial assurance calculations. Dr. Chambers believes closure costs will likely require a financial surety of about \$100 million. The agencies overseeing the development of the EIS have an obligation to inform the public of this risk and to protect the public from unacceptable risk through full disclosure. The DEIS must also provide a rationale for why water treatment may only be needed for 45 years when pollution is expected to continue for much longer. Any longer treatment estimates must be included in closure costs and analyses.	PD3,PD4

*Alphabetical by sender's first name*

<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
10	<p>B. Reclamation Plan 1.) The DEIS presents an incomplete plan for reclamation activities that will be needed to responsibly close the mine. Dr. Chambers notes: “Lack of a viable reclamation plan and cost closure estimate is a major flaw in the EIS...It does not go far enough to present these details as a complete reclamation package that can be assessed in terms of what the overall reclamation goals are and how they will be met, whether the closure technologies that are proposed are viable, and how much implementing these closure and post-closure technologies will cost” (Chambers 2010). Elements missing in the reclamation plan include: assessments of the technologies available to close the mine, estimates of the costs of these technologies, and articulation of overall reclamation goals and how they will be achieved. Central to this plan must be the calculations of financial assurance detailed within the EIS. Recommendation: Dr. Chambers notes, “Mine reclamation should not be developed based on future technologies, or future resources. The pre-mining reclamation plan needs to lay out a basic approach to reclamation using technologies that are proven and have measurable costs, and with enough detail to provide a conservative but reasonable estimate of what these closure costs will be” (Chambers 2010). Elements to include in a more detailed reclamation plan in the EIS are: assessments of the technologies available to close the mine, estimates of the costs of these technologies, and articulation of overall reclamation goals and how they will be achieved. Central to this plan must be the calculations of financial assurance detailed within the EIS. As Dr. Chambers highlights in his comments, most modern EISs analyze the reclamation plan as part of the EIS process. He recommends that the PolyMet EIS do the same, and show the reclamation liability on a year-by-year basis. His attached comments provide an example of a reclamation plan with an appropriate level of detail and cost estimates (Pogo Project Reclamation and Closure Plan, Dec. 2002). This template should be used to develop an appropriate reclamation plan for the PolyMet project.</p>	PD3,PD4

*Alphabetical by sender's first name*

**Comment ID    Comment Text**

**Theme Codes**

- 10 A. Length of Comment Period The Minnesota Department of Natural Resources and the U.S. Army Corps of Engineers provided a 90-day public review and comment period for the DEIS. This was despite the urgings of the U.S. EPA to allocate a 120-day comment period. “The complexity and potential impacts of this project warrant a longer public review period than the 45-minimum for a DEIS published in the Federal Register. Recent similar projects elsewhere in the country that were submitted for public review under NEPA have had 120-day review periods, either initially or through one or more extensions. We observe that public interest in copper mines in the Upper Midwest is high. Decisions made for this project may be precedent-setting, as it is the first large-scale copper mine in Minnesota. We have consistently urged the USACE to adopt a realistic comment period over the past few years and will address this concern regarding the comment period with the USACE St. Paul District Colonel separately” (U.S. EPA August 2009). On October 7, 2009, The Friends of the Boundary Waters Wilderness joined ten other organizations through the Minnesota Environmental Partnership (MEP), a statewide coalition of more than 80 environmental, conservation, and non-profit organizations, to request a 120-day comment period. That request was rejected in favor of the 90-day period. With the release of the DEIS and a more full realization of the scope and complexity of the DEIS, MEP in December 2009 requested an extension that would provide a total of 180-day comment period. “As you are aware, November 2nd marked the start of the scheduled 90 day public comment period for the DEIS. We do not believe that the length of the comment period is adequate to meet the need for a credible and accessible public review process. We request that the time period for submitting comments be extended to 180 days. . . This DEIS was years in development and totals three volumes of material. It is unreasonable to expect citizens and concerned stakeholders to be able to fully review, analyze and prepare adequate comments in this relatively brief 90 day period. An extension to 180 days is necessary to provide time for adequate review and preparation of comments” (MEP letter to the DNR, USACE December 2009). This request was rejected. “The MnDNR has determined that no additional public meetings will be held and that the DEIS public comment period will not be extended” (Mn DNR letter to MEP January 15, 2010). The complexity and length of the DEIS warranted the 120-day period to enable the public to thoroughly examine and respond to it. The Friends worked with technical experts to solicit their analysis of the project, and the 90-day comment period proved very challenging for providing them the review and response time they needed. The Friends is an organization that works directly with the public, providing information to citizens on projects like the NorthMet project. The short timeframe was an extremely difficult one for us to both receive the technical comments from experts, and to summarize and distribute these findings to members of the public. We were prevented from adequately communicating these findings with our members and other members of the public due to this short timeframe for comments. The DEIS is 1,800 pages, three volumes, and hundreds of supporting documents in length. This is a sufficiently long and technical project to warrant the recommended 120-day comment period. In addition, the comment period included the Thanksgiving, Christmas and New Year’s holidays, periods of time for which many organizations are closed for business, and for which members of the public are engaged in travel and activities that likely limit their time for review and comment on the DEIS. It was reasonable for the agencies to provide extra time given the overlap with this busy holiday period. In early December, 2009, the DNR’s email address for public comments on the DNR website malfunctioned. In a
- 11 2.) The DEIS describes general maintenance activities that would need to continue through post-closure, including: “repair of stockpile and tailings dike slope erosion, wetland outflow structure up-keep to ensure they are functioning properly, woody species and tree removal on stockpiles and hydrometallurgical cells with membranes, tailings pond maintenance, and seepage collection from the Tailings Basin” (DEIS pg. 3-49). These are all maintenance activities that will be required in perpetuity. Given this perpetual maintenance requirement, this project cannot ever be deemed “reclaimed.” Minnesota Nonferrous Metallic Mineral Mining Rules (Chapter 6132) clearly indicate that reclamation goals are for post-closure maintenance to cease. The rules also state: “No release from a permit to mine shall be approved for a portion of the mining area requiring post-closure maintenance until the necessity for the maintenance ceases” (MN Rules 6132.4800 Subp. 3). Given these requirements, both the mine site and the tailings basin will fail to qualify, ever, as reclaimed. In addition, the responsible mining entity will never be released from their permit obligations. This is a failure to reach reclamation goals to achieve maintenance-free conditions and a final release from the permit conditions. Recommendation: The EIS must incorporate designs that achieve Minnesota State reclamation goals for an eventual maintenance-free site.

PRO6

PD3

*Alphabetical by sender's first name*

**Comment ID    Comment Text**

**Theme Codes**

- 11 C. Land Exchange and the Mine Site 1.) While PolyMet has leased the privately held mineral rights at the mine site, the surface rights are in public ownership, managed by the U.S. Forest Service. The DEIS notes: “It is the position of the United States that the mineral rights leased by PolyMet do not include the right to open pit mine the National Forest System land” (DEIS S-1). PolyMet and the Forest Service are exploring a possible land exchange to trade to PolyMet the mine site in exchange for new land to put into public ownership. The DEIS indicates that a separate EIS will evaluate this proposed land exchange. The PolyMet DEIS does not examine the potential environmental impacts of this land exchange even though it is an integral component of this project. The U.S. EPA in an August 2009 letter to the U.S. Army Corps of Engineers regarding the PolyMet project identifies as a “red flag issue,” the failure to analyze impacts related to the potential land exchange with the U.S. Forest Service: “We are concerned that some impacts related to the potential land exchange between the U.S. Forest Service are not covered in the PDEIS. We question whether the discussion of the land exchange can be deferred to a separate EIS, as it is a connected action which is clearly related to the NorthMet project” (U.S. EPA August 2009). Recommendation: The EIS must include a complete analysis of the proposed land exchange. This is obviously a related and connected action to this project with the potential for environmental impacts.
- 12 2.) The DEIS fails to provide important information about the value of the site proposed for the land exchange, land that would be significantly and irrevocably altered during the mining operation. The proposed mine site was identified in the late 1990s as special habitat worthy of protection in two assessments, one conducted by the U.S. Forest Service and another by the MN DNR. In these evaluations, the scientists concluded that the mine site, part of what is called the “100 Mile Swamp,” represents some of the highest quality habitat remaining in the landscape. In January 1997, as part of its preparation for the Forest Plan Revision, the Superior National Forest released a report titled, “Identification of Potential Natural Areas, Including Representative Ecosystems, on the Superior National Forest” by forest biologist Robin Vora. The report summarized a process to identify natural areas on the forest that might qualify for permanent protection. The focus was to develop a list and general description of the highest quality remaining examples of common ecosystems present in each Landtype Association (“LTA” or “landscape”). The report notes, “A network of natural areas helps to protect biological diversity at the genetic, species, ecosystem, and landscape scales. Natural areas representative of common ecosystems in natural conditions serve as baseline or reference” (Vora 1997). The PolyMet potential mine site was identified in this report as part of the “100 Mile Swamp.” It sits within LTA 8A, and was considered one of those “ecosystems in natural condition” that was representative of its landscape, and a good candidate for protected status. The site is especially important as LTA 8A was noted as lacking ecosystem representation in protected areas. Features that gave this area a high ranking were its watershed integrity, the size of its wetlands, the presence of riverine ecosystems, and the large amount of interior forest present. In December 1997, the Minnesota DNR released a report called, “Evaluation of Selected Potential Candidate Research and Natural Areas as Representative Ecological Landtype Associations on the Superior National Forest, Minnesota.” This study was conducted by plant ecologist Chel Anderson. The purpose of this assessment was to continue the evaluations begun by Robin Vora. The assessment was to further assist the Superior National Forest in evaluating areas for protection for the Forest Plan Revision process. The study analyzed the 93 sites identified by Vora and developed a shorter list of 45 sites worthy of consideration as protected natural areas. The assessment notes that these sites represent the highest-quality remaining examples of characteristic ecosystems in each ecological Landtype Association on the Superior National Forest. Again, the “100 Mile Swamp” appears on this list of worthy candidates. The report notes, “Inclusion of the 100 Mile Swamp site would very likely complete representation of the prominent ELTs [ecological landtypes], and provide some additional upland diversity” (Anderson 1997). Representative ecological systems within the Laurentian Highlands, the ecological subsection in which the PolyMet mine site is located, include forested communities dominated by aspen-birch, jack pine barrens, red and white pine on uplands, and conifer bogs and swamps in the lowlands. The PolyMet mine site sits on a conifer bog and lowland swamp. Within the Laurentian Highlands are 58 species identified as Species in Greatest Conservation Need, including 12 species that are federal or state endangered, threatened or of special concern. Habitat loss, habitat degradation and pollution represent some of the most pressing threats to these species. Lowland conifer forests have been identified by the MN DNR as key habitats for Species of Greatest Conservation Need in this subsection. Within the Laurentian Highlands, 22 Species of Greatest Conservation Need are typically associated with lowland conifer fores

PRO4,PD3

G3,CR1,CR2

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
12	D. Geographic Scope of Evaluation The DEIS evaluates the potential environmental impacts from the proposed project, but the scope of the evaluation was largely limited to a five mile radius around the mine site, the plant site, and the transportation corridor. Given predicted water quality violations, the acknowledgement that drainage from the project will enter both surface and groundwater, the geotechnical instability of the tailings basin, admitted global warming impacts, and the many uncertainties in data and modeling, this project is certain to have impacts broader than a five mile radius around the project's core. Recommendation: The EIS must provide evaluation of the potential impacts within a much larger zone, including likely impacts to the entire St. Louis River watershed and Lake Superior. Statewide impacts, such as those from increases in carbon emissions from the project, must be included. (See Comments III.B.2.)	WR3B,AQ4E
13	E. Mitigation Measures In the DEIS, mitigation measures for the proposed project are almost exclusively presented as recommendations vs. requirements. As Dr. Chambers notes, "the description of the mitigation measures end with statements like: the measure 'warrants further consideration;' or 'it is recommended that...;' or the measure 'should...;' or, could..., or would..." (Chambers 2010). It is unclear and unstated which, if any, of the mitigation measures the responsible agencies will find significant enough to make requirements in the permit. It is unclear and unstated which measures will be considered voluntary. Dr. Chambers comments: "Since the EIS is a document that is tied directly to the state and federal agencies that will be issuing the permits necessary for the mine to operate, it would be reasonable for the public to assume that the agencies can and would require some or most of the mitigation measures described in the EIS when they issue the permits for the mine. But the way the mitigation measures are described in the DEIS all of the mitigation measures would be voluntary. That leaves this reviewer, and the public, unsure what the final project will look like and what effects it will actually have" (Chambers 2010). Recommendation: The EIS should specify what mitigation measures will be required of the mine operators. Voluntary measures should be stated, enabling the public to "comment on the relevance and importance of the voluntary mitigation measures" (Chambers 2010). Voluntary mitigation measure must be assumed, for impact analysis, as not occurring.	G2D
14	F. Data Collection and Disclosure A full understanding of significant environmental impacts can only be realized with the appropriate gathering of data and analysis. Repeatedly throughout the DEIS, however, it is clear that opportunities to gather relevant, available information were not taken. Models were created, with assumptions that may be inaccurate, to assess issues such as groundwater flow, when real world information could have easily been gathered for analysis. Details of models and assumptions are often not disclosed, making a review of these methods difficult. So often are necessary data missing, that an accurate portrayal of this project's impacts is potentially not reflected in the DEIS.	G8B
15	-Lack of any financial assurance calculations that would enable understanding the long-term environmental impacts of the project.	PD4
15	-Insufficiently documented groundwater modeling approaches. "These models may, in fact, be inappropriate to address the problems considered; (a) dewatering caused by the mine and (b) how rapidly potentially contaminated water might move from the closed mine to the Partridge and Embarrass Rivers" (Siegel 2010).	WR2F
16	-Installation of insufficient ground water monitoring wells and piezometers in bedrock to either characterize where and how ground water in bedrock moves across the site, or how it interacts with the Partridge River.	WR2A
17	-Insufficient characterization of how water leaking from the present and future tailings pond may carry potential contaminants north to the Embarrass River. "The hydrologic conditions caused by tailings ponds present for many years offered a unique opportunity to directly evaluate important contaminant transport properties at the proper distance (scale) along subsurface pathways to the river prior to mine opening. PolyMet chose not to do this, but to develop models and other methods to infer what might happen" (Siegel 2010).	WR5A
17	-Inappropriate assumption for the modeled area that the rock properties of the hydrostratigraphic bedrock aquifers in the mine site are uniform in all directions. There was little effort to characterize the distribution of fractures in the bedrock either by analogy with other sites in the Iron Range, or by direct measurement. "Without this characterization, no conclusion can be clearly made as to where potentially contaminated water might move in bedrock..." (Siegel 2010).	WR2F

*Alphabetical by sender's first name*

**Comment ID    Comment Text**

**Theme Codes**

**Sender Last Name:**    Milburn

**Submission ID:** 3745

- |   |   |          |
|---|---|----------|
| 4 | <p>G. Cumulative Impacts The DEIS fails to include in its examination of cumulative effects on water resources, known mining projects that are currently in development. Dr. Chambers notes, “For example, there are several mining projects in the advanced stages of exploration that should be considered as reasonably foreseeable. These projects include the Duluth Metals Ltd – Nokomis deposit and the Franconia Minerals Corp – Birch Lake deposit. Ignoring the potential for these developments understates the cumulative impacts to the region” (Chambers 2010). In an October 29, 2008 tour of the PolyMet processing plant, the existing LTVSMC plant, Friends staff member Greg Seitz was told by PolyMet that 8 of the 24 crushers would be operating for processing ore from the NorthMet project. The Friends is concerned that if permitted, PolyMet is likely to use the un-used portions of its plant to process ore from other nonferrous mining operations. If this is the intent, it must be outlined in this EIS. There are obvious potential cumulative impacts to the tailings basin, wetlands and water resources from increased activities resulting from handling ore from other mining operations. Recommendation: Mining projects in the advanced stages of exploration should be included as reasonably foreseeable impacts for analysis of the NorthMet project’s cumulative impacts. Any anticipated use of the processing plant, tailings basin, project lands, and transportation corridors to handle ore from other mining operations must be included in this EIS’s cumulative effects analysis.</p>  | WR5A,WE5 |
| 4 | <p>It is disturbing that, after years of preparation, the DEIS contains so many omissions and data gaps, and that opportunities to examine existing conditions that would obviously be helpful, were not taken. This lack of information must be resolved for the EIS to be complete.</p>   | G8       |
| 5 | <p>H. Underground Mine Alternative The option of developing an underground mine rather than the open pit mines of the Proposed Action was rejected by PolyMet as: “Not economically viable. The rate of ore production of an underground mine would not support the processing rate necessary to economically process the low-grade ore...Additionally, the ore deposit is shallow and broadly distributed throughout the Mine Site...” (DEIS pg. 3-64). But in Dr. Chambers’ review of support document “ALT11High Level Underground Costs,” from PEG Consultants Inc, July 30, 2009, he found only a limited economic analysis of an underground option. “This was not a detailed analysis of the costs of underground mining at the NorthMet site. The document is only 2+ pages in length, and lays out what must be rough estimates of the costs of underground mining compared to open pit mining. The scope and depth of analysis presented in ALT11 is not enough to state conclusively that underground mining is not economical at this site” (Chambers 2010). The tribal cooperating agencies provide additional information to suggest more consideration should be given to the underground alternative: “A study of this particular deposit was performed by U.S. Steel that recommended underground mining. By examining cross-sections showing the distribution of ore by depth, it appears that there are substantial ore reserves at depths that likely could not be accessed by the proposed open-pit mine. The ecological costs of open-pit mining and above-ground disposal of tailings and waste rock are immense. This ecological cost, combined with the most current understanding of deposit ore grades and reasonably possible metals prices, must be evaluated to determine the viability of this alternative” (Tribal Cooperating Agencies, DEIS pg 3-64). Recommendation: The EIS should provide a thorough analysis of the underground mine alternative, examining ore distribution, the economic viability of this option and the potential environmental impacts of an underground mine.</p> | PD1      |
| 6 | <p>-A dangerously unstable tailings basin design that the DEIS acknowledges has a low margin of safety, and which would contain hazardous wastes.</p>   | GT2      |

*Alphabetical by sender's first name*

**Comment ID    Comment Text**

**Theme Codes**

6 A. Reactive Waste Rock and Material 1.) Waste rock disposal plans under both the Proposed Action and the Mine Site Alternative raise water pollution concerns. Proposed Action Storage of reactive waste rock permanently above ground the acknowledged potential to generate Acid Mine Drainage (AMD) and to leach metal contaminants. The Proposed Action calls for placing only a portion of Category 1 and 2 waste rock, the least reactive material, into the East Pit for subaqueous disposal before converting the pit to a created wetland. Category 1 and 2 waste rock are predicted to contain less than 0.3% sulfur. Meanwhile, the Proposed Action would permanently leave on the surface all of the Category 3 and 4 waste rock, with sulfur contents between 0.3 and 0.6%. The DEIS indicates that Category 3 is medium reactive waste rock that may generate acid mine drainage and is predicted to leach heavy metals resulting in drainage with heavy metal concentrations in excess of water quality compliance levels. Category 4 waste rock is labeled highly reactive. “This material would generate ARD and leach heavy metals resulting in drainage with heavy metal concentrations in excess of anticipated water quality compliance levels” (DEIS pg. 3-14). Indeed, modeling described in the DEIS indicates significant potential pollution problems from storing reactive waste rock above ground. Table 4.1-44 shows results of modeling showing potential groundwater exceedances from the waste rock stockpiles. The Category 3 Lean Ore stockpile shows potential exceedances of copper, iron, manganese, nickel, aluminum, beryllium and thallium. The Category 3 waste rock stockpile shows potential exceedances for antimony, arsenic, copper, iron, manganese, nickel, sulfate, aluminum, beryllium, and thallium. The Category 4 waste rock stockpile shows potential exceedances for antimony, iron, manganese, nickel, aluminum, beryllium, and thallium. Additional modeling shown in Table 4.1-45 in the DEIS shows predicted groundwater exceedances into the Partridge River for nickel from the Category 3 Lean Ore stockpile lasting 50 to 2,000 years. Category 3 waste rock stockpile is predicted to exceed groundwater criteria for antimony, manganese, nickel, and sulfate from 50 to 2,000 years. Contamination exceeding groundwater criteria from the Category 4 waste rock stockpile is predicted for antimony lasting 90 to 250 years. Storing medium to highly reactive waste rock permanently above ground presents acknowledged and unacceptable pollution risks for unacceptable durations. Under the Proposed Action, some Category 1 and 2 waste rock will also be stockpiled on the surface, also with pollution risks associated with it. In one DEIS model, Category 1 and 2 waste rock are predicted to exceed groundwater evaluation criteria for arsenic, antimony, sulfate, aluminum, iron, manganese, beryllium and thallium. In a second model, antimony, arsenic and sulfate are predicted to exceed groundwater evaluation criteria for 100 to 2,000 years. Mine Site Alternative The DEIS also presents a Mine Site Alternative to the Proposed Action that would place all the Category 3 and 4, as well as Category 2, waste rock into the East Pit for subaqueous disposal. The only permanent stockpiles would be for Category 1 waste rock and overburden. This is a preferable plan to the Proposed Action. Dr. David Chambers notes: “Backfilling Category 2, 3 and 4 waste rock into the mined-out East Pit would probably be the most protective of water resources in the long-term” (Chambers 2010). Nevertheless, although the Mine Site Alternative is preferable, modeling in the DEIS shows significant ground water pollution risks from this alternative action. A concern is the “dissolution of oxidation products formed prior to inundation with water in the East Pit (i.e. during temporary surface stockpiling) and continued reaction of the rock once submerged” (DEIS pg. 4.1-136). Modeling in the DEIS assumed oxidized solutes would be leached durin

WR1E

7 2.) The Proposed Action also calls for storing peat and unsaturated overburden in an unlined area called the Overburden Storage and Laydown Area. “Peat, in particular, is a sink for mercury. The wetting and drying of the peat that would occur in this storage area would promote the methylation of mercury” (DEIS pg. 4.1-166). The DEIS recommends that drainage from this area be collected and treated at the WWTF. Recommendation: Collecting and treating drainage from the Overburden Storage and Laydown Area must be a requirement in the EIS, rather than a recommendation.

EOO,WR4E

**Sender Last Name:** Miller

**Submission ID:** 1125

102 I request that a public hearing be scheduled for Duluth as it is the largest population center near & shares a watershed of the proposed mine area.

EOO,PRO6

103 I request that the comment period be extended to 180 days. The existing comment period is inadequate for professionals much less the general public. the BWCA is a gift that can't be risked!

PRO6



*Alphabetical by sender's first name*

<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
118	I just want to say PolyMet -- I believe the leaders, the officials that are running it, come from a very experienced mining background and they will set a benchmark, set the standards for projects to come. I think they will set a high bar as far as having a project that has very little impact on the environment, and I believe there will be more mines like it that will start up as a result. Northeastern rural Minnesota is an important part of the state with lots of communities, families, people raising their families, and we need the jobs. It's a depressed area, economically, and we tend to lose a lot of our young people because we don't have a lot of good-paying jobs. And it would produce lots of tax dollars for the state. That's about it.	EOO,G6
166	I want to take this time to express my full support of the proposed Polymet project in Northeastern Minnesota. This project is badly needed in our part of the state. We have been blessed with an abundance of natural resources here. Developing those resources in a safe and environmentally stable way has been, and will continue to be, our major means of economic viability. These 400 potential jobs and the many indirect jobs that would result are critical to our communities' well-being. The spin-off from this kind of major economic activity makes most other jobs in our area possible, and directly affects the well-being of our related businesses, communities, schools, and institutions. We live in an incredibly beautiful part of the state, but our geographic remoteness from major U.S. markets severely limits other manufacturing-related entities to consider locating here. We in Northeastern Minnesota have closely followed the progress of this project, with high hopes for its viability. The environmental review process has been both lengthy and thorough. It is my opinion, in reviewing the draft EIS, that the proposed project more than adequately addresses the environmental concerns. I believe that this project will benefit not only our region and Minnesota in general, but will also benefit the U.S. as a nation, as these precious metals are not mined anywhere else in our country. Relying on foreign sources for these metals takes control of how they are mined and refined out of our hands. This makes it more likely that environmental concerns are not being met, and results in a much more inefficient and resource-wasting route to get them to our market. Mining and producing them here in Minnesota, where strict environmental oversight takes place, greatly reduces these concerns and directly impacts our own economy in a positive fashion. State of Minnesota and our local governmental bodies will also benefit not only from the boost to our economy, but also from millions of dollars in additional revenue collected in local and state taxes. These additional revenues will be timely in bringing some relief to our presently tax-strapped local and state governmental bodies. I cannot stress enough what this project means to our region. We have seen the taconite industry, our economic mainstay, go through bankruptcies (LTV) and painful downsizing that has resulted in the shrinking of our communities and the exodus of our high-school-educated children and young families out of our region to seek meaningful employment elsewhere. I would like to see my own children be able to remain working here in Northeastern Minnesota, the area in which they grew up and for which they love and want to stay. There are many others who have left the area and would love to return if there were adequate means of employment here for their families. This decision will directly affect the well-being of our small business here in Hibbing and many others across our region, and the families that they employ. Please give this project your strongest consideration. I am thoroughly convinced that it will impact our region, state, and nation in a positive and environmentally friendly way.	EOO
1233	I oppose the Polymet/Northmet project due too high risk of serious environmental damage that may be impossible to control.	EOO
1974	Please accept these comments on the PolyMet Mining Corp. NorthMet mining project Draft Environmental Impact Statement. I have serious concerns about the safety of this project and its potential impacts on Minnesota's natural resources. We here in Minnesota are so fortunate to have abundant water resources. Lake Superior is the largest lake in the United States and there is no area comparable to the BWCA in the United States. An article in the Star Tribune on December 8, 2009 carried the headline "Millions in U.S. drink contaminated water, records show." Experts predict that in the near future, clean water will be many times more precious than it already is. Please protect our water resources from pollution. If we pollute every source of fresh water on this planet, there is no where else to get it.	G9

*Alphabetical by sender's first name*

<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
3493	<p>I'm originally a Minnesotan but now live in Wisconsin. I still have family in Minnesota but besides visiting them I count on two to three BWCA trips a year and each trip I spend money "back home". I've always been proud of my home state but boy will I be disappointed if I learn that the principle watch dog group for Minnesota natural spaces and resources let's down America by turning a blind eye to additional mining operations for Polymet. Please plan for the future and make sure that there are provisions to hold Polymet fully responsible for environmental degradation over the long haul as a result of their business practices. There's a concept called Solastalgia that is currently being given more and more credence in psychology and this concept relates to the deeply disturbing psychological affect that destruction of ones homeland has on people's mental health. You risk more than destruction of Minnesota's natural resources that can benefit many for years and years by allowing the few to gain money in the short term and destroy the future prospects for sustainable resources. Please be both cautious and responsible as you cut deals to allow the exploitation of Minnesota Natural Resources. Trying to go after Polymet later will be incredibly more expensive than setting up responsible limitations now. I'm writing this assuming this is a done deal despite the terrible environmental practices of mining companies over time.</p>	PD4,PD10,G6,G8
<b>Sender Last Name:</b>	Mills	<b>Submission ID:</b> 3309
3602	<p>Please consider my sincere opposition to the NorthMet Project. Its merits to boost economy pales in comparison to the potential environmental degradation &amp; long-term damage to one of the most beautiful resources in North America, and more importantly an area that many Americans &amp; Canadians view as the last region to leave unpolluted to future generations. I will not travel to that area if the proposed mine were to arrive, it would be a sad day. Please forward this to decision making bodies.</p>	EOO,G2
<b>Sender Last Name:</b>	Mirindas	<b>Submission ID:</b> 2111
2498	<p>It is with great dissapointment That I find the DNR guilty of selling out the residents of this nation. It is no doubt that you and your agency are nothing but a tool for corporate interests. The many people I talk to are shocked that the DNR is working toward exploitation of Indian and national interests in what little remains of our National Forests. My organization and others will make it known to the country what your agency, Franken, Klobouchar, and Oberstar are trying to slip under the citizens of this state and country. Your intentional shutting out of public opinion of the environmentally concerned is so obvious to what your intentions are its a joke and so were your public hearings. It dosen't bother me that your closing out early of the hearings because they were a waste of time anyway for the people who wanted to express their environmental concerns. We will fight you every inch of the way I suggest you keep your eyes and ears open to the people and voices of the people you think are already defeated by your decision, for we don't intend to blindside you like you have done to Minnesota and the country. The fight you've asked for has only begun.</p>	EOO
<b>Sender Last Name:</b>	Mismash	<b>Submission ID:</b> 185
177	<p>I fully support the Polymet project and feel that they have followed all of the necessary guidelines in appropriating their permits and environmental requirements. They have shown genuine concerns about water and air safety and are willing to constantly look at new and improved ideas for the care and safety pertaining to these area. The Polymet operation will provide much needed jobs in the Northeast Minnesota area and will provide good usable products that are a USA produced material rather than importing. What they will do for the overall business communities in this area will be measured as a huge success and enable everyone in the area to raise families and grow with the success of Polymet. It will truly be a win/win situation for everyone. I firmly believe that Polymet will be a leader in the new area of mining in Northeast Minnesota and will convince others that it can be done in an environmentally sound manner. I feel that they will constantly exercise concerns to be as up to date with environmental issues as possible.</p>	EOO

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
<b>Sender Last Name:</b> Mitchell <span style="float: right;"><b>Submission ID:</b> 1140</span>		
504	Include complete post-closure, reclamation, and financial assurance info for worst case.	PD3,PD4
545	Complete independent hydrological models with statistically significant data & verification.	WR1E
<b>Sender Last Name:</b> Mizrachi <span style="float: right;"><b>Submission ID:</b> 1169</span>		
1284	Like many Minnesotans I am very concerned about the long term environmental consequences of non-ferrous mining. Until it can be proved to not be destructive to our lakes, rivers and streams I am against mining in our wetlands. Minnesota is not the right choice for a site for mining of this kind.	G7B,G7C
<b>Sender Last Name:</b> Moates <span style="float: right;"><b>Submission ID:</b> 2883</span>		
2763	The mine would likely significantly raise methyl-mercury levels in the Partridge and Embarrass Rivers, due to leaching of sulfates which increase mercury methylation. Raising the levels of methyl-mercury in the Partridge River and the downstream St. Louis River, which are already impaired by the unsafe levels of mercury, is contrary to Minnesota State Law. Yet the DEIS does not adequately address this impact, even though Tribal Agencies have raised serious concerns about it. The impact of sulfate pollution on wild rice is similarly inadequately addressed, even though there is a Minnesota law governing wild rice water quality. The DEIS also fails to adequately address environmental justice impacts related to increased mercury and the loss of wild rice. The Fond du Lac Band of Lake Superior Chippewa live down stream, have treaty rights in this area, and have lower per capita and median incomes than the rest of Minnesota. Consequently, the DEIS should include analysis of environmental justice impacts to Fond du Lac tribal members such as loss of subsistence, loss of income, and loss of traditional cultural property from decreased water quality, toxic fish, and destroyed wild rice. Many non-native residents also rely on fish, wild-rice, and game to supplement their subsistence and/or incomes. The DEIS should also include analysis of environmental justice impacts on non-native rural residents of St. Louis County, particularly those who may need to subsist on fishing and gathering.	WR4B,WR4F,WR5C,G3,F
<b>Sender Last Name:</b> Mockovak <span style="float: right;"><b>Submission ID:</b> 3132</span>		
30	If this is all about jobs, we need to consider the jobs that will be lost in the tourism industry if our pristine waters that draw visitors from around the nation and from other countries become polluted. In Northeastern Minnesota, tourism brings in \$1.6 billion per year, \$250 million in local and state taxes, and 35,500 full-time equivalent jobs. How can we even consider putting all this at risk?	SE4
3501	I am very concerned about the request by PolyMet to construct and operate an open pit mine to extract metals from sulfide ores. The process they will be using is known to create water pollution, which can affect the viability of our strong tourist industry in Northern Minnesota -- both inland and on the North Shore -- as well as threatening the safety of the ground water for residents of the area. The effects of this type of pollution can require treatment of waters for thousands of years. Why are we even considering giving a permit to such an operation, which puts our beautiful lakes and forests at risk?	G7A,G11
3502	How shortsighted are we? Do we not consider the generations to come after us? Let us focus on creating green jobs to help our economy -- not jobs whose end result will be pollution of our beautiful land and waters and harm to our vital tourism industry.	G1,G7,G11
<b>Sender Last Name:</b> Moe <span style="float: right;"><b>Submission ID:</b> 263</span>		

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
276	As a resident of Hibbing, Minnesota, I am writing to express my support for the Polymet Mining Corporation project. I am a proud member of my community. I have built my career here and I am in the process of raising a family in this area that has been hit so hard economically in the past 18 months. I would be remiss if I did not reach out at this time to make known the importance of this project to our local region. As a part of a community that has survived the rise and fall of the steel industry many times, I strive to support my local community whenever possible. With that in mind, I have invested my own dollars in the Polymet Mining Corporation, and have encouraged my family, friends and neighbors to do the same. It is my understanding that Polymet will produce the copper, nickel, platinum, gold and cobalt in an environmentally sound manner and generate significant economic activity in this depressed part of Minnesota. In addition, it will provide millions of dollars in local and state taxes that will, in tum, give a boost to our communities and educational systems. It is my request that you make every effort to see the Polymet Mining Corporation project through to completion.	EOO
2012	If the worst happens. The DEIS does not adequately address the scenario of what steps or measures will be employed if the "worst case" happens, such as the "waste" or rubbish piles were not adequately "sealed" and result in sulphuric acid polluting the ground water, lakes and streams? The projected life of the mine is 20 years of operation and then left to nature to cope with. Much of the effects of 20 years operation will not be evidenced for 50 to 100 years afterward and then who is responsible for the cleanup? Our thinking is that without strict supervision of the Polymet Mining Operation, it will never be "cleaned up" adequately in 20 years and you must think 100 years ahead!	PD3
<b>Sender Last Name:</b> Moehlenbrock		<b>Submission ID:</b> 3591
1983	The last problem I would like to address involves polluted groundwater upwelling from the tailings basin during the time period when the mine is in operation. The following is a quote from page 4.1-129. "The groundwater seepage rate from the Tailings Basin during mine operations would greatly exceed the groundwater flux capacity of the aquifer, which would result in significant upwelling of groundwater with elevated sulfate concentrations. This upwelling would inundate portions of the wetlands found north of the Tailings Basin, introduce relatively high sulfate concentrations to the wetlands and downstream lakes on the Embarrass River that represent high risk situations for mercury methylation, and could affect sulfate concentrations in downstream waters ... " The Embarrass River watershed already has elevated mercury levels in its fish. Further methylation of mercury within the river system could render the fish very dangerous to eat. Considering that the area is currently experiencing a boom in development due to the recreational potential of the lakes within this watershed, word of increased contamination could slow down development and the local economy. The tailings basin alternative plan seems to improve upon the proposed action, but still has some inadequacies. Specifically, page 4.1-148 which states, "If determined to be necessary based on actual seepage water quality, the treatment plant would be required. " The quote from page 4.1-129 already stated that the leakage from the tailings basin would have elevated sulfate levels. This water would definitely require water treatment unless 100% of the leakage is recycled as make up water at the plant site. Whether the water is discharged into the Embarrass River or the Partridge River should have no bearing on what level of contamination is acceptable.	FM1
3301	The first problem I would like to mention refers to water leaching from permanent waste rock stockpiles after mine closure: On page 4.1-56, it states that, "PolyMet would continue to collect and treat leachate from the permanent waste rock stockpiles at the WWTF [waste water treatment facility] until monitoring shows that treatment is no longer necessary to meet water quality standards." That sounds acceptable at first glance, but what worries me is the table on page 4.1-80 (Table 4.1-45) that clearly states that water quality standards of the stock pile leachate will not be met for 2000 years. The idea that Polymet would operate a waste water treatment facility for 2000 years is absurd.	EOO,WR3I
3302	Pages 4.1-111 & 112 discuss another part of Polymet's plan for long term water treatment. " ... constructed wetlands would indefinitely provide the primary treatment of waste rock stockpile leachate." However, as you read on, pages 4.1-112 & 113 state that because of the way wetlands have been used for water treatment in the past and the variability in success that has been experienced ... "Constructed wetlands petiormance, however, is not sufficiently reliable to function as the primary treatment measure for assuring consistent year-round compliance with water quality standards. "	WR3L

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
3303	To summarize my first point, according to the EIS, the mine's plan for long term, post closure water treatment is not expected to work, meaning that to comply with their statement on page 4.1-56 and consistently meet standards, by Polymet's own calculations, they would have to operate the waste water treatment facility for a period of at least 2000 years. This is not a tenable long term solution. How can a project be approved when the EIS clearly states that discharges will exceed standards, and that the proposed mitigation measures will probably not work?	EOO
3304	My next concern is in regard to acid rock drainage. The mine's plan to neutralize acid rock drainage is to treat it with limestone, but on page 4.1-66, it states that, " ... successful application of this measure has not been demonstrated." I do not believe it is prudent to use an unproven technique when the consequences of acid rock drainage have proven to be very serious in other parts of the country and around the world. Doesn't Polymet have to provide some proof, or at least some strong evidence founded on empirical research that this method will work before the project is approved? The mine site alternative described on pages 4.1-134 & 135 does not appear to solve this problem. "PolyMet proposes to add limestone to the temporary stockpiles (Category 2 and 3 waste rock, Category 3 lean ore, and Category 4 waste rock) using multiple dosing stages and several mixing methods to neutralize acid formation until the rock can be backfilled into the East Pit beginning in Year 12. A key assumption is that the addition of limestone would be effective in maintaining a relatively high pH of 8 in order to limit metal solubility. This can be done, but close monitoring of the pH and water quality of collected leachate from these stockpiles is recommended to ensure the effectiveness of the lime treatment." It is clear that Polymet has not done enough research to be able to predict the result of this technique. If they can research the exact size, shape, and depth of the ore body, know the exact amount of the target minerals they expect to acquire, know the amount of waste rock and overburden, and know the chemical composition of the ores and surrounding minerals, then why can't they be expected to do the necessary research to provide us with adequate empirical data to prove that their contamination mitigation measures will work?	WR1E
3305	The last problem I would like to address involves polluted groundwater upwelling from the tailings basin during the time period when the mine is in operation. The following is a quote from page 4.1-129. "The groundwater seepage rate from the Tailings Basin during mine operations would greatly exceed the groundwater flux capacity of the aquifer, which would result in significant upwelling of groundwater with elevated sulfate concentrations. This upwelling would inundate portions of the wetlands found north of the Tailings Basin, introduce relatively high sulfate concentrations to the wetlands and downstream lakes on the Embarrass River that represent high risk situations for mercury methylation, and could affect sulfate concentrations in downstream waters ... " The Embarrass River watershed already has elevated mercury levels in its fish. Further methylation of mercury within the river system could render the fish very dangerous to eat. Considering that the area is currently experiencing a boom in development due to the recreational potential of the lakes within this watershed, word of increased contamination could slow down development and the local economy. The tailings basin alternative plan seems to improve upon the proposed action, but still has some inadequacies. Specifically, page 4.1-148 which states, "If determined to be necessary based on actual seepage water quality, the treatment plant would be required. " The quote from page 4.1-129 already stated that the leakage from the tailings basin would have elevated sulfate levels. This water would definitely require water treatment unless 100% of the leakage is recycled as make up water at the plant site. Whether the water is discharged into the Embarrass River or the Partridge River should have no bearing on what level of contamination is acceptable.	EOO,WR2D,WR3A,G1,G7
<b>Sender Last Name:</b> Moisio		<b>Submission ID:</b> 1060
1165	I am writing to you to express my views on the proposed Potymet Mine. After attending two informational meetings of the proposed mine I give my full support to proceed with the construction of this project. Upon full review of the fact' and figures I believe this pompany h'as gone far and well beyond the requireme.nts of state, federal and regulatory guidelines. The benefits of this business would not only bring In much needed jobs to our community but would be a driver in the fact that projects of this nature can be done while achieving environmdntal compliance. I would not approve, of a business coming into our state or community just for the sake of employment while disregarding the possibilities of environmental destruction. Read the facts, get answers, ask questions and by all means don't just believe what rumors you hear to say this business is good or bad.	EOO

*Alphabetical by sender's first name*

**Comment ID    Comment Text**

**Theme Codes**

**Sender Last Name:**    Monroe

**Submission ID:** 2342

2811 Please accept these comments on the PolyMet Mining Corp. NorthMet mining project Draft Environmental Impact Statement. As a Minnesota citizen who frequents the area that is under consideration for mining, I have very serious concerns about the safety of this project and its potential impacts on Minnesota's natural resources. I have encouraged many out of state visitors to join me in the Ely area to enjoy the bounty the Boundary Waters Canoe Area affords.

G2,G11

**Sender Last Name:**    Moogk

**Submission ID:** 3135

3505 For 43 years I have been canoeing in Boundary Waters/Quetico and now my son is as well. Our world of pristine areas are dwindling with big business on a daily basis. It pains me to think the waters will be extremely tainted. This is not an "if". This is the real deal. I remember seeing the bottom of lakes, dipping our cups in the water when thirsty smelling fumes from a small outboard which was 2 hours away. Ahhhh...the old days, well time has taken a small toll but in your heart you know this could be devastating to the area. Will the world really be a better place if this mine opens? I think not. Please step back and demand a LEAST a much more thorough scientific long term data report other than the one the mining company is offering. We will be trading money in someone's already deep pockets for one of the most beautiful places on this planet. Please don't let this happen. Our souls need places like this.

EOO,G7A

**Sender Last Name:**    Moon

**Submission ID:** 2870

3217 I love the Boundary Waters. It is a big part of my family and our tradition. It is hard for me to think about people destroying my family's tradition just for copper and nickel. The Boundary Waters are not just a big part of my family tradition, they are a huge part in many people's lives. This mining process will hurt the environment of the Boundary Waters hugely. Sulfates in the water impact our health and aquatic vegetation. Sulfates and elemental mercury react to each other in a process called Mercury methylation. Methylmercury is the form that bio-accumulates in fish in which humans eat. I will never understand why people would want to harm this great natural boundary. It is a hard concept for me to comprehend. There are a million reasons why this mining process is bad. I only named a couple. Please think about what you are about to do and think about how it could affect so many animals' and people's lives. Think about the right thing to do and how you would feel if you lost something close to you. Just think about it.

G2C,G7A

**Sender Last Name:**    Moore

**Submission ID:** 2572

2209 I am writing my comments on the PolyMet draft EIS out of concern for the Lake Superior watershed, in particular the St. Louis River and it's watershed. I will focus primarily on the threat of increased fish tissue mercury. Methyl mercury is presently the greatest threat to this water body. (The St. Louis River has been listed as impaired for mercury because of fish tissue consumption advisories.) Methyl mercury is the greatest threat from the PolyMet proposal. I believe all land and fish should be protected from this contamination. As a land owner in northern Minnesota I am personally affected by the threat of short and long term effects of increased mercury. As stewards of the land we have been given as citizens of Minnesota I consider it my responsibility to oppose projects and activities which contribute to environmental pollution. I also believe strongly that any damage to water and soil as a consequence of industrial action needs to be legally linked to financial responsibility by the polluting company. I am a member of the Sierra Club and the Nature Conservancy. I am pediatric nurse who works with children with cancer. Environmental decisions impact health on many levels. An increasingly toxic environment puts all of us at risk for significant health problems, including cancer.

WR4B,WR4C,FM1,AQ6A

*Alphabetical by sender's first name*

**Comment ID    Comment Text**

**Theme Codes**

**Sender Last Name:**    Morgan

**Submission ID:** 1542

1883 I am writing to let you know that I think the PolyMet will severely jeopardize the one of kind natural heritage of Minnesota's North Woods. This ecosystem is one of a kind. Although I am not currently a Minnesota citizen I used to be and I have spent much time canoeing on the lakes and rivers in the area and know that these ecosystems are worth protecting. Every other state that has allowed these types of mining projects have banned them as they are so destructive to the health of the environment as well as the health of the people that live down stream. It is unrealistic to think that the mining company will be able to maintain a high standard of water quality and preserve the human and ecological health that will be exposed to this highly toxic form of pollution. Allowing this mine would be a poor choice if one values the health of the state and the people that live therein.

G2C,G3B,G7B

**Sender Last Name:**    Moriarity

**Submission ID:** 2326

2784 I have serious concerns about the safety of this project and its potential impacts on Minnesota's natural resources. Simply put, NO mine like this has EVER been safe for the environment; every one has eventually leaked toxic chemicals into the environment with horrific and long-lasting effects. The BWCA and surrounding are not just pristine, but UNIQUE in the world. Their despoilation would be tragic, irretrievable, and criminal. In the 70s, through YMCA Camp Menogyn, based on West Bearskin Lake, I guided many teens through that priceless land. These young guys and girls had life changing experiences there, as did I. To even risk that this incredible area be poisoned for future generations is unthinkable. This project must NOT be approved. All issues should be completely aired in public, with public involvement, and then resolved before this mine is approved by the Minnesota Department of Natural Resources and the U.S. Army Corps of Engineers.

EOO,G2,G10,G11

**Sender Last Name:**    Morris

**Submission ID:** 197

194 To Whom it May Concern, I live in Aurora - was raised in Aurora and have seen Aurora in good and bad times. PolyMet would be a Godsend for residents of the area. Please don't let us down. WE NEED THESE JOBS. I feel that there is a responsible way of mining for these precious metals and WE NEED THESE JOBS.

EOO

2361 The PolyMet DEIS describes significant environmental issues associated with this proposed mine. These issues should be resolved before this mine is approved by the Minnesota Department of Natural Resources and the U.S. Army Corps of Engineers. Although I did not personally write the bulk of this letter, please do not consider it to be a superficial contribution to an effort to which I hold no personal connection. The BWCAW watershed is of unique cultural significance to Minnesotans, representing the epitome of preserved, appreciated, and thereby invaluable moving wilderness.

G3,G8

2474 Please accept these comments on the PolyMet Mining Corp. NorthMet mining project Draft Environmental Impact Statement. I have grave concerns about this project's potential impacts on Minnesota's natural resources and public health. Will it really be worth the money to take the chance of environmental damage? Once our wetlands, rivers, lakes and land are spoiled there is no 'getting it back'. The PolyMet DEIS describes serious environmental issues associated with this proposed mine. These issues should be addressed and resolved before this mine is approved by the U.S. Army Corps of Engineers and the Minnesota Department of Natural Resources.

G6,G7

3475 I live on Wilson Lake with the Bountry Waters almost in our back yard. We moved here from Chicago a year ago to get away from pollution and be in such a wonderful, clean state. It is so sad to think that you would put in this mine, that in the end would pollute the pristine waters of Minnesota. Please do not put in mine.

EOO,G7

**Sender Last Name:**    Morrow

**Submission ID:** 2085

*Alphabetical by sender's first name*

**Comment ID**    **Comment Text** **Theme Codes**

2493 Lets follow Wisconsin's lead in banning this type of harmful mining. G14

**Sender Last Name:**    Morse **Submission ID:** 334

39 As you are aware, November 2nd marked the start of the scheduled 90 day public comment period for the DEIS. We do not believe that the length of the comment period is adequate to meet the need for a credible and accessible public review process. We request that the time period for submitting comments be extended to 180 days. We are aware that a minimum comment period of 120 days was requested in a letter sent October 7, 2009 to Ms. Cameron and copied to Mr. Arkley. The letter was signed by ten MEP member organizations. In August, the U.S. Environmental Protection Agency also recommended a minimum 120 day comment period for a project of this scope. The current comment period was subsequently scheduled for 90 days that span the Thanksgiving, Christmas, Hanukah and New Year's holidays. This DEIS was years in development and totals three volumes of material. It is unreasonable to expect citizens and concerned stakeholders to be able to fully review, analyze and prepare adequate comments in this relatively brief 90 day period. An extension to 180 days is necessary to provide time for adequate review and preparation of comments. PRO6

40 This need is compounded by several developments that have come to our attention in the past week. The DNR's advertised electronic site for receiving e-mailed public comments went down last week and to our knowledge is still not functioning PRO6

41 Additional paper copies of the DEIS that had been requested for placement at regional libraries in greater Minnesota have not yet been distributed. PRO6

354 The PolyMet proposal is the first of haifa dozen non-ferrous mining proposals being discussed for the Duluth Complex and possibly other locations in the state. Polymet's is the first project of this type in Minnesota and the public comment period is the first real opportunity residents have to learn about the impacts and weigh in with state agencies. Decisions made now will have serious and far reaching impacts for special places treasured by all Minnesotans, including the Boundary Waters Canoe Area Wilderness, Superior National Forest, and Lake Superior. Public involvement is critical to this process. This is especially true given the history of serious pollution this type of mining has created in other states, including damage to water resources and taxpayer liability for expensive clean-ups. G4A,G7

**Sender Last Name:**    Moses **Submission ID:** 2851

3143 The plan appears to be poor, as it does not even include any monitoring those who would engage in this activity. Neither is there a plan for reclamation. There was no field sampling. There is wildlife that would be disrupted ,right along the place where this mine would be. PD3

3207 I am writing in opposition to allowing Polymet to mine copper in Duluth gabbro complex. Environmental concerns run high when it comes to sulfide ore minerals as they have caused massive damage to streams and lakes around the world when acid leaches from ore and waste piles into the ground and surface waters. I can't believe we are really considering opening our beautiful Minnesota up to such a harmful activity. EOO,G7A

**Sender Last Name:**    Moses and Haller **Submission ID:** 3669

1 We are sympathetic with the economic needs in the area - we know the financial struggles of area school districts as enrollment declines when families don't have work. However, the AITowhead region of this state is a treasure of precious natural resources and beauty that must be preserved and that will continue to benefit the area economically, if it is not forever damaged by the NorthMet and other sulfide mining projects. NorthMet Project threatens the ecosystem of the area and may well put the people of Minnesota in a financial bind for unending cleanup costs that could never truly restore the land and water. The project and others in the works would favor twenty years of extraction of copper, nickel and other minerals over the protection of our precious and irreplaceable natural environment. As taxpayers we object strongly. The DEIS itself raises grave concerns with no apparent answers and is otherwise inadequate in the following specific areas. EOO,G2,G8



*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
2	Sulfide ore will interact with air or moisture to produce sulfuric acid. Any leakage of such acid into the surface water, groundwater or air will damage the environment.	WR1E,AQ4
3	Water from waste rock piles will be polluted for two thousand years. It is incomprehensible that either the mining company or the state realistically will maintain treatment facilities that far into the future. Who would pay the cost? Even if the mining company were required to put up substantial financing in advance, it would not be sufficient to cover centuries' worth of restoration that almost certainly would not be successful.	WR3I,PD2,PD4
4	The DEIS indicates that the West Pit will begin to discharge polluted water in 65 years. Adequate protection against leakage or overflow must be required. Although the DEIS indicates that overflow could be mitigated, it is unclear how - once the contaminated substance is flowing through wetlands, streams, rivers and lakes - in this case into Lake Superior?	WR3C
5	Further, per the DEIS summary, "relatively high sulfate concentrations in seepage from the Tailings Basin would be released to wetlands north of the Tailings Basin and lakes downstream ... that represent high risk situations for mercury methylation." The mercury level in fish in the lakes and rivers in the area is already a health concern and yet this proposal would almost certainly increase the health and safety risks posed by mercury concentrations. The EIS should include detailed and cumulative impacts of potential mercury increases in fish as related to the NorthMet project and other nearby pollution sources, including mercury methylation as well as discharge and emissions.	WR5A,WR5C,FM1,FM3
6	The DEIS acknowledges a potential for the proposed tailings basin to fail due to fines and underlying soils in the existing L TVSMC Tailings Basin. Poly Met has not adequately addressed the safety issues -leaving the problem to further design and analysis during the permitting process. This is totally inadequate and should not be allowed. Proven solutions must be proposed in advance. Minimally, PolyMet should be required to resolve tailings basin geotechnical stability and seepage issues identified by the Tribes and the U.S. Environmental Protection Agency.	GT2
7	The proposal to construct a wetland to treat contaminated waters is inadequate in that effectiveness of such a system has not been proven and cannot be relied on, as it likely would result in pollution of rivers and lakes downstream.	WE6
8	In general, the proposed solutions to handle toxic contaminants have not been tested or proven to protect water quality, human health and wildlife. Considering the extreme risks, PolyMet's projections are inadequate both in the protection of water quality initially and in the proposed remediation. Once sulfuric acid is released, the damage is done.	EOO,WR1E,WI5
9	The NorthMet project would directly or indirectly affect over 1,500 acres of wetlands, including peatlands. Over 1,000 acres of peatlands would be destroyed. Because peatlands effectively sequester carbon, the DEIS correctly acknowledges that the project would result in additional greenhouse gas emissions in the Arrowhead. In fact, the emissions would result in a two percent increase in the state's overall carbon dioxide emissions. This is unacceptable.	AQ3
10	Peatlands develop over thousands of years and are known to be a highly effective and natural way of containing dangerous carbon. Their destruction cannot be undone. Peatlands have repeatedly been identified as extremely valuable in federal and state inventories and other reports commissioned by the legislature and governor call for the protection of peatlands because they securely contain carbon. Peatlands should be protected, not destroyed for short term gain.	WE2
11	Given the grave risks to the environment, the water quality monitoring, treatment and remediation that may be needed for centuries, PolyMet should be required to provide financial assurances in the EIS before any permitting process gets underway (This is the U.S. EPA position). Sulfide mining pollution in other states where mining companies closed or became bankrupt is a nightmare of cleanup costs that are borne by the taxpayer. It should be a cost of doing business for PolyMet and should be a standard set now for the other mining projects that will be proposed in the Arrowhead. Otherwise, we the taxpayers are left with the bill.	PD4

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
12	The EIS should include cumulative air and water quality effects on lakes and rivers from all sources, including other mines and mine proposals in the works. This EIS may set the standard for all water quality impacts analysis. Good cumulative impacts analysis is critical to protect water quality in the entire area and it is irresponsible to view this project in isolation.	WR5A,AQ4B
13	Similarly, the EIS should include future development of sulfide-mining by companies that are already doing exploratory drilling in the analysis of cumulative effects. This is the Tribal position and we agree.	G9
14	There has been inadequate analysis of socioeconomic effects of the project. Specifically, the economic impacts should take the longer view, keeping in mind that the mine will last only twenty years. The analysis should include the effects of the mine's closure when job loss inevitably will occur, as it has repeatedly in historic mining cycles on the Iron 3	SE3
15	All the concerns raised by the Environmental Protection Agency and the Bois Forte and Fond du Lac Tribes must be fully addressed.	G15
<b>Sender Last Name:</b> Muelken		<b>Submission ID:</b> 238
248	Give Polymet their Permit. We can go on and on letting people make rules on the fly. They have met the requirements existing on the books. The government agencies have done their job and know way more then "Joe Public" knows about the project. They have followed "due process" and deserve to be given their permits.	G6
<b>Sender Last Name:</b> Mueller		<b>Submission ID:</b> 3490
1120	loss of 1,454 acres of federally designated critical habitat for two endangered species known to be in the vicinity of the mine site – the Canada lynx and the gray wolf. Finally, cumulative impacts must address the loss of revenue to the Boundary Waters Canoe Area	WI1
1325	basin for the disposal of its tailings and toxic materials – but that the basin already has stability issues making it unsafe. Any failure of this basin to hold its contents would result in long-lasting and serious contamination. PolyMet should complete a stability analysis of the basin and devise an acceptable design before being able to proceed with this project. Further, the PolyMet NorthMet project will result in total	GT2
3239	In addition, the DEIS predicts contaminated waters to be discharged from the mine site into the Partridge River after the mine's closure, as well as tailing's basin discharges high in sulfate concentrations. High sulfates can turn mercury into forms that make fish dangerous to consume. It is unacceptable to proceed with a mine that already predicts these kinds of pollution outcomes. Wisconsin has already banned sulfide mining due to the unacceptable environmental risk it presents. It is also my understanding that PolyMet proposes to use an existing mine tailings	EOO,WR4B,FM1
3689	Water quality impacts remains a top concern. How is it acceptable to allow for up to 2,000 years of environmental impact for the short term gain of one company? Who will pay for the long term treatment required? PolyMet has few assets and little financial history. The DEIS fails to address where the funding will come from to pay for post-closure treatment, monitoring and maintenance. As a result, it seems likely that Minnesota taxpayers may have to pay millions of dollars to clean up after PolyMet has gone.	PD2,PD4
3764	Wilderness and Superior National Forest tourist industry as part of a sulfide mining district. While I fully understand the economic necessity of mining, and need for natural resources in our society, we need to be responsible in our decisions. Certain types of mines should simply not be permitted in certain places where the risk to the environment is too great. This appears to be the case for sulfide mining in northern Minnesota. The PolyMet DEIS describes significant environmental issues associated with this proposed mine. These issues should be resolved before this mine is approved by the Minnesota Department of Natural Resources and the U.S. Army Corps of	G2
<b>Sender Last Name:</b> multiple		<b>Submission ID:</b> 260

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
273	We are writing, as Iron Range business owners, to support PolyMet's mining and production efforts. The lengthily environmental review process that PolyMet has gone through, with both the Federal and State regulatory agencies has not only been thorough but offers the potential environmental impact and how to mitigate it. PolyMet has proved that they will mine and produce copper, nickel, platinum, palladium, gold and cobalt in an environmentally sound way. Income generation to the potential 400 employees plus hundreds of spinoff jobs will not only lift up the depressed state of the Iron Range but it will provide millions of dollars in local and state taxes. All the affected areas need this type of financial boost in order to support the communities and education systems. It is very clear that the people of PolyMet are Minnesotans committed to living, playing and protecting our state's environment. We cannot ask for a better business model in our state, at this time, at this place and in our state's future.	EOO
<b>Sender Last Name:</b> Munger		<b>Submission ID:</b> 3246
3143	The PolyMet Sulfide mining proposal will, without any reasonable doubt, have a serious impact upon our environment that will destroy many acres of our Northern Minnesota Wetlands. At the same time there is no proven way possible to guarantee that significant impact will not be made on water quality in Northern Minnesota rivers and streams. There is, as a result, a reasonably strong chance that underground water supplies and the lowering of the water quality of water sheds that feed Lake Superior could very well effect this, the world's largest fresh water lake, as well.	EOO,WR3B
3595	it is my belief that the DNR should deny this permit unless the permitting process spells out an iron clad guarantee that minimizes the damage that will be made to the environment and guarantees that unforeseen clean-up costs will be paid by the industry and responsible parties.	PD2,PD4
<b>Sender Last Name:</b> Murphy		<b>Submission ID:</b> 3705
1	Furthermore, in the DEIS, there is no reliable groundwater model for groundwater drawdown impacts associated with the mine pit dewatering. The estimates of groundwater drawdown are currently based on anecdotal observations and analysis of historical aerial photography.105 Aerial photos are a very imprecise measure of surface water level. As such, some changes in groundwater hydrology cannot be detected by aerial photography. The historical aerial photographs used to demonstrate that there would be no impacts as a result of drawdown show that the nearby Peter Mitchell Mine Pits are mostly flooded.106 Therefore, at the moment, there is little or no stress on surrounding wetlands at this time, but the company's plans demonstrate that there will be profound changes to the relevant conditions. The wetland soil conductivity values that were used to determine flow rates in the surficial aquifer are extremely low, and the supporting source citation in professional literature has not been provided.107 Additionally, the topographic relationship of the landscape features, including the depth of the Peter Mitchell Pits, which are only about 80 feet deep, and the proposed PolyMet Pits, which are approximately 800 feet deep, are very different and therefore head pressure resulting in groundwater drawdown into the pits would be expected to be substantially greater in the PolyMet Pits. With no quantitative assessment of the mine-related drawdown of the regional water table, there has been no mechanism to develop an adequate indirect impact assessment for wetlands. Based on the vegetation data collected from wetland delineations it appears that groundwater supported wetlands are common in the Project area.108 The workplan to identify indirect wetland impacts has not been finalized by the US ACE Wetlands Workgroup and consequently the results of those investigations were not included in the DEIS to allow a full public review. Unquestionably, the DEIS must be supplemented with this information.	WE1,WE2
158	I feel the DEIS for the Polymet project is very accurate and detailed. After reading the DEIS I am 100% for the project and I'm confident that Polymet will take care of our area while mining. This is 2009, not 1899. We have the technology to mine in an environmentally safe manner. I spend a lot of times in our forests hunting and hiking, fishing the rivers and lakes. If I had any doubt the mining couldn't be done in an environmentally safe manner I would be opposed to the project. Most everyone I talk to on the East Range is for this project, we want this mine to happen. Please don't let some out of area extremists ruin it for us. Thank you,	EOO

*Alphabetical by sender's first name*

<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
3861	I am sending you this e-mail in support of the Polymet Mining Project in Northeastern MN. I have several reasons for supporting this project. First: economic impacts. - This project will contribute to a depressed economy, local, state, and national. - The materials from this project will not only create employment directly and indirectly to the economy, but also the materials needed for today's technology. Renewable energy, electric vehicles, computers, medical and the list can go on. - The careers that could then be available to our younger work force can be in the new technology of this project, in the environmental areas, with the vendors, etc. - These jobs will be supplying the metals needed for today's technology. Second: domestic advantages. - These metals will be domestic source needed and used by all in this country. - For this state and country to keep up with the advancing technologies of other countries, we need these metals. Third: environmental concerns. - The environmental requirements of Minnesota are strict. If we were to get these metals from a foreign source, I would question those environmental guidelines. - This project is going to use an existing site and facility. Lesser disturbance to the environment. - We do need these metals today. Mining and processing here versus in another country, transportation becomes both environmental and cost issues. - The Polymet Draft EIS and those involved with it, shows the issues and concerns of this project have been addressed and will be met.	EOO
<b>Sender Last Name:</b>	Musich	<b>Submission ID:</b> 3521
3787	I grew up under the "beauty" of glorious "dumps" of the Hull rust open pit mine. This latest scheme from the mining companies is incredibly dangerous and untested. Only the pockets of a very few will be lined with the benefits. Better to put the energy into rare mineral recovery. Better to pay directly people who need jobs. The natural state of the land has more to offer for both employment and to our health than mining. To move forward with the mining will only bring regret.	EOO
<b>Sender Last Name:</b>	Muzzi	<b>Submission ID:</b> 1815
2407	The PolyMet DEIS describes significant environmental issues associated with this proposed mine. These issues should be resolved before this mine is approved by the Minnesota Department of Natural Resources and the U.S. Army Corps of Engineers. As a lifelong Minnesotan and lover of the BWCAW, I would hate to see these ecosystems damaged. I spend my summers guiding trips comprised of young adults from all over the country. All leave awed by the beauty of northern Minnesota, and with a respect for natural places and a desire to protect and preserve them. Please do not allow this permit; it would jeopardize a place that hold both sentimental value for me, economic value for the regions it serves, and educational value for children (and adults) from all over the world.	G3,G11
<b>Sender Last Name:</b>	Myers	<b>Submission ID:</b> 3670
1	LWVMN believes that it is important to protect the citizens' right to know what the government is doing and to facilitate the participation of citizens in government decision-making. While an extension would have been useful, we are pleased that the public had at least the 90 days.	G10
2	LWVMN has major concerns about this project because its environmental impact, as revealed in the DEIS, will be felt for many generations, long after the minerals have been removed and the mining company has left the area. We believe that natural resources should be managed as interrelated parts of life-supporting ecosystems; pollution of these resources should be controlled to preserve the physical, chemical and biological integrity of ecosystems and to protect public health. The DEIS documents the long-term pollution of the waters surrounding the mining site and flowing throughout the watershed, the destruction of over a thousand acres of wetlands and the loss of habitat for wildlife, including fish and birds.	EOO
3	Waste rock disposal plans under both the Proposed Action and the Mine Site Alternative raise water pollution concerns. Storage of reactive waste rock permanently above ground has an acknowledged potential to generate Acid Mine Drainage (AMD) and to leach metal contaminants. We will mention a few specific issues of concern.	WR1E

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
4	The Proposed Action would permanently leave on the surface all of the Category 3 and 4 waste rock, with sulfur contents between 0.3 and 0.6%. The DEIS indicates that Category 3 is medium reactive waste rock that may generate AMD; it is predicted to leach heavy metals resulting in drainage with heavy metal concentrations in excess of water quality compliance levels. Category 4 waste rock is labeled highly reactive; it would generate AMD and leach heavy metals resulting in drainage with heavy metal concentrations in excess of anticipated water quality compliance levels. In fact, storing reactive waste rock permanently above ground presents acknowledged and unacceptable pollution risks for unacceptable durations. In one DEIS model, Category 1 and 2 waste rock are predicted to exceed groundwater evaluation criteria for antimony, arsenic and sulfate for 100 to 2,000 years. The Category 3 waste rock stockpile is predicted to exceed groundwater criteria for antimony, manganese, nickel, and sulfate from 50 to 2,000 years. Contamination exceeding groundwater criteria from the Category 4 waste rock stockpile is predicted for antimony lasting 90 to 250 years. Antimony, arsenic and sulfate are predicted in another model to exceed groundwater evaluation criteria for 100 to 2,000 years, according to the DEIS.	WR2C
5	The Mine Site Alternative is an improvement and should be adopted, placing, as it does, Category 2, 3 and 4 waste rock into the East Pit for subaqueous disposal. However, modeling in the DEIS shows significant ground water pollution risks even from this alternative action. Among other things, an on-going monitoring plan should be included in the EIS, designed to check for the generation of Acid Mine Drainage within the mine pits and its seepage into surrounding areas.	WR1B,PD10
5	Another water pollution issue is the predicted natural flooding of the West Pit with groundwater and precipitation, leading eventually to the overflow of the pit into the Partridge River in about 65 years. The DEIS indicates that water quality standards for mercury could be exceeded in the long-term discharge from the West Pit. In fact, the predicted pollution from the overflow of the West Pit violates the Clean Water Act. The EIS must present alternative designs and methods to prevent contamination that exceeds water quality standards. Since neither primary method of water treatment is expected to be effective at removing mercury, the EIS must present an alternative method that is.	WR3I,CR1
6	The problems which flow from water contaminated with sulfate and heavy metal are too numerous to list here. To note just a few: Sulfate turns mercury into “mentholated” mercury which can bioaccumulate in fish, endangering humans, birds and wildlife by making the fish unsafe to eat. Since this project is in the St. Louis River watershed and will affect both water quantity and quality, there is the potential to negatively impact the valuable wild rice areas along that river. There are direct and indirect wetland impacts which have not been mentioned, including the potential connectivity between groundwater and wetlands.	WR1E,WR3N,WR5A
6	The failure of the DEIS to provide information about the amount of financial assurance that will be required for the project is the last concern we will include. In order to assess the potential effectiveness of reclamation and closure activities, the public must have this information. As you know, the EPA recommends including financial assurance information in EISs because a major factor in determining the environmental impact of a mine is the effectiveness of reclamation and closure activities. Since the public is ultimately responsible, should the mine operators declare bankruptcy, the public has a right to have this information long before the permitting process begins.	PD2,PD8
7	I live in the twin cities and care deeply about northern Minnesota, the wildlife and wild habitats. My use of the arrowhead region of Minnesota consists of hiking, camping, birding, and other wildlife watching, weighing in on Forest Service timber projects and other impacts to our public land forests. I believe that the Boundary Waters Canoe Area Wilderness (BWCA) and the Superior National Forest (SNF) are valuable natural heritage assets for the State of Minnesota – what is above the ground is far more valuable than what is buried beneath.	G11
7	LWVMN believes that the “No Action” alternative should be the selected outcome at this time. Given the risks to our ecosystem and the the DEIS statement that “the amount of financial assurance associated with reclamation actions cannot be estimated until these actions are understood at a deeper level of design detail,” we recommend that the DNR and the Army Corps of Engineers seek the information necessary to understand the PolyMet project at the deepest possible level before going forward.	PD3,PD4

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
7	Replacing any of the over 1500 acres of wetlands impacted with this project outside the watershed does not replace the “functions and values” of the wetland resources. This is in direct conflict with the goals of the MN Wetland Conservation Act which has the goal of “no net loss of wetland functions and values”.	WE3,WE4
8	a. Inadequate alternatives analysis, and inadequate analysis of the No Action alternative	ALT8
8	b. Inadequate cumulative impacts analysis	CR1
9	c. Inadequate wildlife and wildlife habitat analysis	WI2
9	d. Inadequate human health impact analysis	G8
<b>Sender Last Name:</b> Nachman		<b>Submission ID:</b> 1794
2366	In addition to the note below, I'd like to say that I am not in support of this mining project and I hope that a decision will be made that will prevent any mining to take place that will cause any environmental damage. Thank you. Please accept these comments on the PolyMet Mining Corp. NorthMet mining project Draft Environmental Impact Statement. I have serious concerns about the safety of this project and its potential impacts on Minnesota’s natural resources	EOO,G2
<b>Sender Last Name:</b> Nankivell		<b>Submission ID:</b> 1577
1947	The PolyMet DEIS describes significant environmental issues associated with this proposed mine. These issues should be resolved before this mine is approved by the Minnesota Department of Natural Resources and the U.S. Army Corps of Engineers. As a Minnesotan, I value the rich natural resources of this state and will not stand idly by while it is threatened. The stakes are too high.	EOO
<b>Sender Last Name:</b> Natzel		<b>Submission ID:</b> 3058
1021	Also wildlife would be at risk from the mining activities discharging poisons.	WI5
<b>Sender Last Name:</b> Naughton		<b>Submission ID:</b> 239
249	Give Polymet their Permit. We can go on and on letting people make rules on the fly. They have met the requirements existing on the books. The government agencies have done their job and know way more then "Joe Public" knows about the project. Polymet has followed "due process" and deserves to be given their permits.	G6
<b>Sender Last Name:</b> Neff		<b>Submission ID:</b> 2441
2934	Please take the time to add supplements to the draft EIS and give people in Minnesota a fair chance to know what impact the PolyMet project would have on our State OTHER THAN THE JOBS IT WILL BRING! Please look farther ahead than our current employment status. Is this a sustainable decision? Take the iron ore mines for example. Each year they struggle to keep their doors open and they've been around for nearly a century. Given the amount of copper in the earth to be mined, will this allow a company like PolyMet to keep a plant open for even a decade? If so, at what costs to surrounding residents including wildlife? The risks sure don't seem to outweigh the benefits in this situation. Remember, "Where conflicting interests must be reconciled, the question shall always be answered from the standpoint of the greatest good of the greatest number in the long run."	EOO,G2C

*Alphabetical by sender's first name*

**Comment ID    Comment Text**

**Theme Codes**

**Sender Last Name:**    Nelson

**Submission ID:** 3746

1 3.) Saturated Overburden would be stored in the Category 1 and 2 waste rock stockpiles. The DEIS describes analysis that indicates this overburden is likely to be high in sulfur content, sometimes equivalent to Category 4 waste rock. There is a risk of it acidifying and releasing metals and sulfate. “There is a concern that placement of this material in the Category 1 and 2 waste rock stockpile could result in acidification and release of various metals and sulfate on a liner system that was not designed for this level of reactivity” (DEIS pg. 4.1-165).  
Recommendation: The EIS should require that qualifying overburden be placed in the appropriate stockpile for its reactivity. An effective method for characterizing the reactivity of material in the field must be developed and required.

WR2D

1 B. West Pit Flooding and Drainage After Closure 1.) After mining operations cease, the Proposed Action calls for the West Pit to naturally flood with groundwater, precipitation, and surface runoff, eventually leading to overflow into the Partridge River around Year 65 (about 45 years after mine closure). The DEIS indicates that water quality standards for mercury could be exceeded in the long-term discharge from the West Pit, as neither the WWTF nor the East Pit constructed wetlands are “expected to be consistently effective in mercury removal” (DEIS pg. 4.1-123). Antimony from the West Pit drainage is predicted to exceed groundwater criteria for 550 to 2,000 years (DEIS Table 4.1-45). Additional exceedances may occur for nickel and sulfate. The deterministic model used to analyze West Pit overflow water quality predicts arsenic, cobalt and selenium would exceed surface water quality standards. An additional analysis, “uncertainty analysis,” predicts exceedances of surface water quality standards for cobalt, copper and nickel (DEIS pg. 4.1-113, Table 4.1-64). Sulfate concentrations are also predicted to be high. The DEIS notes: “There is the potential that this overflow could result in a short reach (approximately 1,000 feet) of the Upper Partridge River between the confluence with the unnamed tributary and the South Branch Partridge River exceeding some surface water standards. The water quality of the West Pit overflow, however, is not predicted to result in exceedances of surface water standards in the Partridge River at SW-004a (located approximately 1,000 feet downstream from where the West Pit overflow would reach the Partridge River and downstream of the confluence of the South Branch Partridge River)” (DEIS pg. 4.1-113, 114). But the DEIS does not provide flow information for this unnamed water body or explanation of why it is expected to sufficiently dilute contamination. This water body is a protected water of the State of Minnesota, and sacrificing it to potential contamination is not acceptable. The DEIS also fails to explain why contamination in the Upper Partridge River will be limited to 1,000 feet. Recommendation: The predicted pollution from the overflow of the West Pit violates the Clean Water Act. The EIS must present alternative designs and methods to prevent contamination that exceeds water quality standards. Given that neither primary method of water treatment is expected to be effective at removing mercury, the EIS must present an alternative method that is. Additional information must be presented to explain the expected geographic extent of contamination. No water bodies of the State of Minnesota should be sacrificed to pollution.

WR3A

504 This project must have "backup" safeguards in place and must have financial guarantees to fix problems as they occur. Realtime monitoring of water and air quality all around the area as well as in the immediate area must be a part of this project.

AQ5,WR1A,WR3I

728 I'd like to request: 1) a time extension of 30 to 45 days for review of the EIS. 2) more public meetings in more places to gather input. The current schedule is too limited. 3) that public meetings include the option for citizen statements and discussion in the open meeting.

PRO6

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
1160	I humbly request you consider, the following during your public comment review of the proposed NorthMet and other copper nickel mining operation in Minnesota. We must be loyal stewards of our environment while we are juggling the economic needs of our citizens and businesses. We encourage good paying jobs but they must not be at the expense of polluting our air and water. Iron Mining on the Iron Range has for the most part been good for Minnesota and our country, our challenge is to make copper nickel mining also good for Minnesotans. We cannot allow "any more" pollution into Lake Superior or its tributaries. The citizens of this great state are already greatly restricted in consuming fish from our precious lakes and waters. We must be striving to improve environmental conditions, not worsen them. Some of the air born problems are not of our own doings but we must not contribute to them. The citizens of this great state voted to tax themselves so that their dollars could go towards improvement in water quality, Please do not let them down so that these dollars are instead used in cleanup of failed water containment projects associated with copper nickel mining operations. I don't believe anyone intends to pollute our waters but accidents happen and we learn sometimes the hard way when we are exploring new horizons. Historic examples sometimes better illustrate my point such as: The use of agent orange to defoliate the jungle landed up causing our own troops irreparable harm - my own friend is currently suffering. Surely our own military did not intend to harm our own troops but it did. And we must learn from these experiences and not "repeat" them. Copper nickel mining likewise has not had a clean track record to date, so we must learn from these failures and not go down the same path.	EOO,G7
1161	I submit these comments as a land owner within 15 miles of the proposed mine and as a fisherman who enjoys drinking our local water and eating fish from our waters. I also want my grandson and your grandchildren to have these same opportunities.	EOO
2170	Please accept these comments on the PolyMet Mining Corp. NorthMet mining project Draft Environmental Impact Statement. I have serious concerns about the safety of this project and its potential impacts on Minnesota's natural resources. It is beyond my comprehension why MN would allow something so environmentally detrimental for generations to come- which the DEIS itself admits- to happen in one of its most pristine areas. And then to further show how anxious we are to accept this payout, we are not requiring Polymet to set up an escrow account to clean up the inevitable destruction. It is my understanding that there has never been one sulfide mine in this country which has not caused environmental damage. And Polymet won't be the only one. Other mining companies have said they are just waiting for PolyMet to get approval and then they will also be coming. Once again, big money is winning because our natural areas can not compete against the enticements of greed. Instead of supporting the existing northern tourism industry, we are willing to endanger that economy for a quick but relatively short cash infusion. Support longterm economic and environmental sustainability or shortterm profits? It appears the decision makers in MN are no different than the Wall Street bankers.	EOO,G4A,G11
2528	I am not in favor of granting mining, processing, and waste storage permits for the proposed Polymet project. At the informational meeting in Blaine, I listened carefully as politicians from northern Minnesota spoke enthusiastically that Polymet had a different business model and would do metal sulfide mining in a cleaner way than is done by others. We were given no more information than that they would attempt better containment of sulfur waste. The politicians' focus was primarily on a desperate hope for 20 years of jobs, an issue that is popular with the northern citizens who traveled far to pack the meeting. They want work that will provide income to allow them to continue to live in and enjoy this beautiful, mostly unspoiled wilderness area. I don't blame them for their enthusiasm. However, the Army Corp of Engineers, the Minnesota Department of Natural Resources and the Pollution Control Agency are charged with the responsibility of either granting or denying permits on the basis of evidence relating to possible harm to the natural environment. I ask that: the Army Corp carefully evaluate the long term risks to wetlands and waterways. the DNR consider the dangers that are posed to the natural environment from sulfur pollution. To get a clear understanding, DNR officials should visit Sudbury, Canada. the PCA evaluate the contention that Polymet can contain hazardous wastes over the very long term. Any permit that is granted would be contingent on the establishment by Polymet of an escrow fund of money dedicated, over the very long term, to the cleanups that would be needed in the event of an accidental release of toxins.	G4A,G14

**Sender Last Name:** Nessa

**Submission ID:** 1315



*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
375	I really worry about the increasing levels of dangerous chemicals in our day to day environment. She, my granddaughter seems to be good health now, but will her children be damaged by the efforts for short term financial gain by Poymet? How about her grandchildren when Polymet is done and gone?	EOO
1534	I wish to express my concern about the proposed PolyMet mine in the Superior National forest. The mining project summary indicates some of the problems and hazards of this kind of mining here in Minnesota. They predict the ground water would "generally meet" groundwater evaluation criteria "not to protect human health". They state that the level of methymercury in the Embarrass River would increase!	G7B
3832	I wish to express my concern about the proposed PolyMet mine in the Superior National forest. The mining project summary indicates some of the problems and hazards of this kind of mining here in Minnesota. They predict the ground water would "generally meet" groundwater evaluation criteria "not to protect human health". They state that the level of methymercury in the Embarrass River would increase! I don't know about your grandchildren if any, but I have a granddaughter living in Hermantown. Her family fishes in the St. Louis river. I really worry about the increasing levels of dangerous chemicals in our day to day environment. She, my granddaughter seems to be good health now, but will her children be damaged by the efforts for short term financial gain by Poymet? How about her grandchildren when Polymet is done and gone?	G5
<b>Sender Last Name:</b> Nett		<b>Submission ID:</b> 302
316	As a taxpayer and resident of Minnesota I feel strongly in value add manufacturing moving forward in Minnesota. I also feel strongly about environmental stewardship. I believe Polymet meets both of these criteria and I support this project moving forward. Polymet is taking measures to ensure proper closure of the mine after 20 year life as well as making investments for mine closure. Polymet will be using an existing brownfield site which is currently not being used and there are benefits to putting this site to use.	EOO
<b>Sender Last Name:</b> Nevins		<b>Submission ID:</b> 2475
2991	Please accept these comments on the PolyMet Mining Corp. NorthMet mining project Draft Environmental Impact Statement. I have serious concerns about the safety of this project and its potential impacts on Minnesota's natural resources. This project should not even be on the table, it is completely unacceptable, citizens will never allow this to happen! This is a proposal to TRASH the most pristeen watershed in the country, not to mention all the watersheds connected to it. REALITY and ECOLOGY MUST BE CONSIDERED BEFORE DOLLARS!!! Who is going to explain to our children why they cannot swim, or fish, or drink?! If policy makers cannot or will not make the LOGICAL decision, the community will come together to stop this project!	EOO,G2
2992	The PolyMet DEIS describes significant environmental issues associated with this proposed mine. These issues cannot be resolved and so the project MUST NOT be approved by the MINNESOTA DEPARTMENT OF NATURAL RESOURCES (this IS your job!!!!) and the U.S. Army Corps of Engineers.	EOO,G2
<b>Sender Last Name:</b> Nguyen		<b>Submission ID:</b> 3504
3774	No mining should be in our state. It gonna hurt our land and be no good with mining. It shouldn't happen at all, throwing away nature, throwing away people love to do outside and enjoy the environment. If there is mining, think about the land is being destroyed for a single little piece of ore, go to a different state and look for that kind of crap. Also our clean water will be ruin if we did have mining in our state. Taking big fields like 500 football fields for mining is a waste of time, and using our tax money on something we don't need and don't need to destroy Minnesota at all. Minnesota is a great place, bringing mining to our state would be a place with bad pollution, bad clean water, and destroying land. Tell the company PolyMet to go some where with their plan some where else, we don't need them and they don't need our land. Our land is precious more than them and their ore.	EOO,G2

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
<b>Sender Last Name:</b> Nichols		<b>Submission ID:</b> 1359
237	Get better infotmation on existing pollution, the nature of wetlands, endangered species, wild rice stands and other resources that would be affected by the project.	WE1
242	Analyze all of the impacts (air and water) of increased mercury in fish from the PolyMet project and other nearby pollution sources. Mercury in fish causes brain damage to children and to the fetus.	AQ4B,AQ6A
243	Get better infotmation on existing pollution, the nature of wetlands, endangered species, wild rice stands and other resources that would be affected by the project.	WI2
263	I have been a Minnesota resident all my life and am still amazed that we say we want business in Minnesota but turn and do everything we can to keep business out. We make so many stipulations (roadblocks), tax the heck out of them, or a minority of residents who want their name in the paper, cause enough problems that the Company say "forget if" and moves on to another state or out of the country, to a place that wants them. We need jobs in this area to keep people in the northland. PolyMet will comply with all the governmental regulations. Most mining companies employ environmental engineers passionate with their job, that work to make sure the company is in compliance with what is expected. Let's recycle the old LTV Steel Mine, create jobs here in America, provide millions of dollars in local and state taxes, and use the resources that God placed here for us.	EOO
396	Require the PolyMet Company to show that their waste rock and tailings piles won't collapse and dump uncontrolled pollution into nearby waters and that they will not create water pollution that lasts for hundreds or thousands of years.	GT2
399	Analyze all of the impacts (air and water) of increased mercury in fish from the PolyMet project and other nearby pollution sources. Mercury in fish causes brain damage to children and to the fetus.	FM1
658	Analyze the land that is going to be exchanged for Superior National Forest land to make this project possible. Make sure that the land swap would protect wetlands, endangered species, hydrology, tribal rights and taxpayers' interests.	PD1
659	As the U.S. EPA suggested, make sure that financial assurances for the public are included in the EIS long before any permitting process gets underway.	PD4
701	Analyze all of the impacts (air and water) of increased mercury in fish from the PolyMet project and other nearby pollution sources. Mercury in fish causes brain damage to children and to the fetus.	WR4B
702	Get better infotmation on existing pollution, the nature of wetlands, endangered species, wild rice stands and other resources that would be affected by the project.	WR1E
1117	NorthMet project will result in total loss of 1,454 acres of federally designated critical habitat for two endangered species known to be in the vicinity of the mine site – the Canada lynx and the gray wolf. Finally, cumulative impacts must address the loss of revenue to the	WI1
1322	existing mine tailings basin for the disposal of its tailings and toxic materials – but that the basin already has stability issues making it unsafe. Any failure of this basin to hold its contents would result in long-lasting and serious contamination. PolyMet should complete a stability analysis of the basin and devise an acceptable design before being able to proceed with this project. Further, the PolyMet	GT2
1568	Think of the planet 7 generations from now. Bring these concerns to constituents including our earth. What would she say? Think of your ethical responsibility to the earth, our [illegibe] our people, our game...	EOO

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
1589	I am writing to you as a citizen of Minnesota concerned about the PolyMet sulfide mining project proposed on 6,700 acres of public land in the Superior National Forest. Sulfide mining would be new to Minnesota. In other locations, sulfide mining has resulted in acid mine drainage causing extensive and expensive damage to water quality and the environment. Often, taxpayers have been stuck with the costs. The PolyMet project in Minnesota could degrade water quality, increase mercury in fish, destroy wetlands and peat bogs, fragment the habitat of endangered species, interfere with tribal rights guaranteed by Treaty and with tribal resources, like wild rice, increase air pollution that results in regional haze and create a risk of perpetual pollution without adequate financial assurance that the public won't end up paying the costs. The Indian tribes working on the EIS and the United States Environmental Protection Agency have provided helpful information on the inadequacy of the PolyMet draft EIS. Before this sulfide mining project is even considered for permits, please fill these gaps:	EOO,G2B,G2C,G3A,G4A,G
1590	Please bring this to your biggest constituency- the earth herself. We cannot do these things as projects w/o thinking 7 generations ahead. Its ethically irresponsible.	EOO
3236	In addition, the DEIS predicts contaminated waters to be discharged from the mine site into the Partridge River after the mine's closure, as well as tailing's basin discharges high in sulfate concentrations. High sulfates can turn mercury into forms that make fish dangerous to consume. It is unacceptable to proceed with a mine that already predicts these kinds of pollution outcomes. Wisconsin has already banned sulfide mining due to the unacceptable environmental risk it presents. It is also my understanding that PolyMet proposes to use an	EOO,WR4B,FM1
3684	natural resources and public health. Water quality impacts remains a top concern. How is it acceptable to allow for up to 2,000 years of environmental impact for the short term gain of one company? Who will pay for the long term treatment required? PolyMet has few assets and little financial history. The DEIS fails to address where the funding will come from to pay for post-closure treatment, monitoring and maintenance. As a result, it seems likely that Minnesota taxpayers may have to pay millions of dollars to clean up after PolyMet has gone.	PD2,PD4
3758	Boundary Waters Canoe Area Wilderness and Superior National Forest tourist industry as part of a sulfide mining district. While I fully understand the economic necessity of mining, and need for natural resources in our society, we need to be responsible in our decisions. Certain types of mines should simply not be permitted in certain places where the risk to the environment is too great. This appears to be the case for sulfide mining in northern Minnesota. The PolyMet DEIS describes significant environmental issues associated with this proposed mine. These issues should be resolved before this mine is approved by the Minnesota Department of Natural Resources and the	G2
<b>Sender Last Name:</b> Nigon		<b>Submission ID:</b> 3153
3114	The St. Louis River is a key part of Minnesota's natural resources that needs to be protected	WR3D
3531	really do have a commitment to protect the natural world around us. It will be a disgrace to our state if this project is allowed to go through, and I am hope that the logical, obvious choice to stop this project will be the ultimate outcome.	EOO
<b>Sender Last Name:</b> Niska		<b>Submission ID:</b> 3444
3216	Life perpetuates and thrives with clean water! To me it seems that with the contentious debate over the issue, that the non-ferrous mining proponents haven't specifically proven it to not have an detrimental effect on the water and surrounding watersheds and, from what I've heard, will not step up to the plate to say that they will absolutely guarantee funding of clean-up if needed, that moving forward would just be allowing an unbounded experiment in our backyard. With my background in science and engineering,	EOO,PD4
<b>Sender Last Name:</b> Niskanen		<b>Submission ID:</b> 1298

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
1502	We are so fortunate to have access to the Boundry waters. Once they are defiled you can never go back. Don't let them be destroyed by a business that has not proven to be trust worthy, I realize jobs are important but not at the cost of our pristine wildlife sanctuary.	EOO,G11
<b>Sender Last Name:</b> Nitzsche & Fahey		<b>Submission ID:</b> 3593
51	SECTION 4.10 SOCIOECONOMICS "Add the following to Section 4.10" NATIONAL SECURITY The minerals proposed to be mined and processed are Copper, Nickel, Cobalt, and the Platinum Group Metals; these minerals are strategic to National Security and a key component to the National Debt and Balance of Trade. The United States imports over 87% of Platinum. Palladium & Gold : imports in excess of 40% if the Cooper requirements: and 100% of Nickel and Cobalt except for the recycled Nickel. Therefore the United States must find suppliers of these valuable minerals within our County or face growing Trade Deficits. The sources for these minerals are from vast deposits in Russia, China, and to a smaller degree Canada. China and Russia can hardly be defined as friendly nations and nations that use the same environmentally responsible mineral development that is represented in this DEIS. In fact we know how careless these Countries are and we also know the carelessness does not stay within the host nation. THE UNITED STATES CONGRESS HAS ADOPTED THE MINING AND MINERAL POLICY ACT OF 1976 THAT REPRESENTS THE POLICY OF THE U S GOVERNMENT REGARDING GUIDENCE OF AGENCIES FOR REVIEW OF PROPOSALS LIKE POLYMET. THE CONGRESS, IN THE ACT OF 1976 STATED - TO "FOSTER. AND ENCOURAGE PRIVATE ENTERPRISE IN THE DEVELOPMENT OF ECONOMICALLY SOUND AND STABLE INDUSTRIES AND IN THE ORDERLY AND ECONOMIC DEVELOPMENT OF DOMESTIC (MINERAL) RESOURCES TO HELP ASSURE SATISFACTION OF INDUSTRIAL, SECURITY, AND ENVIRONMENTAL NEEDS OF THE UNITED STATES OF AMERICA". Congressional direction is clear and applies directly to this Proposal by PolyMet Mining, Inc. for development of Cooper, Nickel, Cobalt, Platinum , Palladium, and Gold. All the minerals are critical to industrial process in the United States and will provide a ready domestic source of product. The United States of America will have a reduced Trade Deficit, & will not be shipping dollars to unfriendly Countries that do not play by the same rules as outlined in The Mining & Mineral Policy Act of 1976 or as detailed in this DEIS. Cobalt is a strategic and critical metal used in many industrial and military applications. The largest use of cobalt is superalloys, which are used to make parts for gas turbine engines. However, Cobalt is used to make magnets; corrosion and wear-resistant alloys; high-speed steels; cemented carbides; steel-belted tires; radial tires; and air bags for the auto industry. Cooper will be used in the electric motors in the Power Plant that provides the energy and electric power that will be transmitted over existing transmission and distributions lines; Minnesota Power will generate electric energy in the power plants that utilize every metal that will be mined the PolyMet's NorthMet Mine. Therefore the impact on Minnesota and the Iron Range is critical.	EOO
52	SECTION 4.10.1 .4 PUBLIC FINANCE We request that certain pages from the Mining Guide, published by the MN Department of Revenue, be added to fully reflect the economic impact". See below TAXES IMPOSED ON Base Metals, Precious Metals, and Energy Minerals In the second paragraph there is a short sentence regarding 'Ad Valorem Taxes'; This should be corrected to read - "Ad Valorem Taxes are the result of the financial dollar requirements of the Townships, Cities, School Districts, Counties and any other Agency with Taxing Authority". In addition, the State of Minnesota levies a property tax (Ad Valorem) on Commercial and Industrial Properties. The property tax imposed by the State of Minnesota may be adjusted to assist the State with financing Revenue Shortfalls and Education Costs. A listing of the specific taxes may be found in Labovitz School of Business and Economics 'Economic Impact of Ferrous and Non-Ferrous Mining' or in the 'Mining Guide of 2009', on Pages 52, 53, 54, 50, and 29, 41, 38 published by the Minnesota Department of Revenue. We don't have an independent projection of the tax yield; however, the Labovitz School of Business has provided a projection on pages A-13. The projections clearly demonstrate the positive impact of non-ferrous Mining. Non-Ferrous Mining may produce taxes at a level of two times Iron Ore mining. The addition of non-ferrous mining tax yields will strengthen the financial structure of Cities, Counties, and School Districts. Hospitals, Assisted Living Facilities, Memory Care Facilities will be able to prosper. Other community and Non-Profit agencies will also benefit significantly.	EOO

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
53	SECTION 4.10.1 .6-4.10.1 .7 The additional employment of 450 for operations will be a major economic impact for the School Districts, Medical Facilities, and Municipal Services. Each of the impacted communities has sustained a devastating loss of employment with the closing of LTV. The loss of LTV also meant the loss of hundreds of families, decrease in enrollment, higher cost per family for municipal services, and the loss of commercial enterprises. During construction, the permanent employees will begin to phase into start-up operations creating an easy transition for all the families and the communities.	EOO
3862	Let there be no mistake in Northland Securities, Inc. position on the PolyMet Mining, Inc. proposal to create NorthMet Mining Project. Northland Securities firmly supports the proposal for development of mining for Copper, Nickel, Cobalt, Platinum, Palladium, and Gold. As an active Broker Dealer in the area we have a responsibility to our Customers and Clients to support the project; and as a citizen of the State of Minnesota we must support the project to enhance the financial stability of the State. We must support this project because we know the positive impact on the residents and families of Northeastern Minnesota.	EOO,G1
3863	SECTION 4.10.3 SOCIOECONOMIC CONEQUENCES This section is covered in our comments in Section 4.10 Public Finance and in the Labovitz School of Business and Economics Report on the "Impact of Ferrous and Non-Ferrous Mining". SECTION 4.10.3. 1 We generally concur with the statements for purposes of the DEIS. SECTION 4.10-13 PUBLIC FINANCE We have commented on the public finance section above and have included in our comments the entire Labovitz Impact Study. However the total Public Finance exceeds our prior comments. Each job that is created will generate the following: 1. Federal Income Tax Obligation 2. Federal Social Security Contribution 3. Federal Medicare Contribution 4. State of Minnesota Income Tax Obligation 5. State of Minnesota - State Property tax on Comm.-Industrial 6. State of Minnesota - Contributions to State Retirement Plans. There are other benefits from the expansion of the region and stabilization of organizations within the region. SECTION 4.10-16 TOTAL IMPACTS FROM JOINT OPERATIONS, BY PROJECT, BY MEASURE, BY YEAR We concur with the impacts and project phasing and Conclusion.	EOO
<b>Sender Last Name:</b> no name		<b>Submission ID:</b> 3393
528	Will the pollution from the sulfide mining affect the air? Besides affecting the water that ecosystem, is the air and atmosphere in trouble within the sulfide?	AQ4
1312	As someone who's never gone (yet!) to the boundaries waters, I am not only convinced that we must work to stop mining, but also, I must go on a trip this summer. How sad to think the opportunity to visit these waters might be gone in a moment.	EOO,G11
1314	Please protect wolf and lynx habitats.	G2C
1317	I trust that with technology and the process, any permit that would be granted, will protect the environment.	EOO
3594	Sulfide mining will damage Minnesota's unique wilderness areas for centuries to come; the bulk of the profits from the mining will go to private interests outside the state, and the public will be left inevitably with tremendous cleanup costs which still are unlikely to prevent all damage. Arsenic and selenium poisoning are not problems I want to be associated with Minnesota's waters; now or at any point in the future, and sulfide mining which could compromise our waters should not be permitted.	EOO,G4A,G7B
3605	As an avid outdoorsman & Minnesotan I feel like the BWCA is more than precious to our state & should not be taken for granted nor put at any risk. I feel the PolyMet Mining, Inc. should not be allowed. I firmly disagree with open pit mining but would consider waying options of drilling circumstances. Also if passed, the incorporations must be held to an extremely high standard as well as very high pollutant insurance. Heritage, cultural, precious water. Will to give this up???	EOO,G2,G4
3608	As a resident of Minnesota I am all about economic impart and growing our economy. I don't think this is going to be good for our economy over the next 200 years.	EOO,G1

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
3609	It's a bad idea! It's not worth any gain made. It needs to be about the long term impact instead of a short tem economic gain. You can't guarantee that nothing will happen.	EOO
3611	I think that the fact that people are willing to sacrifice our environment for a short term economic gain is completely crazy. In the long run it will only cause problems. We need to think into the future and this will not benefit the environment of the boundary waters at all. I go to the Boundary Waters every summer and most people go there for peace and quite and to escape society. If it is destroyed we will have nothing.	EOO
3613	We need to protect our waters and our enviornment. Here in Minnesota our water is everything. We can't afford to destroy what our state is. These mines are not worth the destruction of Minnesotan's way of life.	EOO,G7
3614	I would like to keep the boundary waters area untouched by man. Keeping it untouched for generations to come is key to this wonderful State. Please keep this from happening so my kids will be able to enjoy the boundary waters just like I am able to enjoy in the years to come.	EOO,G2
3616	It would be nice to see the enviroment unchanged. To me the gain from mining it isn't worth damaging the environment.	EOO,G2
3617	Really, I mean yes and no there are pros + cons about the whole minning controversy. But really as individuals/users/[illegible] of the boundry waters we have to understand why they want to do this. I personal don't agree with it because economilly there are loads of people who who depend on people going/ making trips to see and use the boundry waters. But we always say that we need to boost the economy,	G1,G11
3618	I think it's not worth the money. It may be good economically now but will not be in the future. It's too expensive to clean up after. Go drill somewhere else. Minnesota loves their state's geography. Minnesota deserves to keep their image of pristine wilderness. Minnesota's economy really depends on tourism income, especially during warm months.	EOO,G1,G11
3619	I don't think that there should be drilling in MN Boundry Waters. Obviously that's where people go to get away from the City to the wilderness and to do out doors activity it might be hard to breath with all that crap in the air.	EOO
3620	I don't want people to mine up there. Especially Canadians. I think the economics of the situation are better served by not mining.	EOO
3621	I think it is wrong for the mining companies to rape the land that we love and cherish. They promise jobs, but mines don't last forever. I am completely opposed to mining by the boundry waters.	EOO
3622	We should not mine! I live + grow up on the lake so I can't imagine if my lake got ruined.	EOO,G7
3623	This video has opened my eyes on this topic, and I think that they should not mine around the boundry waters at all. by minning around that area it will atleast move things their it will do them good. It will hurt Minnesota's fresh water, and the tourist people coming over every summer.	EOO,G7,G11
3625	I discourage the mining because its not looking at the long term effect. Noting the statistics that was given in the video the mining doesn't even seem to pay off in any way. Noting the distruction of summer rec. and wilderness than the cleaning up process and if it happens.	EOO,G2C,G11
3627	This is not going to help our State's economy, it will destroy it! The sulfuric acid that will be leached into our wetlands, will destroy our State's tourism. Poepel came to the boundary waters and the Lake Superior for it's prestine wilderness. If it's gone, Minnesota's economy is gone! Tourism is our State income! Please Stop This!	EOO,G7A,G11
3632	I don't think that the mine is worth it, sure the economy is suffering, but the net profit of such an operation is not guaranteed to be worth the years of clean up. I think it is not worth the risk of the effort. We should be looking for better ways to provide jobs in that region. Minnesota is not historically known for having rich sulfides, they are wasting their time looking for precious metal in the wrong place. Towns like Ely thrive off tourism if the BWCA is damaged JOBS WILL BE DESTROYED!	G1,G11
3633	The short term benefits of the mining are not worth the long term environmental consequences.	EOO
3635	I don't think that this project would be worth the risk. It has long terms effects that would be bad for the surrounding environment and economy. For example resrts in the area would lose a lot of business and it would also hurt the fish and animals in the surrounding area.	G2C,G11

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
3637	To disrupt a sector of Wilderness to such magnitude would be genuinely disheartening. Creating short term jobs and profit from mining is economically beneficial 4 some but long term negatively impacting for the local and regional mass. Canoeing, fishing, boating, camping, etc is a trademark of northern MN, and this would definitely suffer on the spectrum of those who visit here and those who provide those services.	G11
3638	The impact of the sulfide mine won't just effect the wetlands ecosystem. It will ultimately destroy the wildlife around those waters, and also the waterfowl population as well. The short term gain will not outlast the devastation and the generations to come.	G2C,G7C
3639	Fishing and canoeing is way to important to sacrifice to mining. Piece would not be their anymore for people to get away from their heptic life. We need to preserve the boundary waters for us and our children.	G11
3643	I have been going up to northern Minnesota since I had been a little kid. The main reason my family loves it is because the beauty of the nature. I come from Chicago and the industry is not good looking in any regards. I can't inage seeing mines on my like. It would take the joy out of my familie's summer hunting and fishing.	G11
3644	I think that the mining should not go on because we would loose so much land and wild life we would loose everything Minnesota is known for.	G2A,G2C
3645	interesting, seems ridiculous that they would do something to a sanctuary place like the Boundary Waters.	EOO
3653	I think that is pointless to wreck such a beautiful place for a few minerals!	EOO
3654	I think it dumb to start mining by the boundary waters when we already know how much damage has been done by past sulfur mining. Also I think it is impossible to believe the things they say when they talk about no pollution when looking at the past. It is a dumb idea and the mining should not be done, it will ruin the boundary waters.	EOO
3655	I feel that mining would ruin what we have today. We need to preserve the environment. It's worth way more than any copper or metal that we can get. It is disturbing that people would want to pollute our lakes by choice. I just don't think it would be a smart decision.	EOO
3659	This industry is not what northern Minnesotans want. Wilderness areas such as the boundary waters is who we are. Its our identity. People travel from many places to experience this. Along with this and the obvious pollution problems that will be caused by this I'm just not sure if it [illegible] of a question to go through with this.	G2,G11
3661	but before they start minning they need to put/install a plan to restore the area after the mining has done. And most of all the need to follow through with it. What is our problem today will carry over to our children and their children and so on.	PD4
3667	I believe they should not mine. Our sacred Minnesotan lands needs us to protect them and keep things natural. I don't believe what they would be mining is absolutely necessary for humans to continue living so its not worth to mine and ruin what is so special and beautiful about Minnesota.	EOO
3668	I think they should not be able to mine in the Boundary Waters. We need to save our environment.	EOO
3673	I've just heard about this and I'm shocked that it would even be considered! Not only is the harm not worth the cost, it also endangers beautiful wildland habitats and ecology.	G2A,G2C
3676	If Poly-Met mining were to invade the Boundary Waters, I think it would decrease tourism to the area. The Boundary Waters define a pure, natural area and a mining complex would disrupt this image. Damage from mining would cost the state more money.	G11
3678	They should not touch the Boundary Waters. Because if they do it and as happes pollution will happen. The not just we lose, but the generations to come. Its not about you, its not about your kids. Its about 2 generations from now.	EOO,G2
3679	As the areas on this plants that include no trace of human life decrease, where or when do we draw the line on the precious areas? It is so rare to find a piece of wilderness in which there are no drones of far off machinery or vehicles, and using this land for short-term profit is insane. *76% of companies failed their "quota" of zero damage to nature.	EOO,G2

*Alphabetical by sender's first name*

<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
3680	The small economic boost it would provide is not worth the long term effects it will do to air environment. The boundry waters are beautiful, and have been for many generations, destroying or even cometimes tainting it would be extremely wrong.	EOO,G2B
3681	The video really opened my eyes to what Minnesota may be facing in the near future. Being a pro nature and wildlife person it maddens me to see that people are willing to put the enviornment at huge risk for their own benefits.	G2C
3682	I think that they should not mine it would ruin a lot of things in the community and also the enviornment	EOO
3683	Also, I think our lakes, rivers & land is polluted enough as it is. Why not fix those problems or at least tame them first, before thinking about mining again. Why is the sulfide mining so important? I think we have more important concerns to worry about with our land, or at least a better way.	G7
3686	A sulfide oar body like the one proposed to be mined by Polymet in Northern Minnesota is a serious concern to Minnesota citizens. The economic and ecological impacts are very serious. Sulfide mining operations have a bad track record all over the United States, especially when they are located near water. Lake Superior is one of Minnesota's greatest assets and is the cleannest of the Great Lakes. We cannot sacrifice this. Don't let Polymet mine in Minnesota.	EOO,G7A
3689	Don't do it Kill the environment and the workers	EOO
3690	Like the title of this video, "Precious Waters' water is in fact precious. Don't consider this safe at all since our water is at risk such as everything else such as the wildlife.	G2C,G7A
3691	I think it's awful that there are mines so close to rivers and lakes. This was a good video & it helped educate me	EOO
3692	To me, it is very important to save and preserve the Boundary Waters. Here, one is able to experience the true wilderness, which is very important. It represents who we are as Minnesotans and should be saved - We are very lucky to have this and it is out job to save it.	EOO
3693	I don't think they should do it. The boundry waters look like a very nice place to go. I've never been there before but it looks like somewhere I'd enjoy going.	EOO
3694	I have never been to the boundry waters. It would be sad to see so much beauty destroyed for the mining industry. Who would be paying for the cleanup if the mining went through? If there is no guarantee that the public won't be paying for it, it should not go through. It is very permanant for a short term gain. We are lucky to have preserved the boundry waters before & this will wreck it forever.	G4A,G7A
3695	The NorthMet Project will contaminate the boundary waters from pits and waste. The high sulfate discharge will form sulfuric acid and destroy the peatland. It will also damage aquatic life from drainage and put at risk the critical habitat in the boundary waters. This area holds special meaning and memories to my family and I and I would be devastated to see it ruined by mineral mining.	G2C,G7C
3696	The pollution from the kind of sulfide mining does not seem to be worth the risk of mining. I think our lakes/rivers/streams are polluted enough and the mining will make everything worse, especially in the long run. The mining should not be done unless the new technology will 100% be able to mine without pollution.	EOO,G7A
3697	Great movie. I didn't know how much mining really destroys the environment. I personally love to hunt and fish so the outdoors is a big part of my life.	EOO
3698	How can they drill in the BWCA when they don't even want you to wash your hair within like 200 ft of the water.	EOO
3699	I trust our federal government to handle this problem effectively. None of us (students) are experts or scientists. A half hour movie does not allow me to weigh in my opinion. Yes the Boundary Waters are great but even the Minnesota representative stated 76% of the mining companies harmed the environment. That other 25% still exists. The geologist also cited only 20 out of 200 sulfur mines as hurting the surrounding area. As far as job outsourcing goes, those are still American workers being employed and anything can help today's economy.	EOO



*Alphabetical by sender's first name*

<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
3700	Would mining create jobs, yes, but what price are we willing to pay? Personally I think losing nature and water is too high a price. I want kids of all generations to see nature and to swim in natural lakes. Not only are there environmental problems, but health problems too. Basically, you'd create jobs to put money into the economy, just to take all the money back to try to get a fraction of what we had in the first place. On top of that, you have more sickness and angry people to deal with. I like camping and fishing, so if mining is allowed consider me an angry person.	EOO
3701	I think that the people deciding on this issue need to weigh what values more, precious metals, or the environment we live in. I love to camp, hunt, and fish like many other people. They take us back to our roots. Our roots are the environment and if we keep mining and destroying it we will have no connection to where we come from. Not to mention we will be ruining the most beautiful things on Earth.	G11
3702	I think all the chemicals and metals in the water is super sad. Being the Boundary Waters has no cell phone towers and other things, it's for a reason; to get away for peace and quiet. Why make something it wasn't meant to be?	EOO
3703	I think this video will open people's eyes. They have to realize that this beautiful, natural environment will be destroyed.	EOO,G2
3704	Kennecott is putting a mine in near my house and I was wondering about the effects of an underground sulfide mine? The mine would be in Tamarack, MN.	RFI
3705	Good video, showed the importance of our wilderness and exactly what open pit mining can do to an area.	EOO
3706	This was a good video. I can't believe that people would even consider risking our natural resources for money. Minnesota has always been known for its forests and lakes and destroying those would be devastating. I believe that if MN decides to go through with this mine, they will lose many supporters. Not only will we lose MN support, but also those who vacation here. It will no longer be the clean, quiet area that it is. MN will lose all profits of tourists. This would be a stupid decision.	EOO,G11
3707	As a young college student, a young adult that will someday be raising a family in this area I feel like the mining shouldn't be allowed. The Boundary Waters is a very beautiful place and the potential for great water pollution in the future greatly affects all Minnesotans. The pollution can cause great health problems for ppl. in the area and surrounding areas. The water quality is very important and not to mention how the ppl. who have to pay more taxes to clean it up is worse. Also the effect it will have on ppl. living here (economy, pollution, jobs, way of life).	EOO,G4A,G7B
3708	As a Minnesotan I have great appreciation for our lakes and wetlands. The preservation of our waters is vital to who we are morally and economically. The mining that would take place would slowly deteriorate our most precious resource and destroy our way of life.	G7C
3709	The film was well done and very informative. I think the mining near the Boundary Waters should not take place. The risks for the environment, individuals, and habitat are too much. By doing this mining it puts too many things at risk. The Boundary Waters should be preserved as-is for generations to come...	EOO
3710	I think mining northern Minnesota would be a huge mistake. It would remove any value that part of the world has. The effects this would have would affect so much more than just Minnesota. The Great Lakes are tied in along with tons of smaller bodies of water/land that would be ruined. It may create jobs but many jobs will be lost because the area's income comes from the wilderness and the fact that it is so secluded is the reason people spend so much money for that.	EOO,G11
3711	I agree with many of the points against the mining. What has to be done is weigh and compare the consequences economically and environmentally past present and future.	G8C
3712	I believe we need to protect this area and not let them mine it. Minnesota's wilderness is beautiful and we should take care of it. I am also an angler and I would be very frustrated and angry if the fish were killed off in the lakes.	EOO,G2C
3713	I think it will ruin all my favorite Boundary Water Lakes walleye fishing and if it happens I might start a war against them because I live for the outdoors in this beautiful state and will not let this stand.	EOO,G11

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
3714	The PolyMet Mining should not take place near the MN Boundary Waters since it will disrupt the natural habitat of not only the organisms there but also everyone that goes there for the real experiences of wilderness. Additionally, the long-term effects are what we should focus on rather than any short term. We need to continually cherish the uniqueness of MN's land and waters! Our wilderness is what brings non-Minnesotans here. I say NO to PolyMet Mining!	EOO,G2C,G11
3715	As a lifelong Northern Minnesota outdoorswoman, to allow a few companies to exploit our natural resources is unbelievable. Not only would mining destroy an area of my home state that I personally utilize, but also the flora and fauna that call it home. To think money is more important than an overwhelmingly large number of species (human, animal, and plant life) is disgusting. Also, hydrology is a relatively new science, so should mining companies be allowed to tell us they certainly know what could happen to our water resources? PROBABLY NOT!	G2C,G8B
3716	This project makes me feel very sad. To put the boundary waters at risk for short term economic reasons is a bad idea. To put the fish at risk, the waters at risk is not good. I myself love the boundary waters and would hate to see something like this happen to it.	EOO,G2C,G7A
3717	Given just the effects of this type of mining that have been recorded, is it even ethically permissible to allow this? Is human life to be measured as a lesser quantity vis-à-vis precious metals? And it, as in human life, will be affected negatively, history has shown a precedent; how much is the only question.	EOO,G2
3718	For the amount of damage that minning will do to Minnesota is not equal to the amount of profit minning people/companies/ect. will make. Nature is not to be messed with. Why destroy natural beauty?! What will happen to people who live around the boundary waters and the amount of money they will suffer for damage? What does minning offer our community besides a small job and a bigger damage?! Think about it!	EOO,G4A
3719	I live on a lake in northern MN. If my "home" got polluted like the video says is possible, I'd be so sad. The earth is pure, and man keeps messing it up. We need to give back to the environment, not take from it.	EOO
3720	I think that it's crazy that people are willing to let that happen to our lakes! It's gross and nasty but I guess big corporations and some people will do anything for a dollar these days. I understand that they want to provide jobs but can't they come up with a positive source of income and job that doesn't damage our environment?	EOO
3722	Minnesota is all about our water. The Boundry Waters is the heart of this state. It is so precious. It makes me sick thinking that it could so easily be destroyed. I want my future children and grand-children to go to the Boundry Waters and enjoy it's purity and serenity. With a lot of national forests and wilderness areas disappearing, we need to keep this as pristine as possible.	G7
3723	This sort of mining would not outway the harm that it does to our environment. The short term financial gain from this type of mining does not make the long term effects/harming the natural resources and water right. I believe that preservation is key and there is absolutly no need for the mining.	EOO
3727	I think that there should be a vote in each county that would be effected immediately by water pH levels, business, noise levels, etc. The rest of Minnesota and the country will not have a realistic opinion on this matter. Outsourcing jobs and materials will not help the areas. We need to tell people about immediate effects because they will not care about the seventh generation, or rather comprehend that far out.	G10
<b>Sender Last Name:</b> no name-		<b>Submission ID:</b> 3431
3721	I understand the need for jobs in Northern Minnesota, especially on the Iron Range, but the effects of putting more mines in the area is dangerous. We house 100s of thousands of tourists each summer, we would lose that much money per year. People come to northern Minnesota to get away from honking cars, cell phones, and work, to just plain escape. So I honestly don't understand why they would disrupt such a peaceful place. Not to mention the mess that would be left for how many generations to clean up. So I think we should find a more safe way to create jobs.	EOO,G4A,G11
<b>Sender Last Name:</b> no nameno date		<b>Submission ID:</b> 3350

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
3642	I think it is true what she said about the ripple effect the money coming from the mining would boost the economy but it also will lose money for all the local businesses + create a mess that will be even more of a burden then worth.	G1
<b>Sender Last Name:</b> Noble		<b>Submission ID:</b> 3594
3864	The email , below, which follows this (my) message is self-explanatory. I am a member of the League of Women Voters in Minnesota (LWVMN) and wish to express my sincere concern regarding the Poly-Met proposals for sulfide mining in the Arrowhead. In fact, it seems incredible to me that the Minnesota's DNR would even entertain such a proposal, along with the Corp of Engineers, considering the potential humungus risk to water quality, potentially destructive impacts on our wildlife, wetlands and global warming. I am objecting to Poly-Met's proposals and to any other sulfide mining proposas in the pristine wilderness of our state - no matter the promises of these mining companies that there will be minimum damage and that they will put the monies up front to clean up their mess. I do not want to see the tragic losses which have occurred in other states, e.g. Colorada, become Minnesota's. The Arrowhead and BWCA and surrounding area are much too precious to take a chance on losing. Please take a few minutes of your time to view the video at <a href="http://www.preciouswaters.org">www.preciouswaters.org</a> if you have not seen it. Thank you for your attention to this expression of my concern.	G2C
<b>Sender Last Name:</b> Nord		<b>Submission ID:</b> 2452
2282	In order to protect the citizens of Minnesota financially from the long tail of water quality degradation from sulfide mining, I believe the state must require the mining companies to post a significant bond that will assure funds are available in the future for mitigating environmental impacts from the mines. If the mining companies respond that this will make the mines unprofitable and that they will not develop them, I believe that should be taken as a signal that the value of the metal that can be produced by the mines in Northeast Minnesota is not sufficient to undertake the risk to the environment that the mines pose. If because of superior design and operation the mine does not result in water quality degradation, the bond could be repayed to the mining companies at some point in the future with suitable interest. This seems to me the only way to equitably share the risks and benefits of the project between the citizens of Minnesota and the mining companies.	PD4
1948	To the Minnesota Department of Natural Resources and the U.S. Army Corps of Engineers: I am deeply concerned about the impacts on water quality in Northeast Minnesota due to the proposed PolyMet mine and other potential mines that are not as far along in the permitting process. The watershed for the PolyMet mine flows into Lake Superior. The watersheds for other proposed mines flow into the Boundary Waters Canoe Area. Both of these resources are among the "crown jewels" of Minnesota. They are fundamental resources in making Minnesota a very livable state. They also bring significant tourist dollars into the state. The BWCA is the most used wilderness area in the United States east of the Mississippi River. The cultural and economic value of both of these resources depends on their water quality. This is my primary concern with the proposed mines. The history of mining sulfide rock bodies in the U.S. is a history of creating acid mine drainage. Streams and rivers in Wisconsin, Michigan, Colorado, Montana and other states have been impacted, and in some cases rendered biologically unfit to support life, by acid mine drainage from sulfide mines. The history of sulfide mines is also a history of mining companies going bankrupt or just leaving, and leaving the people of the state to pay the bills for cleanup or having to live with the impacts of the degraded resource. The mining companies trying to get the PolyMet mine permitted have assured us that this won't happen this time. That they know how to do it right environmentally. This runs contrary however, to the whole history of sulfide mining, and should be taken with a significant degree of skepticism. Particularly because the life of the active mine is fairly short, but the duration of polluted water and a degraded environment is measured in geological time.	G4A,G7A,G8C

*Alphabetical by sender's first name*

<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
2949	My final statement is that while technically the permitting action on the PolyMet mine does not impact directly on a watershed leading to the BWCA, I think that the MNDNR must consider that the actions taken will be a direct precedent for future sulfide mining permits in Northeast Minnesota. I think that rather than considering this as one isolated project, we must consider the potential impact of additional mines on water quality in Northeast Minnesota. This should be an important consideration in determining the amount and how a performance bond is structured. Once the precedent is set for allowing a mine, it will be extremely difficult to change the precedent for future permitting actions. There are many considerations in the permitting process. I am not a geologist or mining expert, but I am a citizen of Minnesota who loves our precious waters. I hope the potential for our future generations to recreate in our precious waters will also be taken into account in the decisionmaking.	G7A,G8C
<b>Sender Last Name:</b> Nordin		<b>Submission ID:</b> 270
284	We support PolyMet Mining's NorthMet Project. It's time to get on with permitting this mine. We want JOBS! PolyMet will provide millions, of dollars in local and state taxes to support our communities and educational system. They will employ 400 people; with hundreds of spin off jobs that will provide a huge economic benefit to Minnesota and the Arrowhead region including construction of the \$600 million project that will require about 1.5 million construction hours over two years. PolyMet can produce these metals in an environmentally sound manner and create hundreds of stable jobs that can support families; keeping them in northern Minnesota will help the economy and the educational system. Thank you for your time in reading this letter and we'll look forward to seeing this project move forward. We need to put our members to work!	EOO
1289	Minnesota's water is certainly one of our most precious resources and to jeopardize the quality of that for some possible short term advantage is not a wise decision. I am opposed to any non-ferrous mining operations.	EOO,G7B
1291	Non-ferrous mines or sulfide mines should not be allowed as extracting minerals like copper and nickel from sulfide ores would pollute our lakes, rivers and streams and would be very costly to clean up. I am against sulfide mining. It is my understanding that sulfate turns mercury into forms that make fish dangerous to eat.	G3B,G7B
<b>Sender Last Name:</b> Norrgard		<b>Submission ID:</b> 3671
1	e. Inadequate analysis of the toxics – numerous metals leaching, acid mine drainage, methyl mercury, sulfates in waters etc. The DEIS has done an inadequate analysis of the impacts of the PolyMet project on mercury releases, mercury methylation, delisting of water bodies, wild rice and aquatic species.	WR1E,WR4B,FM1
2	Sulfide mining is new to Minnesota. It has been responsible for extensive acid mine drainage and water pollution in mines all over the United States, resulting in hundreds of millions of dollars of costs to taxpayers. The Polymet Project would impact 6,700 acres of public lands in the Superior National Forest, including high quality wetlands and forests. It would release mercury, sulfates and heavy metals into the Lake Superior Watershed and rivers already impaired due to overly high concentrations of pollutants.	PD10
3	3-33—Explain why, if the gypsum filter cake is so high quality, that it must be placed within a hydrometallurgical cell that has a geosynthetic liner. Explain the chemical breakdown components of gypsum filter cakes within the residue tailings.	PD9
4	Figure 3.1-42—Explain how the pumps and pipes on the sheet of paper will withstand drilling, blasting, and ground vibrations caused by 240 ton trucks, locomotives, and other equipment.	PD9
5	3-43-Explain where the removal of storm sedimentation goes.	PD9
6	3-43—“...discharges from these outlet control structures would be monitored as necessary to ensure the runoff to the Partridge River would meet water quality discharge limits.” The EIS process needs to include a plan explaining who would monitor, when the monitoring would take place, and what mitigation procedures could bring the discharge under control.	PD8

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
7	3-45—The DEIS does not explain an inspection program or a mitigation program. There is nothing in place to adequately address the problems associated with acid mine drainage and leaching of toxic heavy metals. PolyMet advertises that it is following Minnesota’s strict rules. If this is true, the rules need to be stated and the plan to prevent contamination clearly spelled out. The DEIS is inadequate in not addressing this problem. Monitoring for possible pollutants is not the answer to acid mine drainage. Monitoring simply perpetuates the current system whereby the mining company is fined, and the IRR promptly reimburses the mining company for the cost of the fine. Since the problem is never addressed, the agencies then grant the mining company a variance, so that pollution can continue.	PD8
8	The purpose of this DEIS is to assure the public that pollution will be prevented and/or treated. This is not adequately addressed in the DEIS.	PD2
9	3-47—“The cover used at Closure would consist of a layer of NorthMet flotation tailings or LTVSMC tailings.” The EIS process needs to analyze the contaminants that would be found in these tailings as part of a surface water control plan. LTV tailings contain coal ash from the Highway 61 coal ash spill, and dredging from the contaminated Dunka mine site.	PD2
9	There is no justifiable reason for turning the Arrowhead Region of Minnesota into a sulfide mining district. The footprint left by taconite mining on the Iron Range, by mining rock that has 25% metal, will seem small in comparison to mining sulfide bearing rock that contains less than 1% metal. The acid mine drainage legacy of sulfide mining will destroy our last remaining clean waters. Forests and wetlands will be replaced by open pits, waste rock piles, and tailings basins. I am commenting on this DEIS because of my concern about the legacy that the permitting of metallic sulfide mining would leave behind. People of my generation, with our experiences and our knowledge, bear a responsibility toward future generations. What is it that we most value, that we most want to leave behind for those who will come after us? We do not inherit the Earth from our Ancestors, we borrow it from our Children.	EOO,G2
10	g. Complete lack of analysis to assure the taxpayer does not get stuck with the clean up costs (which reach into the future so far, 2000 years according to documents, as to be perpetual)	PD4
10	f. Inadequate analysis of climate change and the increase to impacts that this project will bring	AQ3
11	h. Inadequate explanation of how the technical and mechanical processes will protect the public and public values such as clean air and water and healthy wildlife and habitat – or how the DNR, USACE and Polymet can guarantee this project will meet the laws of this state. Altern	PD3
12	Alternatives Analysis This EIS is prepared to accomplish the purposes of NEPA. To accomplish these purposes, NEPA requires all agencies of the federal government to prepare a “detailed statement” that discusses the environmental impacts of, and reasonable alternatives to, all “major Federal actions significantly affecting the quality of the human environment.” The EIS must “provide full and fair discussion of significant environmental impacts and shall inform decision-makers and the public of the reasonable alternatives which would avoid or minimize adverse impacts or enhance the quality of the human environment.” This discussion must include an analysis of “direct effects,” which are “caused by the action and occur at the same time and place,” as well as “indirect effects which are later in time or farther removed in distance, but are still reasonably foreseeable.” An EIS must also consider the cumulative impacts of the proposed federal agency action together with past, present and reasonably foreseeable future actions, including all federal and non-federal activities, and an EIS must “rigorously explore and objectively evaluate all reasonable alternatives” to the proposed project. Due to these requirements the DEIS is inadequate in both not exploring an underground mining option to see what the difference in impacts to the environment and local communities and well as human health might be. Using expense is not an adequate excuse for not taking a “hard look” at this very viable alternative. Other mining in the area is done in this way, a recent study was done that shows that this may be a viable alternative to this particular project (study by U.S. Steel of this mineral deposit, which recommended underground mining because the ore depths were so great that open pit mining would not reach them), and this type of mine may eliminate a whole host of human and environmental impacts from this new type of non ferrous mining in Minnesota. Before this Project should move forward it should be required to take a hard look at the alternative of underground mining.	ALT8,PD3,CR1

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
13	Creating 394 million tons of waste rock, 91,200 tons per day, that contain multiple toxins, create acid mine drainage, and impacts to air quality and human health due to particulates and high mercury accumulations. Plus the loss of threatened and endangered plant species, loss of high quality wildlife habitat and wildlife travel corridors and critically important wetlands ecosystems, while also polluting the surrounding watersheds all the way to Lake Superior (and in future the BWCAW), is not a good future for Minnesota – we should create jobs, but jobs that do not destroy the landscape, waters, and the health of the communities that rely on them.	PD10
13	The one thing I really want to say is the DEIS is huge and it's going to take a while to really be able to read through it and see what this project is all about, the impacts that it has, and so I'm hoping that we can ask for extended time. We need a lot more time to be able to review this project. And I just wanted to make	PRO6
14	The No Action Alternative was not given full consideration and should be analyzed to the full extent of the Proposed Alternative. A full hard look analysis of the no action alternative would show the benefits of protecting the wetlands, forests, and wildlife values for the economic, health, and viability of the local communities. Sometimes it is far better to realize the value of what we have existing – and consider the dollar value of the ecosystem services that are already in place, than to destroy this valuable resource and realize the tremendous loss after it is too late.	ALT8
15	The No Action Alternative analysis should take into consideration the growth in the local economy that has happened since the last “bust” of mining – in social services, tourism and hunting. Metal mining has major negative aspects, disturbed and degraded land which in many cases will never fully recover, and water and air pollution continuing indefinitely. This industry also has a history of boom and bust cycles that can be devastating to local economies – jobs tend to be volatile and lead to community instability. Metal mining also leads to the social cost of “attractiveness” loss – the relatively permanent environmental damage, huge open pits, massive waste piles, extensive settling ponds, heavy metal pollution and mine drainage make it difficult for an area to attract new residents and businesses – who would want to live near this? Even the miners themselves tend to choose to live some distance from the mines to protect home values from these losses. (from the report <i>The Economic Role of Metal Mining in Minnesota: Past, Present, and Future</i> ). According to the above mentioned report this project would only add less than one percent employment (using the multiplier impacts) and represent only three months of the earnings growth seen in recent years in St. Louis County. The State of Minnesota could do much better to focus on jobs that are truly “green” jobs. Green jobs do not destroy the environment upon which they are based.	ALT8
15	The attractiveness of a place, especially the environmental characteristics has become an important source of local economic vitality – an analysis of this in the arrowhead region should be a part of the DEIS. The analysis should also take into consideration the value of ecosystem services such as clean water, clear air, carbon sequestration, wildlife, soil stabilization, rainfall storage, and many others.	PD1
15	A discussion of the cumulative environmental effects of a proposed action is an essential part of the environmental review process, for otherwise the agency cannot evaluate the combined environmental effect of related actions. Cumulative impact is defined in NEPA’s implementing regulations as “the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions . . . . Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.”	CR1
16	1. Discharge and seeps from the mine, pit lake, tailings and waste rock piles of the PolyMet project are likely to pollute water for decades, even thousands of years. Yet there is no showing that the PolyMet corporation can or will provide financial assurance to protect taxpayers from long-term pollution.	WR3I
17	The PolyMet Project would significantly increase mercury levels in local fish, creating human health and ecological risks. Sulfates would impair wild rice. The DEIS studies are inadequate to prevent degradation of water quality. The DEIS studies are inadequate for the public to be knowledgeable about the true risks of the project to health and the environment.	WR1E,WR4B,WR4F,FM1,F
18	There is no inspection program or mitigation program outlined within the DEIS as to the acid mine drainage that will be created.	WR1B,WR4C

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
19	Technologies upon which PolyMet relies to treat contaminated water, prevent release of contaminants, including sulfuric acid compounds, are untested or unreliable.	WR1E
19	There is no way to logically categorize whether waste rock is a 1, 2, 3, or 4 category waste – there is absolutely no way to ensure the more toxic waste rocks are safe from leaching toxins into the environment, all waste rock has the potential pollute waterways, even category 1, but there is no way to test each stone as to its category. Polymet’s plan for storage of waste rock is inadequate to protect the environment – the DEIS should provide full public disclosure of this inadequacy.	WR1A
19	The Tailings Basin design does not meet minimum safety standards to prevent catastrophic failure and uncontrolled release of tailings to the Embarrass River. Waste rock piles, mine pits and liners will leak and seep pollution into groundwater.	WR2C,GT2
20	The PolyMet project would take over 6,700 acres of public land in the Superior National Forest. Yet, the DEIS has done no analysis of a land exchange to protect the environment, tribal rights and public taxpayer assets.	PD1
21	an assessment of the impacts of all of the pending sulfide mining projects within the arrowhead region, especially including the Duluth Metals Ltd (Nokomis deposit) and the Franconia Minerals Corp (Birch Lake deposit).	G9
22	additional capacity within the Northmet processing plant beyond what the Polymet project will use, it is a good probability that a reasonably foreseen future is greater – up to 100% - capacity use.	G9
23	additional “areas of interest” in the analysis of sulfates. And evaluate geographic boundaries to fully consider the distance sulfates can travel. The current documents consider the area of interest to be limited to the Partridge and Embarrass River sub-watersheds. The area of interest for direct, indirect and cumulative impacts of sulfates on the aquatic resources in this watershed should be the St Louis River from river mile 179 and downstream to its mouth.	WR3B
24	This project is on the Superior National Forest and within Forest Service lands which precludes this type of project – this should be addressed in the DEIS, and any actions in regard to this should be addressed within this Study. The project footprint is within very important ecological features, the impacts are of great concern. Due to the location of the Project on federal public lands there is a requirement to protect the public values of these lands. Forest Service Regulations state “Habitats for all existing native and desired non-native plants, fish, and wildlife species will be managed to maintain at least viable populations of such species.”	PD1
25	MiningMinnesota strongly supports PolyMet Mining’s NorthMet project. The project will bring much needed jobs and significant economic benefit to both the state and regional economy. These new jobs will support thousands of people in hundreds of families in our rural communities in Northeastern Minnesota, and the millions of dollars in annual tax revenue will benefit the schools, cities, and State tremendously. MiningMinnesota believes that the draft EIS is a thorough effort and reflects the extensive work behind its preparation. The draft EIS covers all potential impacts identified in the Scoping EAW and some additional issues of concern as well. The EIS identifies alternatives and mitigation to reduce or eliminate these impacts, and can and should lead the way to a Final EIS and a decision of Adequacy as soon as possible. PolyMet can produce the critical metals we need and use in our country on a daily basis and do so in an environmentally sound manner. The demand for these metals continues to grow. In the U.S. we are import dependent for all of the metals that PolyMet will mine and process including copper, nickel, platinum, palladium, and cobalt. This reliance on imports negatively impacts our domestic trade imbalance, creates limitations on availability and access to metals, adds cost, and results in the exportation of jobs and further loss of job creation opportunities. Many of these metals are also essential to green technology such as wind turbines, catalytic converters, hybrid cars, and solar. In fact, PolyMet will produce several metals that are not currently mined anywhere in the United States. By mining and processing these metals here in Minnesota under our strict environmental standard we will lead the way in global carbon responsibility. Mining these metals in one country, processing them in another and then transporting them to the U.S. for consumption creates unnecessary greenhouse gas emissions. Finally, PolyMet’s NorthMet project has been designed to minimize environmental impacts. It will reuse a brown field site, reuse existing infrastructure, minimize wetland disturbance, and utilize multiple safeguards to assure air and water quality standards are met.	EOO

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
25	Critical habitat for the endangered Canada Lynx. The lynx in Minnesota requires large unfragmented tracts of quality forest area – which is what the mine site proposes to destroy. Due to development, existing mining, and other human encroachment to the natural environment we are increasingly losing larger contiguous areas of habitat for our wildlife, especially those species that require mature and interior forest areas. Large unfragmented tracts of habitat are a rare and valuable resource for Minnesota.	WI1
25	The High Biodiversity Significance rating that the mine site footprint has requires a critical look at what is most important for this area of forest. If Polymet is permitted it will be a permanent and irretrievable loss to the Superior National Forest and Minnesota. What we would lose is over 3,000 acres of high quality native habitat containing some of the rarest species. Two of the vegetation communities (black spruce-Jack pine and rich black spruce swamp - DEIS 4.3-2) are considered imperiled/rare and rare/uncommon by the Minnesota County Biological Survey. It is far past time that Minnesota consider the importance of our rare ecosystems – if we are to protect our native species from extirpation and extinction. It is also unacceptable that diverse and at risk forest types will be replaced with a red pine plantation upon closure of the mine. This again points out the irretrievable loss to Minnesota this project creates.	IR2
25	The Polymet project will also impact 2 of the 13 wildlife travel corridors, (9 of which may be impacted by the additional mining projects). The impact of this loss for the movement and dispersal, foraging and hunting, and other activities of our wildlife is not addressed. The DEIS should analyze the cumulative impacts this will bring to northern MN species. What will happen to the movement of wildlife if access is prevented by the Project to Corridor 11 and 12? What will this mean to wildlife with the additional impacts from the future mining projects if they come on line? “Cumulative impact” means the impacts of this Project added to existing and future impacts (hence “cumulative”). All of the classification of impacts - 1. direct loss, 2. fragmentation of habitat in corridor 3. isolation of corridor by a barrier (DEIS 4.4-31) – are significant and should be further explained as well as mitigation measures discussed to better inform the public about cost to our wildlife from these impacts.	WI5
25	The loss of high quality wetlands and peat areas will exacerbate impacts of climate change. One of the most important things we can do to mitigate and address climate change is protect forests and wetlands as sinks for sequestering CO2. By protecting these areas from development, the carbon in above-ground biomass and belowground soil organic carbon can be maintained and additional emissions of CO2e to the atmosphere can be avoided. Peatlands and wetlands are recognized to have large stores of soil carbon. Studies to gain a full understanding of overall carbon dynamics show that peatland/wetland protection and enhancement programs should be initiated to protect this stored carbon and to sequester additional carbon in the future.	WE2,AQ3
25	The DEIS should analyze the impacts of introducing invasive species as a part of the mine closure plan. We should not allow the introduction and use of invasive species into the Superior National Forest. The United States is under attack from a diverse army of invasive plants and animals that are threatening to transform the country's natural ecosystems and obliterate regional economies. Exotic species cause billions in environmental losses and damages each year, out compete native species. Non-native plant species are nearly invisible to native birds and other wildlife as a food source.	WI4
26	See maps included in comment document.	EOO
26	The permitting of PolyMet would be an irresponsible decision, and this should be stated as such under IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES. The Army Corps of Engineers should most notably understand the impact of sulfide mining on our waterways, and the irreversible and irretrievable loss of wetlands. I support a No Action Alternative.	EOO



*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
27	I am a citizen of the State of Minnesota and I incorporate by reference the Tribal cooperating agencies' findings and the Water Legacy comments: "The EIS Must Include Detailed Information on the Potential for Failure of Containment and Treatment of Wastes, Including Impacts on Water and Air Quality." There seem to me to be so very many areas of uncertainty regarding most, if not all, aspects of the proposed PolyMet mine project. Among other issues is that of the liners to be used. On page 4.1-164 of the DEIS it states that, "All liners leak to some extent." Then, on page 4.1-136 the DEIS states that, "Concerns still exist regarding the adequacy of the proposed overliner buffer thickness to protect the liner from accidental tears or rips during waste rock placement or removal given both the size of the waste rock and the equipment necessary to place or remove it properly." These are just two examples of legitimate concerns about how the liners will be able to do their job given the fact that they all leak to varying degrees and then given the fact that OVER 99% OF WHAT'S MINED WILL IN FACT BE TOXIC WASTE is the concern that the overlayers have not been ensured. If this project were in your backyard, would you feel that the odds were good enough for you to continue living safely in that place??? Would you still drink the water???	EOO,WR2D,GT2,AQ5,AQ6
28	Yet another particularly problematic issue is the perfection of the seal at the seams. With so many unresolved questions and so much inherent risk, how can this project be permitted at this point?	G8
28	We have a unique and priceless ecosystem in the vicinity of the proposed PolyMet mine. Should PolyMet be given the green light when there are questions regarding the integrity of the material they propose to use for the liners in terms of the pressure they will be exposed to under jagged rocks? Also, a related issue of concern regarding the liners is the question of the skill and thoroughness of installation.	GT1
29	First comments are maps: see comment document.	G14
30	3-34—"LTVSMC coarse tailings layer would be placed to create the covered surface on which vegetation could be sustained." How stable are coarse tailings as a foundation? Is this designed for use on 320 foot high waste rock piles? Are the coarse tailings from taconite? Are they inert?	PD10
31	3-37—The EIS process needs to explain where the money is coming from for closure: demolition, special material demolition, etc., as well as for "long-term" water treatment.	PD4
32	3-38, 3-39—The EIS process needs to define reclamation, and explain what reclamation means in terms of further use of the mined land. If the mine cannot be used for other purposes, and if the land is unusable because of potential toxic leaching, then this needs to be explained, and this also needs to be included in the socio-economic impacts, and under Irretrievable Commitment of Resources.	PD3
33	3-40—An estimate for total amounts of limestone needs to be included in the EIS process. Due to the large amount of limestone needed, cost and availability of limestone needs to be included somewhere in the EIS, possibly as a liability under socio-economic impacts.	PD2
152	I just want to make a statement that I'm very concerned about this mine going in place for a number of wildlife issues. I think what's above the ground is much more valuable than what's under the ground. And habitat, we are losing it every day with new development. This is going to be a huge impact to our Superior National Forest forested habitats.	G2A
<b>Sender Last Name:</b> Norton		<b>Submission ID:</b> 162
14	I wanted to say that it is important in a public meeting to provide a chance for a dialogue in that it is not sufficient to have an opportunity for individual people to speak their thoughts on the record. That is not dialogue. That is a statement from the agency, or in this case agency, Environmental Consulting Company, and representatives and senators from the state, followed by a response by a single citizen. And with that set up, you lose the opportunity for citizens to hear the thoughts and reactions of other citizens, and then responses to those thoughts, and counter-responses, and replies to those responses. That's dialogue. We	PRO6

*Alphabetical by sender's first name*

<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
15	Second. The meeting tonight is too early in the comment period to afford citizens a chance to first read and understand the Draft Environmental Impact Statement (DEIS) which is, even without the supporting documents, nearly 2,000 pages long. More time is required for citizens to read, comprehend, formulate comments and questions, and then put those down in writing, than the 90 days that the Department has offered or afforded. The Department of Natural Resources many times in the last four years extended the time allowed for it and the consulting companies to prepare this Draft Environmental Impact Statement because it is a very complex proposition to carry out this project. If the Department does not extend the time allowed for citizens to understand and comment on the DEIS, then I believe that shows that the Department sees the process of preparing a Draft Environmental Impact Statement as an opportunity to determine the proper course of action, rather than to present to the public a proposal for environmental review and comment.	PRO6
16	I would also like to say that from what I heard tonight, it was not a particularly balanced public meeting in that the only people permitted to speak, including at the outset Senator Tomassoni, Senator Bach and Representative Rukavina were hardly neutral in their comments. They were not brief, welcoming comments; but	PRO6
17	rather a pep rally for the mine. Another round of public meetings is necessary to afford the public, whatever their opinions about the mine, a chance to have a proper dialogue. Those meetings should come after the comment period has been extended from 90 days to at least 120 days and that extension should be decided and announced sooner rather than later.	PRO6
34	I am writing to request an extension by at least 30 days of the comment period deadline for the Northmet (hereinafter, "Project") Draft Environmental Impact Statement (hereinafter "DEIS"). I am a staff attorney for the Minnesota Center for Environmental Advocacy (MCEA)." MCEA is a non-profit, non-governmental organization whose mission is to protect and defend Minnesota's environment and public health, using legal and scientific research, and various forms of advocacy. MCEA works with governmental agencies, in the courts, and at the legislature. MCEA, takes strong interest in the Project because of it's location, size, and nature. The Project DEIS was first released for public review on November 2, 2009, with public comments accepted until 4:30 p.m. on February 3, 2010. This results in a 90-day comment period. For several reasons, 90 days is an insufficient period of time within which to read, comprehend, and draft helpful comments on the Project.	PRO6
35	First, the Project DEIS includes scores of documents, and the total size of the entire Project file is enormous. The sheer. volume of pages surpasses the ability of most individuals to read and formulate comments upon the DEIS within 90 days.	PRO6
36	Second, the Project DEIS contains scores of highly technical documents. It will require more time to read, comprehend, and respond to the technical material than would be required for non-technical information.	PRO6
37	Third, this DEIS comment period overlaps several holidays. It is a time of the year during which many people travel and/or spend vacation time with family. In other words, the timing of the DEIS release and the resulting comment period deadline further reduce the amount of time likely to be available to most people for reviewing and commenting on the DEIS.	PRO6
38	Fourth, this Project and its proper environmental review are exceedingly important, and not just because the land upon which the Project is proposed is owned in common by the public. This is the first project of its kind to reach the point of DEIS issuance in Minnesota, but many more are anticipated in the event this Project proceeds. Mining of sulfide-metal ore has never been accomplished without causing eventual acid metal leachate pollution of groundwater or surface water in the vicinity of the mine site. This is true even in arid environments. Minnesota is lake and wetland country, and presents even greater danger of such pollution coming to pass. In short, this is a new and potentially very dangerous type of project in an extremely sensitive area, and is likely to lead to a cluster of additional such project proposals.	PRO4,PRO6

*Alphabetical by sender's first name*

<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
2610	<p>My name is Kevin Norton, and I am a pastor in northern Minnesota. I grew up in Minnesota, born and raised in this state, and I've spent the last 28 years in the north, even though I graduated out of the Twin Cities, and what I've recognized in seeing many different people all over the state is that 11 they're hard-working, industrial people. Right now with the things -- the way things are going everyone needs work, and PolyMet would certainly assist in helping many people with finances, which helps them build self-respect and self-esteem because they're providing for their families. It would be good for the environment, I think, also, because of the fact that I think the United States is probably the leader, a model for the rest of the world to follow in terms of environmental issues and policies, and Minnesota statewide I think is probably the top of that league. And so if PolyMet decided to go somewhere else, I think that instead of being in a place that there would be the proper safeguards and so forth, we would see maybe a state or another country that isn't as interested in the safeguards as they are in making a profit would just let some of those things slide, and therefore we'd be culpable by omission by allowing it to go somewhere else, where here we do care about our environment. I have people in our congregation that have 80 acres of land that they feed the deer during the year, and then when they harvest the deer they self-impose restrictions and even fines on themselves and make sure that the deer are not overharvested and that they get to grow to a proper amount of age. That happening on a personal level, then what that says is that Minnesotans do care about the environment and they do care about the surroundings, they're responsible. And I think that all the work that's necessary to protect our environment has gone into the research and the studies, and we just can't -- we can't avoid the fact that we need to provide jobs and security and self-esteem and health insurance and all these things that come with this job. Therefore, I'm just very strongly encouraging whoever hears this thing that they would not get in the way of this, but rather they would endorse this and say this is good, because our state can handle it and will handle it well and with the kind of respect and dignity that it's supposed to. That's it.</p>	EOO,G1,G4
<b>Sender Last Name:</b>	Nosanow	<b>Submission ID:</b> 2052
2489	<p>Let's follow Wisconsin's example and ban this type of mining!!!</p>	G14
<b>Sender Last Name:</b>	Nurmi	<b>Submission ID:</b> 3236
3561	<p>I really hope the Polymet Project actually becomes a reality. I believe they have spent enough money jumping through hoops to satisfy even the "greenies". I love the lakes up here and surely do not want to see anything happen to our waters or land for that matter. I also look at the benefits for the people who actually live up here, paying taxes and trying to make a living. I think we should let our governing agencies do their jobs. It is past time to start moving dirt. I also expect the government agencies, local people, and even the "greenies" to make sure they use the best, modern processes available. Now if Polymet does not meet these expectations, I would expect to see them closed down immediately. I think this is more of a local issue. I do not know anyone who goes to Minneapolis trying to tell those people how to not ruin their lakes. It is past time for that. I do not subscribe to the theory, they know what is better for us, since they have ruined their lakes. We are the ones that live up here in the -40 degree winters, fight the bugs, and have to put up with them coming up here with one pair of jeans and a twenty dollar bill, changing neither one. We need these jobs. I am still working and have been in mining since April 1968 when I first started at Erie Mining Company. I now have over 33 years at the Minorca Mine near Virginia. I hate to see our young people leaving to find jobs in the crowded cities.</p>	EOO
<b>Sender Last Name:</b>	Nyemetz	<b>Submission ID:</b> 3473

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
3231	Long-term water contamination from waste rock – Modeling in the DEIS predicts that water leaching from waste rock piles will exceed Minnesota's water quality standards for multiple metals and compounds for up to 2,000 years. (Page 16) Contaminated overflow from mine pit – Approximately 45 years after mine closure, the DEIS predicts that the West Pit will overflow and spill into the Partridge River. Water from the pit is expected to exceed water quality standards and contamination of the river will violate the Clean Water Act. (Page 16-17) Unsafe tailings basins – The DEIS acknowledges that the tailings basins will have a “low margin of safety” because the underlying material—fine tailings from the LTV taconite mine—is unstable and poorly-constructed. Failure of the tailings basin would result in the release of a catastrophic amount of toxic waste from ore processing. (Pages 25-26) Sulfate contamination and mercury methylation – High levels of sulfates discharged into surface and groundwater will increase the methylation of mercury, a biological process which can result in the bioaccumulation of mercury in fish, wildlife and humans. Increased sulfate levels will also have negative impacts on wild rice beds in lakes and rivers downstream from the mine, seriously harming an important cultural resource of Native Americans in the region. (Pages 30-35). This is one of my main concerns for the fish and health of people downstream of this mine. Inadequate data collection and disclosure – The DEIS is overly dependent on modeling when real-world data could have been easily obtained and would have provided far more useful and predictive information. (Page 9) I cannot subscribe to risking our rivers and streams to this type of conjecture.	EOO,WR1E,GT2,FM2,FM5
3678	I am very concerned about risking our water quality with this project. Here are my issues with the PolyMet Northmet project DEIS. Lack of financial assurance – Delaying such an important component until the permitting stage is a serious omission, makes it impossible to fully assess the project’s potential environmental impacts, and puts Minnesota’s taxpayers and natural resources at risk. In his report, Dr. Chambers suggested that mine clean-up, closure and long-term water treatment could cost \$100 million. If PolyMet goes bankrupt or otherwise abandons the mine, it will fall to the people of Minnesota to either live with the pollution or foot that bill. (Page 3)	PD4
<b>Sender Last Name:</b> Oberg <span style="float: right;"><b>Submission ID:</b> 303</span>		
317	I live in Minneapolis but enjoy many aspect of Northern MN and want to ensure our environment is protected. I also understand the benefit of manufacturing and mining and the jobs it creates. I support the Polymet Northmet mining project and believe they are taking all required steps to protect the environment. I believe we need the jobs that will be created by this \$600 million project and we need the tax revenue that will be \$15 million per year.	EOO
<b>Sender Last Name:</b> Oberstar <span style="float: right;"><b>Submission ID:</b> 1016</span>		

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
1116	I am very pleased to express my strong support of an adequacy determination for the draft Environmental Impact Statement (DEIS) for PolyMet Mining Co. The environmental review process for what will be Minnesota's first nonferrous metal mine has been long and arduous, but the resulting draft demonstrates that PolyMet will help meet our nation's domestic demand for copper, nickel, platinum, cobalt, gold and palladium, put Northeastern Minnesota citizen back to work and ensure the protection of our precious natural resources. PolyMet has earned my support from the outset because of its responsible, innovative approach to nonferrous mining and processing; the DEIS does an excellent job of describing the many steps PolyMet will take to minimize environmental impacts. PolyMet proposes to utilize superior processing technology to use the sulfur in the ore as fuel and minimizing the emission of greenhouse gases. PolyMet will re-use the exceptional infrastructure from the former LTV Steel Milling Company and proposes to mine within an already well established mining district. I am pleased in particular to see the redevelopment of this LTV brownfield site-the reuse of the facility will decrease the amount of undisturbed lands needed for the project and helps decrease capital costs for the project thus making the mine more competitive globally. PolyMet plans to carefully manage waste rock and will not discharge process water. And the company will follow state law by setting aside appropriate levels of financial resources to cover any and all closure costs. PolyMet will help our nation meet the demand for the metals already in widespread, daily use. Many of these metals are essential for our national security. PolyMet will also proceed with this vital project in an environmentally responsible fashion not necessarily found in foreign mining and processing facilities. In addition, PolyMet will help diversify the economy of the iron ore-dependent Range, creating hundreds of jobs in the process. More than 300 construction workers will put in 1.5 million hours of labor constructing the \$600 million facility over two years. At full operations, PolyMet will employ 400 people earning an annual payroll of about \$40 million. Spin-off jobs in St. Louis County alone will amount to more than 500 and generate an economic impact of \$242 million. Over 100 years ago, Minnesotans began mining natural ore and then used ingenuity and determination to extend our mining and processing capabilities to include taconite. Responsible, non-ferrous mining represents the next chapter in the evolution of the Iron Range; it is time to begin this new era. Thank you for your consideration of these remarks. More than 300 construction workers will put in 1.5 million hours of labor constructing the \$600 million facility over two years. At full operations, PolyMet will employ 400 people earning an annual payroll of about \$40 million. Spin-off jobs in St. Louis County alone will amount to more than 500 and generate an economic impact of \$242 million. Over 100 years ago, Minnesotans began mining natural ore and then used ingenuity and determination to extend our mining and processing capabilities to include taconite. Responsible, non-ferrous mining represents the next chapter in the evolution of the Iron Range; it is time to begin this new era. Thank you for your consideration of these remarks.	EOO,G4
<b>Sender Last Name:</b> O'Brien		<b>Submission ID:</b> 244
257	As our country struggles to get out of this current economic recession it is exciting to hear about the new PolyMet facility. What does our economy need the most now - Jobs!. The new PolyMet facility will provide jobs and support for the local communities. My understanding is that PolyMet has addressed the issues of contaminations as well as what to do with the bi-products it develops. It sounds to me that Polymet is being a responsible corporate citizen. In good economic times as well as difficult economic times, corporation willing to invest in the US should be encouraged and supported. The sooner this plant is up and running the sooner people can get back to work to support their families and support their local communities.	EOO
3711	venture on the global market, rather than providing a steady supply of jobs. +PolyMet purchased the former LTV taconite crushing plant and tailings basin for its plant site, but the open pit strip mine would be located within 6,700 acres of public Superior National Forest land which is designated to be sold to PolyMet without environmental review. It is not appropriate to sell off a portion of the Superior National Forest for a marginal mining operation that has a high potential to cause long lasting damage to the environment. I am under the impression that our national forests are to be held in perpetuity on behalf of all the citizens of the United States. +Excess capacity at the	PD1

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
3797	Proposed sulfide mining in northern Minnesota in the Superior National Forest adjoining the Boundary Waters Canoe Area should be prohibited for the following reasons. +PolyMet is a Canadian company, so this mining project will not provide a domestic source of copper, nickel, cobalt, platinum, palladium, and gold. The metals will be further processed in Canada and sold on the global market. +The mineralization of northeast Minnesota is very low grade, containing approximately 8 pounds of copper and .01 ounces of precious metals per ton of waste rock. This will require energy and electricity to create enormous amounts of waste, making this a marginal mining	EOO,G1
3798	PolyMet processing facility would open the door for a sulfide mining district between the PolyMet site and the Boundary Waters Canoe Area Wilderness (BWCAW). +Acid mine drainage and toxic heavy metal leaching are byproducts of mining sulfide ores, requiring water treatment for centuries. PolyMet admits the mine would pollute ground water, but claims that any pollution would meet water quality drinking standards. Mining pollution also adds sulfates to watersheds, triggering the chemical reaction by which mercury becomes methylated, and bio-accumulates in fish tissues. +Since PolyMet's open pit would be within 20 miles of the BWCAW, haze and noise pollution would impact the wilderness.	G2C,G5,G7B
<b>Sender Last Name:</b> OConnell		<b>Submission ID:</b> 2860
10	ALTERNATIVES: In light of the possible millennial scale of acid mine drainage impacts, and the failure of previous mines to achieve adequate treatment (for example, 5,000 years of acidity and toxic dissolved metals in the Rio Tinto district in Spain where the river pH reaches as low as 2-2.5; the 2.37-2.57 pH and toxic dissolved metals in the abandoned open-pit mine called the Berkeley Pit in Butte, Montana; and the Wisconsin “ban” on future sulfide rock mines until they’re PROVEN safe), I find it hard to believe that Minnesota would even consider allowing any but the most stringent management and treatment of the reactive waste rock stockpiles and tailings basins. Those most environmentally protective options shouldn’t be “alternatives”, but part of the “proposed action”, including the “alternatives incorporating reasonable mitigation measures identified through comments received during the EIS scoping the DEIS comment periods”.	ALT9
11	“REASONABLE MITIGATION MEASURES”: Again, these shouldn’t be alternatives, but part of the “proposed action”. In fact, these seem barely adequate, if not actually inadequate. For example, it’s stated that if the tailings are “reactive”, then the storage cells “would possibly be lined”. Possibly? Even if they were lined, that wouldn’t guarantee no leakage if the linings are designed to standards such as the Minnesota Pollution Control Agency allows for some waste facilities, which may leak 500 gallons per acre per day. That’s a lot of leakage from a “lined” facility!	ALT9
12	Page 3-51 NO ACTION ALTERNATIVE: again, I agree with the Tribal comments – there are major environmental, social, and economic costs that would be avoided by NOT doing the project. The problem that I see is that the timescale for the benefits is short-term (20 years), while the costs are long-term (potentially thousands of years). Section 3.2 ALTERNATIVES: I’ve already stated that I believe that the MOST protective measures are what should be required.	ALT1
935	FOREST FRAGMENTATION: Open pit mining on formerly NFS land leads to further fragmentation of the forested lands and wetlands, causing changes such as: 1. Increases in the already extensive “edges” of forest habitat, and loss of deep forest habitats required by many species 2. Further interruptions in the limited north-south wildlife corridors within the Iron Range mining region	WI5,WE7
2732	MINE SITE PROCESS WATER (precipitation runoff & groundwater which has contacted disturbed surfaces) “Would be treated using a combination of membrane separation and chemical precipitation technologies at the WWTF”. Then details follow, including “Reuse...would eliminate the need to discharge any process water to surface waters.” That seems reasonable during the 20 years of operation, but what about the centuries after closure?	WR1A
2733	BASELINE ALUMINUM IN SURFACE WATERS: Yes, aluminum is already exceeding standards in the Partridge River. Do we want it to increase even more and interfere with fish gill functioning, etc,	WR3H

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Comment ID	Comment Text	Theme Codes
2734	TREATMENT OF STOCKPILE DRAINAGE: What if acidity is slow to develop and the WWTF is shut down too soon? Be sure to keep it operable and be sure water quality acidity and metal levels are acceptable at “compliance locations” for DECADES before eliminating the need for the WWTF (EPA’s 1994 study shows that pH decreased with time).	WR1C
2735	Page 4.1-5 and following pages GROUNDWATER: It is notoriously difficult to characterize the flow patterns and interconnectivity of groundwater, both between individual aquifers and with surface waters. The tribal comments raise significant issues that need to be addressed. Page 4.1-14 and following GROUNDWATER QUALITY & TAILINGS: Again, the Tribal comments raise pertinent issues, including limited monitoring not identifying a tailings basin groundwater plume, and difficulties drawing conclusions from very limited monitoring. Page 4.1-55 GROUND WATER AND TAILINGS AND RESIDUE CELL DRAINAGE: As described in the Tribal comments and as officially recognized in MPCA standards for liners: all liners leak. There will be seepage, yes, but will its chemical nature change with time? Yes, very likely, and not for the better. And will drainage end by year 34? What will happen if it continues longer – especially if long-term maintenance includes a pond on top? Page 4.1-67 WWTF, STOCKPILES, AND WEST PIT OVERFLOW: I’m happy to see that the WWTF is projected to operate at least until West Pit is projected to overflow in Year 65. But I wonder if West Pit might not end up like Berkeley Pit in Butte, Montana, where the pit water is extremely acidic, and part of the Superfund remedy there is a WWTF and a plan to keep the pit water level BELOW the overflow level, because it serves as the local ground water sink, keeping the contamination from spreading into the nearby river. Page 4.1-79 – 4.1-80 As the Tribal comment also points out (page 4.1-67), Table 4.1-45 predicts exceedances of some ground water evaluation criteria for up to 2,000 years (or perhaps more?), including antimony, sulfate, nickel, and manganese. Is this something Minnesota is happy to allow for 20 years worth of jobs? I’m also not happy to see that modeling does not include the metals which already exceed “Groundwater Evaluation Criteria” (as shown in Table 4.1-44). Although they already exceed the standards, what’s the future likely to hold? I would also like to see pH measurements included in your projections. While they are currently nearneutral or basic, will they stay that way? Page 4.1-90 This table only shows groundwater impact predictions to closure, not post-closure. This seems too limited a timeline, since acidity from oxidation will continue for many years post-closure. What are the predictions for year 34, 65, 2000? Page 4.1-95 TAILING SULFUR CONTENT: If the average tailings sulfur content is 0.13%, then some, as you say, will exceed the 0.14% threshold when acidic leachate production and increased metal mobility occurs. Your data, then, support that some acidification is likely to occur, and continue to occur for an extended period of time. Page 4.1-111 SURFACE WATER IMPACTS TO UPPER PARTRIDGE RIVER: Table 4.1-62 is misleading – it doesn’t state that this table is for impacts “for all mine years” (as mentioned on the previous page). What about post-closure years? Also, I would like to see pH predictions, in light of acid mine drainage. Page 4.1-114 WEST PIT WATER QUALITY, POST-CLOSURE: Those are high sulfate levels. What’s the projected pH of this pit’s water? Also, some of the exceedances could be a problem downstream if the water is used for drinking water (e.g., arsenic, shown at 198 ug/l, which has a drinking water standard of 10 ug/l). This may not be a problem now, but if the high levels continue for centuries and if more similar mines are permitted in the future, can we restrict drinking water use, or will communities need to pay the cost of future water treatment facilities which must treat for the arsenic levels caused by today’s business making a profit for 20 years? Page 4.1-128 MERCURY METHYLATION AND WEST PIT OVERFLOW: Another concern that may continue for millennia. Page 4.1-129 (and elsewhere) “ALL MINE YEARS”: I interpret “all mine years”, as found twice in Table 4.1-68, to mean that you only predicted for the 20 years of the mine’s life. That’s certain	EOO,RFI,WR1A,WR1E,WR
3161	SEVERED MINING RIGHTS & OPEN PIT MINING: I’m very concerned about the severed mining rights on private and federal lands, especially if that mining right allows open pit mining which permanently changes the character of the land – regardless of revegetation and restoration efforts after the completion of ore removal. The resulting hydrological changes in groundwater and surface water flows and impacts on the water quality are highly likely to cause significant impacts for wildlife and vegetation, especially in an area of sulfide ores which results in acidic mine drainage.	PD1,PD8,CR1

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Comment ID	Comment Text	Theme Codes
3162	LAND EXCHANGE: Allowing a land exchange of private land for National Forest Service (NFS) land is a very bad precedent which threatens protection of all federally protected lands here and elsewhere, both now AND when future mining operations request the same opportunity. This is especially a concern for sites in close proximity to the Boundary Waters Canoe Area Wilderness. What's being requested here is like letting the "camel's nose into the tent". Can you stop it once you start it?	PD1,G9
3163	My question is – could treatment options such as those attempted at Dunka effectively operate at NorthMet (and potential future nonferrous mines) over a timeframe that could approach perpetuity? This is especially a concern when the company predicts a 20-year lifespan for the project, yet the environmental consequences may need to be prevented for orders of magnitude more years than that. Who will pay for those costs – a company that's no longer in business; a state that may have many other economic priorities; the NE Minnesota citizens who may or will lose the quality of their environment, the recreational options, and jobs; and/or the nonhuman organisms who no longer have viable habitats?	PD3,PD4,G1
3164	ORE vs. WASTE ROCK: Based on my rough-and-dirty calculations (below), apparently the final production of metals will be approximately 0.001% of the mined materials (based on calculations from the data reported here). Since the waste rock and tailings will be converted from its original solid material to fragments that take up more volume, that will be a huge amount of waste that will need to be stored, and much of it will be impacting the water quality in almost perpetuity.  • My calculations from information on this page of the DEIS:  o 228 Million tons over 20 years  o 91,200 tons/day of "rock"  o ~ 48,263 tons per year of metals = 132 tons/day  □ = 0.001% produced ore  o = 99.9% waste & tailings	PD2
3165	WASTE ROCK CATEGORIES: I understand the categories, and hope that they are indeed predictive of their chemical reactivity. I do notice, however, that, although not all categories are likely to generate acid mine drainage, all categories are predicted to leach "metal concentrations in excess of anticipated water quality compliance levels" (pages 3-13 – 3-14). Will treatment and maintenance practices ensure that all surface and groundwater "compliance levels" will be met before leaving the property boundary - for perpetuity?	PD2,PD11
3166	ACID-PRODUCING SATURATED OVERBURDEN: It's stated that saturated overburden can be the equivalent of Category 4 waste rock. The treatment option (bottom of page) sounds like a "guess" and not a good alternative, and "process water...would be sent to the WWTF". Maybe that's fine while the WWTF is operating, but how long will that be happening? 65 years or potentially hundreds of years?	PD5,PD11
3167	WASTE ROCK STOCKPILES: The Category 1, Category 2, and Overburden stockpile doesn't have a geomembrane covering, meaning that infiltration will not be prevented – and all of those categories may leach metals and/or the overburden may also leach acids. Again, if the WWTF is to treat the collected leachate, how long will that continue – in perpetuity at the cost of the company?	PD5,PD11
3168	The "clear water" from the tailings basin which "would be re-circulated" – but likely some would remain; is it really just water? Also, the tailings are in the <120 micron size – great dust storm material if they should dry out, before or after closure.	G2B
3169	TAILINGS POND DAMS: Somehow, building tailings pond dams out of old tailings sounds like a recipe for subsequent failure, especially as the walls rise higher.	PD8



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Comment ID	Comment Text	Theme Codes
3170	LIMESTONE ON CATEGORY 4 SIDEWALLS: Are 4 inches of limestone enough to prevent oxidation in perpetuity? And how likely is it to stay put on a 3.5:1 slope?	PD2
3171	CLOSURE and "RECLAMATION": I agree with all of the tribal cooperating agency comments, especially regarding the need for full disclosure of financial assurance for post-closure costs and the need to recognize that full reclamation may be unachievable, since possibly perpetual maintenance may be required.	PD3,PD4
3209	I'm pleased to see that the MDNR has done quite a bit of research on the topic of treating acid waste (as I see cited on p 15-20 of <a href="http://files.dnr.state.mn.us/lands_minerals/reclamation/reclamation_publication_list.pdf">http://files.dnr.state.mn.us/lands_minerals/reclamation/reclamation_publication_list.pdf</a> , but I don't have the time to obtain and read these documents) including dry covers, subaqueous disposal/wetlands on tailings, mixing alkaline solids and limestone beds (even more materials stored on site and very costly to import those huge amounts), microencapsulation, sulfate reduction (all using sulfate-reducing bacteria?), trace metal sequestration/removal by peat etc. I particularly found the title of P. Eger's 2007 paper interesting but disturbing – "Solving Mine Drainage Problems at Soudan State Park – One Step Forward, Two Steps Back", a location which I hadn't realized even had acid mine drainage – but its title and recent date implies that the DNR doesn't yet have a solution to the problem of acid mine drainage. That doesn't bode well for approving this project, which is just the tip of the future iceberg of nonferrous mines in Minnesota? Although I wasn't aware of the Soudan Mine issues, I was aware that the Dunka Mine had acid mine drainage problems, and that the latter has received attention from both the MDNR and the U.S. EPA (see EPA's Office of Solid Waste's "Technical Document: Acid Mine Drainage Prediction", EPA539-R-94-036, NTIS PB94-201829, December 1994, at <a href="http://www.epa.gov/waste/nonhaz/industrial/special/mining/techdocs/amd.pdf">http://www.epa.gov/waste/nonhaz/industrial/special/mining/techdocs/amd.pdf</a> ). The EPA reports states that "Since these waste rock stockpiles were constructed in 1976, monitoring of drainage from the piles has revealed a decrease in pH levels, as well as an increase in trace metal concentrations...during sampling...pH values as low as 5.0 in Seep 1 were reported." Laboratory studies found that "drainage pH decreased as the sulfur content of the sample increased. Drainage pH also decreased as the experiment time increased." And "concluded that small particles (<2.0 mm) have a large influence on field stockpile drainage quality." Sampling of a receiving water of the mine's waste rock pile seepage (Bob Bay of Birch Lake) found elevated levels of copper, nickel, cobalt, and zinc. Treatment methods to be studied included "pile capping/channeling to limit infiltration, active treatment in a neutralization pond to lower pH and remove metals, and use of artificial wetlands to remove metals. The ultimate goal was a passive treatment system that would require little or no maintenance (U.S. EPA 1992d)."	G7A
3210	I agree with the footnote comments of the tribal cooperating agencies.	G14
<b>Sender Last Name:</b> OConnor		<b>Submission ID:</b> 1163
1278	I'm sorry to say that any mining in any shape or form causes problems to land, water, environment, people and our future way of life.	EOO
<b>Sender Last Name:</b> Odendahl		<b>Submission ID:</b> 3527
3256	the potential harm to water quality and harm to and loss of wetlands. More and more, we are beginning to recognize the precious value of our water resource here in Minnesota. The DEIS addresses this issue, but does not provide adequate assurances that our water resources will be protected. The loss of wetlands is also problematic. Wetlands are a tremendously undervalued resource. Again, the DEIS addresses this issue, but doesn't provide an adequate offsetting mitigating value. Among other concerns, my most significant concern relates to the potential economic impact on taxpayers of Minnesota should environmental damage occur and Polymet be unable to take adequate corrective measures, whether because of the extent of the damage or the inadequacy of the company's finances. In summary, the DEIS is disappointingly inadequate for a project with so much potential for environmental degradation.	WR3I,WR3N,WE3,PD2
<b>Sender Last Name:</b> Ogden		<b>Submission ID:</b> 1747

*Alphabetical by sender's first name*

<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
1121	The DEIS predicts contaminated waters to be discharged from the mine site into the Partridge River after the mine's closure, as well as tailing's basin discharges high in sulfate concentrations. Ultimately this will end up in Lake Superior. As a major source of fresh water for Minnesota and the other states surrounding it, Lake Superior should be protected from sulfide pollution.	WR3A,FM1
2278	The blasting particles from the open pit mining, the dust from the trucks transporting rock to the processing area, and the waste rock will all contain high sulfate concentrations. Rain and snow will cause the sulfate to enter and pollute the ground water, and eventually reach the Embarrass River	G2B,G7A
<b>Sender Last Name:</b> OHara		<b>Submission ID:</b> 1089
1193	This is a well planned and scutinized project that should go forward. It will be good for Northeastern Minnesota and allow us to provide these minerals sourced in-the US instead of importing more goods. It will not only provide jobs lo'cally but the number of suppliers will multiply the economic benifitsthroughout the state and more. Lets not, let foreign countries have the upperhand anymore.	EOO
<b>Sender Last Name:</b> Oja		<b>Submission ID:</b> 2238
2644	I have lived in northern Minnesota most of my life and enjoy the outdoors and also the ability to live here because I have been able to find employment. I am concerned about the area I live in from both an economic and environmental standpoint. The Polymet project will contribute to the state and local economy when northern MN as well as the United States need the jobs and the economic benefit. As a person who lives in northern Minnesota, I understand the need to balance the use of resources like minerals and preservation of resources such as water and air. I feel this EIS lays the proper groundwork for developing an environmentally and economically sustainable project. I work for a company that relies on the northern Minnesota mining industry and this project will help our company to survive and hopefully grow which will mean we will be able to hire additional employees. With this I wholeheartedly support the Polymet project.	EOO
<b>Sender Last Name:</b> Ojard		<b>Submission ID:</b> 292
306	I am writing this letter in support ofPolymet Mining and their proposed project in Northern Minnesota. As a Minnesota resident the environment is of great concern to me as it is to all residents. I am convinced that this project will not only provide a great boost to our northern economy, but will do so in an environmentally safe manner. The conclusions of the Draft EIS confirm that this project has been designed to minimize environmental effects, not only through our designs but through the reuse of a brownfield site and the reuse of existing processing facilities. As part of the design team that has assisted Polymet in the evaluation and design of the proposed mine and processing facilities, I can honestly say that Polymet has always had environmental stewardship as the guiding principal for our designs. We were always directed to make design choices that limited the impact on the environment even if the choice resulted in significant increases in cost. Thank you for the opportunity to express my support ofPolymet Mining and for this well done and thorough EIS.	EOO

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
318	I am writing in support of the Polymet project planned for Hoyt Lakes. The Polymet project will provide a positive impact on the entire region and provides benefit to the entire state and national economy. Additionally, by utilizing a former mining property and state-of-the art process and environmental controls, the ecological impacts will be significantly better than the development of a similar project on any site, anywhere. The United States and World require metals to manufacture virtually every product that society uses. If we in Minnesota cannot support and develop this project, the resources will be provided in other areas without the controls and protection measures our regulations require. As a community we have asked that Polymet follow the regulatory process, study their resource development and implement controls to minimize environmental impacts from the start of production through the mine closure. This process has taken years and has been thoroughly reviewed by experts in Professional practice and the Regulatory agencies. It is time to approve this project and move forward toward the future of the Iron Range. The Northland wants and needs this project. As a business professional and resident of Northern Minnesota, I offer my support for the approval of Polymet's development and hope to see a rapid resolution to the review process.	EOO,G1
326	On behalf of the Duluth Seaway Port Authority, I am pleased to write in support of Poly Met Mining's non-ferrous mining and processing facility proposed for Hoyt Lakes. The draft Environmental Impact Statement clearly reflects the years of study and research behind the project and equally clearly demonstrates the reasons why the project should move forward. The Duluth Port is a hub of transportation activity - receiving cargoes from other states and countries and sending cargoes off to other destinations. Because shipping can move large amounts of freight with the minimum of energy required, the port also serves as a model for environmental sustainability; shipping sends far fewer greenhouse gas emissions into the global pool than many other modes of transportation. The PolyMet project offers similar benefits to the environment. Metals critical for our domestic consumption and security will be mined locally-. following very strict regulations that will protect not only our water, land and air but also the air of other locales. PolyMet will mine and process this material with a bare minimum of greenhouse gas emissions and will save greenhouse gas emissions because it will be closer to ultimate domestic consumers. PolyMet's model is a vast improvement over current practices for obtaining these metals for domestic use-mine the ore in a country that may not have any environmental egulations, transport it to yet another country for processing that might not be regulated strictly and then transport it-once again-as a finished product to U.S. manufacturers. PolyMet offers a better way. Finally, the Duluth Seaway Port Authority is charged to support and enhance the economic development of Northeastern Minnesota. The PolyMet project offers us the opportunity to help meet our mission - sound economic development - while protecting the environment. Thank you for the opportunity to support the PolyMet project and to support an adequacy determination for the draft EIS.	EOO,G2
<b>Sender Last Name:</b> Olds <b>Submission ID:</b> 3365		
3656	I agree with this [illegible] to be a [illegible] as good as [illegible] else that isn't as important as the BWCA.	G15
<b>Sender Last Name:</b> Oliver <b>Submission ID:</b> 208		
208	I recently visited the Polymet facility in Hoyt Lakes and was shown the proposed state of the art ore processing plan. Not only was it fascinating, there's virtually "no waste". Producing bi products such as sulfur being used with limestone to make gypsum is a sure sign of Polymet's commitment to the environment while producing a variety of useful and marketable products. I can't think of a better way to increase revenue for the state and provide much needed jobs for the area. Well done Polymet.	EOO
<b>Sender Last Name:</b> Olsen <b>Submission ID:</b> 23		

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
21	My name is Hans Olsen, I'm from Ely, Minnesota, and I read the summary EIS and in there it says that there's considerable uncertainty about the water impact, and then there was some discussion about various ways to mitigate the impact. And that caused me to think that since there is some uncertainty about the environmental impact of this project, perhaps there should be some uncertainty about the executive bonus compensation for the folks who run PolyMet. And so I'll offer this specific suggestion: The executives, the top five executives at PolyMet, agree to escrow their entire bonuses for the first five years of the project, with the understanding that if all of their rosy environmental assessments turn out to be true, the State of Minnesota will match their bonuses, essentially doubling their compensation and giving them a big reward for being right. But on the other hand, if it turns out that they're wrong and the environmental impact, in fact, is severely adverse and there's a lot of cleanup that has to be done, that they agree to forego their bonuses. That's my suggestion. I think it's actually a pretty reasonable one, and if you don't like that one, I think I ask that everyone involved here, Governor Pawlenty and so on, all consider how they can incent the industry to do this in an environmentally friendly way. They're going to get plenty of incentive compensation for selling the end product of the mine. It would be nice if they could also get some incentive compensation for doing it in a way that's severely adverse and there's a lot of cleanup that has to be done, that they agree to forego their bonuses. That's my suggestion. I think it's actually a pretty reasonable one, and if you don't like that one, I think I ask that everyone involved here, Governor Pawlenty and so on, all consider how they can incent the industry to do this in an environmentally friendly way. They're going to get plenty of incentive compensation for selling the end product of the mine. It would be nice if they could also get some incentive compensation for doing it in a way that's friendly to the environment. And that's my suggestion. Thank you very much.	EOO
<b>Sender Last Name:</b> Olson		<b>Submission ID:</b> 1842
2458	The value to the economy of sulfide mining is not sufficient to cover the environmental risks.	G2
2571	I am writing to you about the proposed PolyMet sulfide mining project. In other locations, sulfide mining has resulted in acid mine drainage, causing extensive and expensive damage to water quality and the environment. Often, taxpayers have been stuck with the costs. The PolyMet project in Minnesota is predicted to degrade water quality, increase mercury in fish, destroy wetlands and peat bogs, fragment the habitat of endangered species, and interfere with tribal treaty rights and tribal resources, like wild rice. The project also could increase air pollution that results in regional haze and could create a risk of perpetual pollution without adequate financial assurance that the public won't end up paying the costs. Both, the Tribal agencies and the United States Environmental Protection Agency have pointed out serious inadequacies in the PolyMet/NorthMet Draft environmental impact statement (EIS). I am very concerned about the possible irreversible damage this type of mining may cause in this sensitive area. From what I understand mines of this nature have in the past been given the go ahead with assurances from the mine operators that no damage will be done only to discover after the fact that safety measures were inadequate. This area deserves an absolute guarantee that the impacts will be what the mining industry says and assurances that funds for cleanup are in place when things go wrong. Please take the time to add supplements to the draft EIS and give people in Minnesota a fair chance to know what impact the PolyMet project would have on our State the Lake Superior basin.	G2B,G2C,G3A,G4A,G7A,G
2997	Please accept these comments on the PolyMet Mining Corp. NorthMet mining project Draft Environmental Impact Statement. I have serious concerns about the safety of this project and its potential impacts on Minnesota's natural resources. Prove that it is safe before going forward.	G2,G6
3646	Honestly the average person does not really care about the Environment. So think of it from an Economic perspective. The mine's will produce \$x in 20 years but then think of the amount of money lost in the local economies during + after the mine closes x the amount We, the tax payers, will have to pay to clean up the pollution over 60 years (not an actual statistic just a guess). Is it really economically beneficial?	G1

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
3726	I grew up on the Iron Range. I'm 36 years old. ¼ of my family, grandfather, uncles, cousins all have worked at Hibbing Taconite. Yes, the mining industry provide for those who choose stay. Having grown there up, went to school there, and have left there, the mining will stop. It is not unlimited. The Iron Range needs to find some other economic structure to cling to. Mining precious metals is not that answer! The damages it causes has no replacement value.	EOO,G1,G2
<b>Sender Last Name:</b>	Olund	<b>Submission ID:</b> 3595
3866	I find these concerns to be of utmost importance. Jobs are very important but not at a huge [illegible] permanent negative impact on the environment. In addition our environment itselfis unique and also provides jobs.	G1
<b>Sender Last Name:</b>	OMalley	<b>Submission ID:</b> 1247
1404	Please do not rob Minnesota of one of its greatest natural resources and endanger the overall environmental health of the area.	EOO
<b>Sender Last Name:</b>	Ongaro	<b>Submission ID:</b> 3672
1	3-57—The EIS process needs to explain the procedure for replacing leaking liners and liner covers. The EIS process also needs to explain how much leaching is required from a tailings basin in order to prevent water pressure build up and tailings dike collapse.	PD2
<b>Sender Last Name:</b>	Ono	<b>Submission ID:</b> 2655
3154	Please do not let this happen. Life for future generations will be challenging enough with problems such as developing new energy sources to support our rising populations. However, contaminating our fresh water supply when it is known that fresh water is not limitless is madness! Before long water will be more expensive than oil, and where will we be? Thirsty... with all the contaminated water we can drink.	G7
<b>Sender Last Name:</b>	Oppegard	<b>Submission ID:</b> 2586
3142	I WORKED FOR HENKEL CHEMICAL IN MPLS IN 1979--1983 WHERE THEY MADE LIX REAGENT (LIQUID ION EXCHANGE) FOR COPPER MINING IN AFRICA---I KNOW HOW INCREDIBLY DANGEROUS AND POLLUTING THESE SUBSTANCES ARE (THEY HAVE NOT CHANGED MUCH) AND THERE IS A GOOD REASON WISCONSIN HAS BANNED THIS TYPE OF MINING. IF YOU REALLY CARE ABOUT THE PEOPLE OF THE RANGE AND OF GREATER MINNESOTA THEN IF YOU DON'T HAVE THE GUTS TO STOP IT THEN AT LEAST PUT SEVERE RESTRICTIONS ON ANY POLLUTION OUTPUT---IF WE HAVE WHAT THEY WANT, THEY WILL WORK WITH US--PLAY POKER WELL AND EVERYONE WINS.	G5
<b>Sender Last Name:</b>	Oss	<b>Submission ID:</b> 1345
3	not to mention the noise and air pollution, how does PolyMet take care of that?	RFI,N2
1319	Sir: I hope your not swayed by big money interests. Minnesota's lands animals and birds are already under pressure by development and ATV or OHV use. I trust you know what is best for the environment or you would not have the position you have.	G2C
1571	I'm not for it! It seems when they get their foot in the door, it's just the beginning of whats to come	EOO

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
1572	It's just a shame to ruin our Northern Treasure. So many people have devoted their whole lives to preserving our wilderness. It's to bad; I guess money does all the talking	EOO
<b>Sender Last Name:</b> Ostrowski		<b>Submission ID:</b> 3450
42	Further, the PolyMet NorthMet project will result in total loss of 1,454 acres of federally designated critical habitat for two endangered species known to be in the vicinity of the mine site – the Canada lynx and the gray wolf. Finally, cumulative impacts must address the loss of revenue to the Boundary Waters Canoe Area Wilderness and Superior National Forest tourist industry as part of a sulfide mining district.	WI1,SE4
1315	It is also my understanding that PolyMet proposes to use an existing mine tailings basin for the disposal of its tailings and toxic materials – but that the basin already has stability issues making it unsafe. Any failure of this basin to hold its contents would result in longlasting and serious contamination. PolyMet should complete a stability analysis of the basin and devise an acceptable design before being able to proceed with this project.	WR2D,GT2
1943	Water quality impacts remains a top concern. How is it acceptable to allow for up to 2,000 years of environmental impact for the short term gain of one company? Who will pay for the long term treatment required? PolyMet has few assets and little financial history. The DEIS fails to address where the funding will come from to pay for postclosure treatment, monitoring and maintenance. As a result, it seems likely that Minnesota taxpayers may have to pay millions of dollars to clean up after PolyMet has gone. In addition, the DEIS predicts contaminated waters to be discharged from the mine site into the Partridge River after the mine's closure, as well as tailing's basin discharges high in sulfate concentrations. High sulfates can turn mercury into forms that make fish dangerous to consume. It is unacceptable to proceed with a mine that already predicts these kinds of pollution outcomes. Wisconsin has already banned sulfide mining due to the unacceptable environmental risk it presents.	EOO,WR3I,PD4,FM1,FM4
<b>Sender Last Name:</b> Overby		<b>Submission ID:</b> 2881
2760	I have spent a lot of time over the past 40 years trying to improve the water quality of Lake Superior. The Polymet project, I believe, presents a definite threat to our great lake. The headwaters of the St. Louis River are currently being contaminated by leakage from the old Erie Mining tailings disposal area. Additional runoff from sulfide mining operations into public waters will create additional problems. Is there a sulfide mining operation anywhere that has not caused environmental degradation? Please do not let economic concerns override environmental protection. For our sake, as well as future generations, I sincerely request that a MPCA to Polymet, if offered, be the most restrictive, comprehensive, and environmentally sound possible.	EOO
<b>Sender Last Name:</b> Overend		<b>Submission ID:</b> 1285
1476	PLEASE KEEP OUR PRECIOUS WATER SOURCES CLEAN! I love the BWCAW and hope that my children and their grandchildren will be able to save and see this precious wilderness. So please leave the BWCAW alone!	EOO,G8B,G11
<b>Sender Last Name:</b> Paine		<b>Submission ID:</b> 2560
430	The very short time allowed for receipt of comments does not permit concerned citizens time for an adequate review of the issues.	PRO6
707	How will this operation and other similar operations which follow disrupt wildlife movement, such as the Canada Lynx, which requires a large contiguous territory?	WI1
2198	A study is needed to determine the direction and rate of flow of groundwater in the vicinity.	WR2A

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Comment ID	Comment Text	Theme Codes
2396	A provision is needed for DNR monitoring of tailings basins, waste piles, groundwater, and surface runoff.	PD9
<b>Sender Last Name:</b>	Pajunen	<b>Submission ID:</b> 1049
1152	I have read the entire proposal, visited the plant site and agree that there are always some risks in any endeavor. I encourage the approval of the project.	EOO
<b>Sender Last Name:</b>	Pakudaitis	<b>Submission ID:</b> 3263
1914	The mine's tailings basin will also produce discharges high in sulfate concentrations, which will turn mercury into methylmercury, making fish dangerous to consume.	WR4B,FM1
3158	Water quality concerns have not been adequately addressed in the PolyMet project's DEIS. Water leaching from waste rock piles at the site is expected to exceed water quality standards for up to 2,000 years.	EOO
3577	Please accept these comments on the PolyMet Mining Corp. NorthMet mining project Draft Environmental Impact Statement. I have grave concerns about this project's potential impacts on Minnesota's natural resources and public health. I am adamantly opposed to this type of mining in the state of Minnesota. We Minnesotans recently passed the Legacy Amendment which provides funding for clean water programs and the preservation of our natural landscape. It would be a crime to allow this kind of mining in our state and then have to use these funds to clean up its resulting contamination. Consider the state of Montana and how much it has had to spend cleaning up after the mining operations there. Montana taxpayer had to pay millions of dollars (and are still doing so) to clean up the messes that mining companies like PolyMet made. These companies extract and profit from our resources and then leave the burden of cleanup on the state. Although this mine may give short-term economic benefit to the region, its likely long-term environmental and economic harm is not worth those short-term benefits.	EOO,G2,G4A,G7
3614	What's more, PolyMet has not provided proof of adequate financial resources for post-mining cleanup. As I taxpayer, I DO NOT want to pay for the damage that this company will likely do to my state.	PD4
<b>Sender Last Name:</b>	Palcich	<b>Submission ID:</b> 3675
1	4.4-136—"Reservations existed about relying on just the low and average liner leakage rates for groundwater quality predictions, as it may not fully account for the essentially permanent use of the liner (e.g., liner degradation over time, differential settlement, and accidental tears during waste rock placement)." Explain which liners would be able to be replaced in five years time, or as needed.	WR2D
1	4.1-3—"The deposit consists of disseminated copper-nickel-iron sulfides, with minor local massive sulfides..." Based upon this and PolyMet investor reports, there is potential for further or deeper mining at the site. This information needs to be explained to the public, not buried in agency terminology. The potential for expansion of mining at the PolyMet site needs to be addressed as a potential further impact on the environment.	WR1E
2	4.1.4-4.18—What conclusions are drawn from all of these numbers? What are the cumulative impacts on our health? How do the concentrations of these metals and parameters affect fish populations, wild rice, birds, and wildlife? Some statements from the DEIS that concern me: "Limited water quality data are available from these four new wells." (4.1-11) "It is difficult to discern to what extent these reductions are simply attributable to the effects of dilution." (4.1-14) My conclusion is that water in the Embarrass and Partridge Rivers is already contaminated with mining pollution. PolyMet mining would obviously add to this load. The full impacts of this are not addressed in the DEIS. This study is incomplete. Production at the Mesabi Nugget plant must also be factored in to any of these numbers.	WR5C

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<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
2	4.6-18—NO <sub>2</sub> , SO <sub>2</sub> , and PM 10 are analyzed for their impacts on visibility. The PolyMet EIS needs to explain whether these contaminants can have an impact on health even if they cannot be seen.	AQ4,AQ6
2	4.6-14—“The MPCA approved the exclusion of the Mine Site emissions in assessing the impacts at the Plant Site receptor grid locations as they would not likely contribute to a change in the overall impacts.” Based upon the MPCA’s previous record of not being able to monitor mine sites appropriately and enforce mining companies to comply with laws, I disagree with this conclusion. The purpose of an EIS process is to consider all impacts. If a mining company cannot control its emissions in order to meet state and federal laws, then how can that mining operation be permitted? Explain how the EIS process can allow the permitting of pollution.	AQ4,AQ6
3	Section 4.12—Considering the extent of hazardous materials which would be handled at the PolyMet mine site, and considering that former LTV hazardous materials (4.1-18) are not totally cleaned-up, what assurances does the DEIS give the public that additional pollutants (that may not have been tested for) may be in the watershed, or may enter the watershed upon mining? Explain.	HM6
3	4.13.4—“No cumulative effects were identified for Geotechnical Stability.” Explain how storing PolyMet tailings on top of LTV tailings will not have a cumulative effect.	GT1
4	3.24, Table 3.1-11—According to a law of physics, matter cannot be created or destroyed. Explain what ultimately happens to the flotation “consumables.”	PD9
5	Table 4.1-45 is referenced throughout the report in footnotes as justification that groundwater impacts will persist for 2,000 years. However, a careful review of the results presented in this Table confirms that the potential impacts to groundwater are both limited and unlikely. Furthermore, as noted on 4.1-83 (last sentence of first paragraph), “the Uncertainty Analysis would suggest that the deterministic model results for these stockpiles may be conservatively high”. In addition, as noted previously, the results presented in Table 4.1-45 represent a small portion of the water quality calculations prepared for project.	WR2E



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6	<p>As discussed on Page 4.2-28 of the DEIS, the wetland mitigation planning process relied on the WCA wetland replacement siting rules (Minnesota Rules part 8420.0522), state compensatory mitigation requirements under state water quality standards (Minnesota Rules part 7050.0186), and the USACE St. Paul District Policy for Wetland Compensatory Mitigation in Minnesota (2009), which prioritizes the location of project specific compensation to first replace lost wetlands on-site, then within the same watershed or county, and finally within adjacent watersheds. The primary goal of wetland mitigation is to restore high quality wetland communities of the same type, quality, function, and value as those to be impacted to the extent practicable. The purpose of the passive wetland system that may need to be created between the West Pit outlet and the Dunka Road is to remove metals from discharge water. Because this wetland system is a treatment system it will not officially count toward the wetland mitigation required for the NorthMet Project. However, this passive wetland system would still be a functioning wetland created on the Project property, a highly preferred location for wetland restoration. Natural wetlands produce methylmercury and a constructed wetland will also produce methylmercury. The DEIS text suggests that a passive wetland treatment system “could promote mercury methylation, depending on the mercury and sulfate concentrations in the effluent”. It is not clear whether the word “promote” means that methylation of mercury will occur, or if mercury methylation will be elevated above some background level. If there is a concern that a constructed wetland have enhanced or elevated mercury methylation compared to the functioning of a natural wetland in a non-mining area (i.e., a background wetland), the available field research data indicates that it is unlikely for this to occur. Monson (2007) evaluated a number of constructed stormwater wetlands in an urban area and found that the combined results for all sites indicated that constructed wetlands have methylmercury concentrations similar to natural wetlands receiving agricultural runoff. Monson (2007) also found that the stormwater wetlands were similar to biomonitoring wetlands in regard to methylation efficiency (as measured by %MeHg). Sulfate concentrations in the constructed wetlands ranged from a low of 0.5 mg/L (similar to current background concentrations) to as high as 87 mg/L (considered to be elevated concentrations), but sulfate was not correlated with methylmercury concentrations or methylation efficiency (the percent of mercury that is methylmercury, %MeHg). Preliminary data from PolyMet’s 2009 Sulfate and Methylmercury Investigation indicates that elevated sulfate in water that seeps into wetlands north/northwest of the Tailings Basin does not result in elevated methylmercury concentrations in the streams that drain those wetlands. In other words, methylmercury concentrations in streams draining wetlands that receive elevated sulfate from the Tailings Basin are similar to methylmercury concentrations in streams draining background wetlands with low sulfate concentrations. Similar to the findings of Berndt and Bavin (2009) for the St. Louis River and its tributaries and to a previous review of sulfate and methylmercury data for a number of streams on or near the Iron Range (Barr Engineering Technical Memorandum, 2008), the preliminary results from PolyMet’s 2009 Investigation indicate that sulfate concentration is not correlated with methylmercury concentration and some of the highest methylmercury concentrations were found in streams that drain background wetlands. Based on the available field research data it is unlikely that a passive wetland treatment system would have higher methylmercury concentrations or a greater efficiency of methylation (expressed as %MeHg) than a background wetland or a stormwater wetland in an urban area. Therefore, any decision regard</p>	EOO,WR4B

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7	<p>Exceedence of a Guideline Risk Value The Tribal cooperating agencies state that they want all of the estimated potential human health risks to be below the MDH guidelines at the time an air permit is issued to PolyMet. This stated preference is inconsistent with state and federal risk assessment guidance and misinterprets the incremental risk estimates. Incremental risk guideline values are not “standards” and are not applied in the same manner as ambient air standards. The exceedence of incremental risk guideline values (cancer, 1E-05; noncancer, 1.0) does not indicate that adverse impacts are expected to occur. Rather, the real consequence of an exceedence of a guideline value is to focus attention on risk driver pollutants with regard to the factors that are contributing to the risk estimates (e.g., data used to estimate air emissions, variability in toxicity values) and identifying the conservatism in the analysis. A discussion on the conservatism in the risk estimates is provided in RS38B (AERA – Mine Site, Sections 3, 4.2, 4.4). For example, a primary source of conservatism in the risk analysis is the Maximum Exposed Individual concept that assumes continuous outdoor exposure (24 hours per day, 365 days per year) for a 70-year lifetime. Potential actual exposure would be a factor of 10 or more lower than that assumed for the MEI receptors. As another example, discussed in RS38B, the cancer risk drivers (dioxin/furan and PAH emissions) are associated with diesel truck emissions, and as the Mine Site AERA stated, “[t]he emission factors were developed on diesel fuel formulations in the mid-1990s. Diesel fuel formulations have changed since that time period to make the fuel burn cleaner. The available emission factors are considered conservative and do not reflect the current cleaner burning diesel fuel formulations.” More recent data from the European Union (UNEP Standardized Toolkit for Identification and Quantification of Dioxin and Furan Releases, 2005) reports an emission factor for dioxins that is 18.5 times lower than the one used in these calculations (UNEP factor = <math>7.13 \times 10^{-13}</math> lb/gal; factor from U.S. studies = <math>1.32 \times 10^{-11}</math> lb/gal). An alternative emission factor that is 18.5 times lower than the factor used in the initial emission estimates and risk estimates would result in much lower estimates of potential dioxin/furan risks. Additionally, the risk estimates reported in RS38B were calculated using the toxicity values preferred by the MPCA and MDH. An alternative toxicity value for dioxins/furans is available from the California EPA that is an order of magnitude lower (i.e., less toxic) than the value preferred by the MDH. When this alternative toxicity value is used to estimate potential risks from dioxins/furans, the incremental cancer risk for a farmer receptor decreases proportionally. In the case of the farmer receptor evaluated at the Mining/Industrial District boundary, the use of the California EPA toxicity value for dioxins/furans would decrease risk below 1E-05. In summary, risk guidelines are not bright lines that indicate a health risk problem if they are exceeded. Rather, risk guidelines indicate the need for further evaluation of the inputs to the risk assessment (e.g., emissions estimates, toxicity values, exposure assumptions, etc.). When the conservatism in the risk estimates is taken into account (e.g., MEI concept), adverse impacts to human health are not expected to be associated with emissions from the Mine Site. Therefore, even when the maximum hypothetical farmer incremental cancer risk is estimated to be slightly above the MDH guideline value of 1E-05, the conservatism in the analysis and the knowledge that the use of acceptable alternative values results in much lower risk allows for a reasonable conclusion that risks are acceptable.</p>	EOO

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**Comment ID    Comment Text**

**Theme Codes**

7 Potential Farmer Risk The Mine Site Air Emissions Risk Analysis (AERA) (RS38B) is a screening-level risk analysis conducted with conservative parameters that estimate an upper bound on the level of potential risk at a particular location. The emphasis of an AERA is to estimate potential risk for hypothetical receptors and to be conservative and protective of public health. It is also recognized by federal and state agencies that actual risk to actual receptors can be many times lower (i.e., one to several orders of magnitude lower) than the potential risks estimated for a Maximum Exposed Individual (MEI). The Minnesota Department of Health (MDH) policy is that an incremental cancer risk guideline value of  $1 \text{ E-}5$  be used as a point of comparison to incremental cancer risks estimated for human health risk assessments conducted in Minnesota. As stated in the DEIS, the estimated potential incremental cancer risk for a hypothetical farmer receptor at the Mining/Industrial District Boundary is  $3\text{E-}05$  and exceeds the MDH guideline of  $1\text{E-}05$ . This hypothetical farmer receptor is approximately 2.5 kilometers southeast of the Mine Site emission sources (RS38B; Figure 3-1, Receptor Grid; Figure 3-2, Zoning Districts Boundary). Dispersion modeling conducted for the NorthMet Project Mine Site and for numerous other facilities in “flat terrain” and rural locations indicates that air concentrations decrease with distance from emission sources. As an example, the maximum modeled annual average PM10 concentration in the city of Babbitt (~ 8 kilometers north of the Mine Site property boundary) is two orders of magnitude lower than the maximum concentrations modeled at the PolyMet ownership boundary (near the northeastern corner of the site). Therefore, a receptor that is 6.5 miles (10.8 kilometers) to the north of the Mine Site sources will have lower modeled air concentrations and lower potential human health risks than a receptor located closer to the Mine Site emission sources. The probability that a farmer receptor located 10.8 kilometers from the facility would have higher modeled air concentrations and a higher potential risk than a farmer receptor located 2.5 kilometers to the southeast the Mine Site sources is essentially zero. Because air concentrations decrease with distance from the Mine Site, and because potential risk estimates for the hypothetical farmer are based on maximum modeled air concentrations at the Mining/Industrial District Boundary (a distance of about 2.5 kilometers from the Mine Site sources), scaling of risk with distance can be used to estimate potential farmer risks at some other distance. In this case, using the estimated risk of  $3\text{E-}05$  for a hypothetical farmer receptor 2.5 kilometers from the Mine Site sources, the potential incremental farmer cancer risk at 10.8 kilometers from the facility is estimated to be a factor of 4 lower, approximately  $7\text{E-}06$ . This potential incremental farmer cancer risk of  $7\text{E-}06$  at 10.8 kilometers from the Mine Site is below the MDH guideline value of  $1\text{E-}05$ . Based on the PM10 modeling results that show the concentrations in Babbitt to be 2 orders of magnitude lower than at the Mine Site ownership boundary, it is likely that potential cancer risk to a farmer located 10.8 kilometers north of the Mine Site would be lower than  $7\text{E-}06$ , possibly one to two orders of magnitude lower. However, the potential incremental farmer cancer risk for a receptor 10.8 kilometers to the north of the facility cannot be any higher than that estimated for the farmer receptor 2.5 kilometers from the facility,  $3\text{E-}05$ .

EOO

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8	Some portion of future emissions from this project may be impacted by greenhouse gas (GHG) emission caps and rules implemented under the Midwest Greenhouse Gas Reduction Accord (the Accord). The Project emissions, however, do not influence baseline emission levels or greenhouse gas emissions reduction recommendations proposed under the Accord. The Accord, as the Advisory Group Draft Final Recommendations outline, is based on reductions normalized to a 2005 emissions baseline. As an example, the 2020 target aims to attain carbon dioxide emission reductions of 20% below the 2005 emissions baseline. Because the Project is not part of this baseline, it should not directly or indirectly affect reduction goals defined in reference to this baseline. The mechanism of emission reduction rests on annual allowance distributions (part-auction, part-allocation based on present industry sector emissions), coupled with a cap-and-trade system. As such, this Project has little effect on the Accord other than to potentially increase the industrial sector emissions in the near future, possibly creating an incentive for more allocated allowances to this sector than would happen in the absence of the project. (This increase would only happen if the absolute number of allocations were determined in the time period when the Project was operational, which is not certain.) As time goes on, the number of GHG emission allowances given out and auctioned off will decrease in line with the reduction goal. This goal will not be directly impacted by the Project but will be decided through a negotiated inter-state political process. In the case that the system described in the Accord comes to be the mechanism for GHG emission reduction, PolyMet will have to pay for allowances like every other covered business. In summary, the Project (1) will not affect the emissions baseline; (2) may have a minor effect on the proportion of allowances given to the industrial sector; (3) will not affect the setting of emission goals; and (4) PolyMet will have to obtain allowances like every other covered business.	EOO
9	This footnote does not accurately reflect information provided by PolyMet as stated in PolyMet’s Supplemental NorthMet Project Description – Summary dated July 13, 2007. That document clearly states that this mode of operation would provide significant operating flexibility during changing market conditions and during periods of mandated power usage reductions (as well as during construction/commissioning and maintenance of the Hydrometallurgical Plant). Please see page 2 Of 6 of Supplemental Project Description Summary which describes the benefits of the concentrate mode including: More options will be available to deal with changing market conditions. At metal prices in the expected range, producing the higher value Hydrometallurgical Plant products is more desirable. But unexpected combinations of metal prices, shipping costs or customer situations could result in a circumstance wherein producing a ‘copper’ and ‘nickel’ concentrate may be more desirable. The option to reduce total electrical power load and still produce the ‘copper’ and ‘nickel’ concentrate product will provide the flexibility in managing product mix and power consumption during extended peak power situations and periods of mandated power usage reductions.	EOO
10	4.1-137—“It should be noted that aluminum, beryllium, iron, manganese, and thallium exceeded the groundwater evaluation criteria in the model; however, this was due to high baseline concentrations that were not attributable to the Project and these solutes were not carried forward for detailed transient flow modeling.” If the modeling was not attributable to the Project, what is the significance of the modeling? Explain where these pollutants come from—naturally occurring, from the LTVSMC tailings basin, or from other what other source—and what studies were used to make this determination. Does this statement mean that PolyMet’s mining proposal would add to contaminants that already have high concentrations in the water?	WR4C
11	4.1-143—“The deterministic modeling results suggest that three parameters (i.e., arsenic, cobalt, and selenium) could exceed surface water standards, in addition to relatively high sulfate concentrations. The Uncertainty Analysis for the Proposed Action suggests that copper and nickel could be underestimated by the deterministic modeling.” What are the cumulative effects of these water quality exceedances? How is the uncertainty going to be addressed? The EIS process must include the cumulative impacts of the metals and parameters that are listed within the DEIS.	WR5A

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
12	4.1-143—"The deterministic modeling results suggest that three parameters (i.e., arsenic, cobalt, and selenium) could exceed surface water standards, in addition to relatively high sulfate concentrations. The Uncertainty Analysis for the Proposed Action suggests that copper and nickel could be underestimated by the deterministic modeling." What are the cumulative effects of these water quality exceedances? How is the uncertainty going to be addressed? The EIS process must include the cumulative impacts of the metals and parameters that are listed within the DEIS.	WR5A
13	4.4-9—"Consultation between the USACE and the USFS regarding the potential effects on federally – listed species is currently ongoing." Will this go on until those species are extinct? Explain the parameters of ongoing.	AQ6
14	4.4-10—"The Project would generate approximately 970 (948 vehicle and 22 rail) trips per day, totaling about 3,989 miles, between the Mine and Plant Sites. ..An additional 3,930 miles per day of vehicular traffic are expected within the Mine Site itself, primarily to haul ore to rail siding and waste rock to the stockpiles." Are these miles included in both carbon and particulate emissions for the mining operation? What is the economic liability of so heavily relying on equipment that uses expensive fuels while emitting pollutants that contribute to global warming and haze? These issues need to be addressed. The weather patterns being exhibited while this DEIS is going through the comment process indicate that global warming (rain and ice in northern Minnesota in January) or some large kind of global change 9 is in progress. The mining of low grade ores (less than 1%) as assayed by PolyMet exploratory drilling, which literally means mining 99% waste rock, puts this project at particularly high risk to fail in the economic market place. The use of large amounts of expensive, carbon producing fuels will be another liability. Please address this under socioeconomic impacts.	AQ3,AQ4,EOO,AQ4
15	4.6-7—"Due to the remote location of the Project, compliance can be demonstrated with a pollution control equipment efficiency of 85%." Ouch! Because metallic sulfide mining would take place in a fairly remote area, we can pollute that area to be in compliance with the rest of our polluted air (Minnesota rules 7011.0710)? The PolyMet EIS process must explain who is responsible for the above rule, and why those who live in northeast Minnesota should accept the logic behind this rule.	EOO,AQ4
16	4.6-7—"Various state and federal air quality standards and emissions standards have been established to minimize degradation of air quality." The PolyMet EIS process must justify why it is worth degrading the air quality of the Arrowhead Region.	AQ4
17	4.6-10—"Small amounts of toxic emissions known as Hazardous Air Pollutants (HAP) are expected to occur throughout the Project." The PolyMet EIS process must spell out the health hazards of the cumulative impacts of HAP.	AQ6
18	The PolyMet DEIS begins with a quandary. The DEIS does not state where the third party processing would take place. However, the DEIS jumps to the conclusion that the "processed resources" would help meet domestic demand by sale to domestic markets. At the Aurora DEIS hearing, a company rep stated that all of the inquiries that he was receiving in regard to the metals were for possible shipment to China. Therefore the DEIS statement "The processed resources would help meet domestic and global demand by sale of these products to domestic and world markets" should read "The processed resources would help meet global demand by sale of these products to world markets, and domestic demand by the purchase of these metals in the world marketplace." This would mean that Minnesota metals which are mined by a Canadian company which has an agreement with an international company headquartered in Switzerland (Glencore) will become a domestic source only if someone in the U.S. buys that metal, or a product containing that metal , back from Canada or some other country. The use of the word "domestic" in the PolyMet DEIS creates a false need for the mining of these metals. This falsity needs to be corrected as above.	G9
19	4.6-11—"Ozone emissions were not modeled or analyzed for NAAQS due to the regional nature of ozone formation involving complex interaction of multi-pollutants." The PolyMet EIS must specify which pollutants are interacting within the region, and the possible health damages of a sulfide mining district, including PolyMet.	AQ4,AQ6

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Comment ID	Comment Text	Theme Codes
20	4.6-20—Sulfur and nitrogen deposition was analyzed for its impacts on the wilderness. This analysis is not complete by taking PolyMet as an isolated case. This analysis is totally without merit unless taken as part of a cumulative impact with Mesabi Nugget and the Peter Mitchell mine. The PolyMet DEIS is inadequate in portraying PolyMet as an isolated mine project. PolyMet is the first in line to get permitted for metallic sulfide mining, shares former taconite property with Mesabi Nugget, and borders the taconite mining band of minerals. To present this DEIS analysis in a way that narrows the potential impact of metallic sulfide mining in order to appease political appetite for industry and perceived economic benefit, discredits the entire regulatory process of the state of Minnesota.	AQ4B
21	4.6-27—“The MEI multi-pathway cancer risk estimated was estimated to be 3 E-5 for farmers using the Mining/Industrial District Boundary. This is above the MDH additional lifetime cancer risk guidance level of 1 E-5.” The PolyMet EIS process needs to explain how it would educate farmers about these risks. Who else might be exposed to carcinogenic pollutants as part of this mining project?	AQ6A
22	4.6-31—The EIS process must explain how the Barr Engineering CO2 sequestration loss figures were calculated.	AQ3
23	4.6-32—“However, while energy use is reduced by one-half, greenhouse gas emissions do not decline per unit of production from what would be expected...principally because of the large load of nonenergy process emissions associated with hydro processing.” How could a cap and trade policy or carbon tax affect the economic viability of this plant? Since this process is based upon a small pilot study done in Canada, what is the economic liability of this plant not operating in an economically efficient of a way as proposed? Give details. Consult with an independent economic analysis agency. Place these studies under socioeconomic impacts. The hydrometallurgical plant will take approximately two years to construct, once PolyMet or the company that buys PolyMet attracts enough investment money to begin such construction. PolyMet earlier asked for the option of hauling a bulk concentrate from the site, prior to plant construction. Where is this addressed in the DEIS? According to NEPA, all options need to be addressed. What is the economic liability of transporting bulk concentrate rather than semi-processed metals in hydroxide form? Why isn't the cost comparative stated in this DEIS? Give details. Would copper be able to be electroplated on site without going through the autoclave process? Explain. How would the acid mine drainage trail of railing and shipping bulk concentrate be addressed? Explain.	AQ3,AQ4
24	.6-33—What is the cost of using electric drills in comparison to diesel drills? How expensive are Gen- Set locomotives? How has access to the amount of electricity and natural gas required been determined and spelled out for the public, who will be impacted by increased costs of these sources of energy as the 11 demand for these sources of energy is multiplied exponentially if a new mining industry is allowed to start up? What guarantee is there that PolyMet would buy this more expensive electric equipment once the project has been permitted? Explain how the agencies can enforce using technology that emits the least amount of green house gases. Explain how the electric company would then absorb that portion of PolyMet's carbon impact.	AQ3
25	4.6-33—“This additional mitigation of wetland types other than Type 8 (open and coniferous bog) would contribute to compensating for the Project's impacts on Type 8 wetlands.” Which agency, and under what laws and rules was it determined that it is ok to lose open and coniferous bogs as long as they are replaced by other types of wetlands? How was it determined that wetland replacement for PolyMet could be made out of the county and out of the watershed? How will wetland mitigation in a different county compensate for carbon sequestration loss in St. Louis County? The PolyMet EIS process must explain how Minnesota laws are being followed, and how the mitigation plans will be of benefit to St. Louis County, especially in regard to climate change.	AQ3
26	4.7-1—“The region has traditionally supported various mining activities as well as logging on federal, state, county, industrial, and private forest lands..Review of aerial photography and public records indicate that there are few noise sensitive areas or receptors such as residences, campgrounds, and national wilderness areas within the Project vicinity.” What tests determined that noise won't be heard in the Boundary Waters 20 miles away? How do you determine effects of noise by sight rather than by sound (aerial photographs)? Show other studies that have used aerial photography to determine the effects of noise pollution and show data that indicates whether or not these studies were accurate indicators of the effects of noise on wilderness, tourism, workers, and wildlife. Was it determined that more noise is ok because there has traditionally been noise in the area? How does 24 hour a day noise affect the character of the land?	N1,N4,AQ4

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26	S-9—"There is some uncertainty as to whether the West Pit overflow would meet the Lake Superior mercury standard, but this impact could be mitigated if it would occur." The EIS process requires a plan that will allow the St. Louis River watershed to achieve mercury TMDL standards.	WR3I
26	4.10-2-4.10-4—Explain why the East Range cities are compared to the county and the state, rather than to the other Range cities. Comparing the Range to the State is comparing apples to oranges. When the whole county is included, that includes Duluth. Former mining towns should be compared with remaining mining towns in order to get a true comparison.	SE8
27	4.10-18—Public Finance Tax figures are misleading, because they don't account for swings in metal production. During the 34 years of my teaching career, the taconite industry suffered a major downturn in the 1980's, followed by major downsizing of the workforce. This was followed by a boom period during the 1st decade of 2000, culminating in the depression of 2008-9. School population continued to decline during the 34 years of my teaching career, even though the Virginia school district was surrounded by mining on 3 sides. Iron Range school districts continue to consolidate, even though taconite mining was at 90% full production prior to 2008. Mining has become machinery intensive. As the workforce declined, the socioeconomic gap among student families widened. My own experience as a classroom teacher confirms the conclusions of "Mining the Data: Analyzing the Economic Implications of Mining for Nonmetropolitan Regions" by William R. Freudenburg and Lisa J. Wilson: "...even when higher incomes are associated with mining, those incomes do not prove sufficient to alleviate the problems of poverty and unemployment so often associated with mining-dependent regions." ( <a href="http://f1.grp.yahooofs.com/v1/ENZkSxa3NFFHTojilcbN4n44UA58lcGsURC_p3AujquU40qIHZFjc7hqOYoi0nkIr3QSj_k-FyAj70YhttowcloYXFmy-6jbA/Freudenberg%20article.pdf">http://f1.grp.yahooofs.com/v1/ENZkSxa3NFFHTojilcbN4n44UA58lcGsURC_p3AujquU40qIHZFjc7hqOYoi0nkIr3QSj_k-FyAj70YhttowcloYXFmy-6jbA/Freudenberg%20article.pdf</a> ) (Paper copy included with mailed-in comments.)	SE3
28	4.10-27—"The beneficial effects include increased employment opportunities, a larger tax base, and increased county revenue from property taxes." County and state government continues to push for mining because of tax revenues and a tax base. From my experience as a classroom teacher, I would argue that the current mining economy of the Iron Range has created an entire layer of people receiving public assistance who choose to live here because the cost of living, especially housing, is cheaper. Fewer mine workers, due to more machinery, have left older housing on the market that is used for rental property. In the meantime, Range towns continue to dwindle in size and services, while local leaders have promoted big box stores and other highway sprawl marketing. Agency personnel who complete this part of the DEIS are no doubt isolated from the full view of the Iron Range socioeconomic structure. As a former classroom teacher, I am well aware of the Iron Range gap between the higher and lower income levels. I am well aware of this because during my own school days on the Iron Range, the majority of us were in the middle of a blue collar working class society. The middle no longer exists. In its place is a narrow top income layer and a wide bottom income layer. The opening of a metallic sulfide mining district is not the answer to economic woes. This is explained in the entry below: From Wikipedia, the free encyclopedia "The resource curse (also known as the paradox of plenty) refers to the paradox that countries and regions with an abundance of natural resources, specifically point-source non-renewable resources like minerals and fuels, tend to have less economic growth and worse development outcomes than countries with fewer natural resources. This is hypothesized to happen for many different reasons, including a decline in the competitiveness of other economic sectors (caused by appreciation of the real exchange rate as resource revenues enter an economy), volatility of revenues from the natural resource sector due to exposure to global commodity market swings, government mismanagement of resources, or weak, ineffectual, unstable or corrupt institutions (possibly due to the easily diverted actual or anticipated revenue stream from extractive activities)." The socioeconomic chapter must include an independent cost-benefit analysis that includes environmental, social, and governmental impact of metallic sulfide mining.	SE3

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29	4.11-3—Explain how waste rock stockpiles (maximum height 320 feet) will not have a visual effect upon the project area. Explain how replacing 6,700 acres of Superior National Forest with open pits and waste rock piles will not impact the visual character of the Project Area. “The project would increase the scale of disturbance in the region; however, mining activity is a longestablished aspect of the Iron Range landscape and the addition of the proposed mining facilities would not introduce visual elements to surrounding viewpoints that are in stark contrast to the regional visual character.” The above statement is incorrect, and needs to be corrected. The sulfide mining district is not within the Iron Range. It borders the Iron Range, and PolyMet’s proposed mine would be situated within what is now Superior National Forest. The mine site would be situated approximately 20 miles from the BWCAW.	EOO
30	Any of the impacts stated within the DEIS are meaningless because of continued exploratory leasing, which would open up the entire Arrowhead to become a sulfide mining district. Exploration itself is playing havoc with wildlife habitat and water quality. An EIS must be completed on the mineralization of the entire Duluth Complex prior to the permitting of any one project. The agencies are knowingly misrepresenting metallic sulfide mining as individual operations rather than one complete district because that is the only way that sulfide mining can get permitted in the state. The overall impact of metallic sulfide mining would greatly exceed water and air quality standards and would not be acceptable due to its impact upon the Boundary Waters Canoe Area Wilderness. This is a travesty to the general public and to the integrity of this area for future generations	G8C
30	Chapter 5—Explain the rationale behind choosing to pollute the Partridge River rather than the Embarrass River.	RFI
31	Details of all sulfide mining exploration and findings must be presented to the public for comment as a complete sulfide mining district. Since the DNR Lands and Minerals Division has complete access to all records, the scope of mining exploration and the potential for opening other mines must be presented to the taxpayers who fund the DNR Lands and Minerals Divisions. The potential degradation of the Arrowhead Region, its waters, land, and air, and the extent of the Duluth Complex as it is being advertised as the largest body of mineralization in North America must be made known to the public. The public must be informed that 99% of this body of mineralization would be waste rock. The amount of waste rock that would be generated must be presented to the public in a way that they can comprehend, because it would be enormous. The demand for these metals must be put in the context of worldwide demand, as none of these companies are American companies and none of the metals mined would be considered a domestic source or supply. This must be clearly stated within the EIS process under socioeconomic impacts. It must be made known to the public that the profit figures advertised in regard to mining the entire Duluth Complex are figures that would go to foreign companies and whomever their investors might be, ultimately leaving the Arrowhead Region devoid of minerals, forests, wetlands, wildlife, clean water, and jobs.	G8
32	The USFS must also explain the land exchange process that is taking place in order to comply with PolyMet’s request to mine in Superior National Forest. This is public land, and the land exchange process requires public input according to law. Since the USFS was remiss in completing an EIS on lands within the mining exploration zone, then the PolyMet DEIS must incorporate this environmental review into its process. This process cannot rely on legislation that the USFS and PolyMet have requested U.S. Rep. James Oberstar and U.S. Senator Amy Klobuchar to introduce. Such legislation would bypass public input on public lands, would exclude federal laws protecting threatened and endangered species, would bypass 100 years of federal law by which land was added to Superior National Forest with the intention of protecting the watersheds, and would exclude tribal rights. It is unfair of our state and federal agencies to ask our federal legislators to introduce legislation that is highly unethical.	PD1
33	S-11 under Cumulative Effects—“General increase in air emissions, however, no significant effect on regional air quality.” The EIS process needs to give a qualitative definition for significant and a description of air without emissions.	AQ4
34	This mine plan is based upon the plans of current taconite mines, which we know are leaching metals and contaminants into our groundwater, and polluting our air. This DEIS does not explain how PolyMet’s new, cutting edge, next generation technology, as advertised on radio, protects our environment.	PD8



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35	This DEIS does not address health concerns of cumulative impacts regarding the following: flocculent chemicals, hydrometallurgical chemicals, water treatment chemicals, and toxic heavy metals. The cumulative effects need to include contaminants already in the Partridge and Embarrass Rivers, along with potential new contaminants from PolyMet, and from Mesabi Nugget which shares the LTV site with PolyMet. Synergistic effects must be included. Any hormone disrupters must also be singled out.	CR1
36	The DEIS lacks a separate chapter for politicians, who have backed the opening of a metallic sulfide mining district in Minnesota without knowledge of the science behind the mining and the pollution. Politicians, as well as average citizens, do not have the time to make their way through the PolyMet DEIS. Our local politicians have stated over and over again that they are relying on the agency process to make sure that this mining is done right. The agencies, assisted by independent, non-conflicted review, need to spell out for the politicians the pros and cons of mining low grade sulfide ores in northeast Minnesota's water rich environment and also where the responsibility for polluting the Arrowhead Region of Minnesota will lie.	EOO
36	The PolyMet DEIS shows that PolyMet will pollute the watershed, we just don't know exactly how much. There is nothing in this DEIS that shows how that pollution can be stopped—only mitigated to some extent. There is no way to enforce any treatment. The process is open ended, especially closure plans, depending on what actually happens on the ground rather than on charts. The DEIS is inadequate without a chapter that summarizes the extent and kinds of pollution that can be expected and how to address them.	WR1E
37	This DEIS is neither adequate nor complete. This DEIS process needs to be halted for the public good, based upon the fact that the permitting of PolyMet would indicate regulatory agency approval for the opening of a sulfide mining district in the Arrowhead Region of northeast Minnesota.	G8
37	There is little evidence that PolyMet has the finances to actually complete its mining plan, let alone clean up the pollution that the DEIS suggests will occur. This DEIS does not set forth responsibility for clean-up of acid mine drainage that would be passed from company to company, from agency to agency, from generation to generation.	G4A
38	S-11—"If water quality monitoring demonstrated the need, treatment of the pumped seepage could be provided prior to discharge to the Partridge River." What would the treatment consist of and what impacts might the treatment itself have upon the water quality? Who does the monitoring, how often would the monitoring be done, and how would treatment be monitored? How would clean-up be enforced? Explain.	WR1A,WR3C
39	3.2-1--Explain who made the decision, as stated at the PolyMet DEIS hearing in Aurora, that the No Action Alternative was only being used as a point of comparison. If the No Action Alternative will receive no action, then the EIS process must define the purpose of an EIS and state which laws it is following.	ALT8
40	We ask that the No Action Alternative be chosen after evaluation of the Northmet Project Draft Environmental Impact Statement. The basic assumption in the DEIS that the land involved will be exchanged with the US Forest Service and the fact that the analysis in this DEIS assumes that to be a fact is misleading and irresponsible and seems to side-step the issues involved in use of public land and mineral ownership.	PRO8
40	As residents of northern Minnesota for over 34 years and as active citizens who have spent the majority of our work lives here and pay taxes and contribute to the economy, we are concerned about the safety of this project and its potential impacts on Minnesota's natural resources and the quality of life for residents of this area.	G2
41	The PolyMet DEIS describes significant environmental issues associated with this proposed mine including water quality, heavy metals, invasive species, and major landscape changes that will last far beyond the 20 year life span of this operation. These issues should be resolved before this mine is approved by the Minnesota Department of Natural Resources and the U.S. Army Corps of Engineers.	EOO

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Comment ID	Comment Text	Theme Codes
41	We understand that PolyMet proposes to use an existing mine tailings basin for the disposal of its tailings and toxic materials – but that the basin already has stability issues making it unsafe. Any failure of this basin to hold its contents would result in long-lasting and serious contamination. PolyMet should complete a stability analysis of the basin and devise an acceptable design before being able to proceed with this project. The analysis cannot assure water quality protection. A sample of statements implies that problems are inherent in the mining process. Page 3-4 states waste rock must be kept in a subaqueous environment to reduce environmental impact associated with oxidation and decomposition of sulfide mineals. Page 3-39 states that the West Pit will flood in 65 years with overflow to the Partridge River. Page 3-14 states there will be leaching of heavy metals in all categories of waste rock. Page 4.1-21 admits that tribal entities have issues with wetland assumptions made in this document. The PolyMet project is “data-poor in the areas of basic hydrology” (pg 4.1-21).	WR1E,WR2D,GT2
42	While PolyMet continues to pursue a land exchange with the USFS to acquire the surface ownership of approximately 6,700 acres of national forest land, it should be specifically noted that PolyMet is of the opinion that, pursuant to the mineral reservations on the lands which they have obtained mining leases, PolyMet has an absolute right to conduct mining operations including open pit or surface mining without acquiring surface ownership to the USFS lands. The mining reservation contained in the “Duluth” deed in Vol. 640 of Deeds, page 39, which deed encompasses all but three 40-acre tracts within the proposed mine site, specifically provide that the mineral owner has the right “. . . to cave, disturb or remove the soil or surface of said lands or any part thereof, and do any other matter or thing which may be necessary or convenient for carrying on an oil, natural gas, or a mining business upon, in, and under said premises, . . .” Applicable case law relating to the interpretation of mineral reservations supports PolyMet’s position that it has the right to conduct surface operations without acquisition of the USFS surface rights. PolyMet is of the further opinion that on the three 40-acre tracts which are subject to the “Longyear” deed, the deed to the United States being recorded in Vol. 639 of Deeds, page 353, PolyMet has the right to conduct surface mining on said tracts without acquiring the surface ownership. PolyMet retains the option to seek declaratory relief in Federal District Court to have the Court determine it has the right to mine the surface of the USFS lands without the necessity of acquiring said surface rights. A court decision in favor of PolyMet would not only affect the lands currently under lease to PolyMet but would affect a large number of other lands located within the Superior National Forest. In fact, a decision in favor of PolyMet could affect important forest lands throughout the national forest system which have mineral reservations with language identical or similar to that of the PolyMet mineral reservations. PolyMet remains confident that if such an action were commenced by PolyMet that they would prevail in such an action.	EOO

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**Comment ID    Comment Text**

**Theme Codes**

42 PolyMet strongly disagrees with the Tribal cooperating agencies' position that the results from the MODFLOW model outside the mine pit footprint are unsupported by data because the model was developed to assess the rates of mine pit inflow. The modeling objective of determining groundwater inflow rates to the pits does not mean that model results outside of the footprint of the pits are not supported by data. The hydrologic data and associated hydrologic/hydraulic modeling used to assess baseline conditions and impacts of the NorthMet Project on the Partridge River flows is comparable or superior to that used in the EIS of two other sulfide ore mining projects in the Upper Midwest (i.e., the Crandon and Eagle projects):

- It is important to make a clear distinction between data available and data actually used to predict hydrologic impacts. Some of the hydrologic
- If the goal of the impact assessment is to predict changes data available for the environmental evaluation of the Eagle and Crandon projects (per John Coleman, GLIFWC email communication to Stuart Arkley, MDNR dated October 30, 2008) was not actually used in predicting hydrologic impacts of these two projects; the data was simply listed as available.

in flow statistics, there is no doubt that it is more appropriate to do such assessment based on a 10-year continuous record of flows in the study watershed than based on scattered instantaneous flow measurements. The first reason is that a larger sample size will produce more robust estimates of the statistics characterizing a process (e.g., mean, standard deviation). A second reason is that a continuous record eliminates the potential bias of instantaneous ("spotty") weekly or monthly measurements being assumed as representative of mean values over a week or a month. Even more critical, these instantaneous measurements do not help to represent the intrinsic temporal variability of the flow hydrograph at a given study location. More specifically regarding the data for the Crandon and Eagle projects:

- o Data used for predicting impacts of the Crandon project consisted of at most 3 years of weekly instantaneous flow measurements at 7 locations (in some locations, flow measurements were over a period of 3 months only) and 3.5 years of continuous flow data at one location (versus 10 years of continuous flow data at one location for the NorthMet Project EIS).
- o Data used for predicting impacts of the Eagle project consisted of one year of continuous flow measurements at 4 locations (versus 10 years of continuous flow data at one location for the NorthMet Project EIS).
- Flow data collected by the USGS is generally considered more reliable than that from other parties because of the strict stream flow measurement protocols used by the USGS to develop accurate continuous flow measurements. The data used for the NorthMet Project EIS is exclusively from the USGS, whereas the source of the data used for the Crandon and Eagle projects is not the USGS in any cases except for one monitoring location.
- The 10-year continuous record of flows in the Partridge River from the USGS Station above Colby Lake represents a good record of hydrologic conditions that span a range of climatic conditions. As discussed in RS73B and also in the NorthMet Project EIS, this period of record includes wet, average and dry years. The average precipitation for the Mine Site over this 10-year period was nearly identical to the 30-year climate normal precipitation, and the period included the second-wettest and fifth-driest years from the climate normal period. The shorter records and/or instantaneous flows measurements used to evaluate impacts of the Crandon and Eagle projects do not capture the same degree of climatic and stream flow variability. The stated goal for the streamflow modeling in the Final Scoping Decision Document is for a model period (extended if necessary) that is "long enough to include both wet and dry climatic conditions." The 10-year p

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<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
43	<p>Treatment wetlands, sometimes referred to as constructed wetlands, have been studied and used extensively for the treatment of many types of water. The U.S. EPA estimates that over 1,000 constructed wetland treatment systems are currently in operation in the U.S., treating a wide range of waters. Given this broad range of experience with treatment wetlands, it is highly likely that a wetland treatment system can be designed that would be capable of providing any additional treatment capacity that may be needed for the water that will eventually discharge from the West Pit to the Partridge River during post-closure. The water quality of the West Pit after filling has been calculated for two different mining scenarios using two different calculation methods. The results of these efforts suggest that the water quality of the West Pit will meet, or approach the potential applicable water quality discharge limits that would apply to the West Pit overflow. Several mitigation techniques have been described in the DEIS to help achieve the goal of meeting water quality discharge limit in the West Pit prior to overflowing. In addition, several other methods of further mitigating any potential impacts associated with discharging this stream to the Partridge River were considered in the DEIS. One mitigation method would be to construct a treatment wetland along the proposed flow path from the West Pit to the Partridge River. Current modeling suggests that this water would be relatively low in organic matter (unless it is augmented during filling) but may contain low concentrations of some dissolved inorganics such as arsenic, antimony, or cobalt. At low concentrations, these compounds are readily transformed to insoluble components or adsorbed to the organic matter created in wetlands, thus improving water quality. Because wetland systems are natural, growing systems, they replenish themselves and can operate with little or no maintenance. If they are designed properly (i.e. not overloaded) they can operate indefinitely. However, some minimal monitoring or maintenance is suggested, primarily to monitor changes in other natural factors, for example long-term changes in climate or the influence of beavers. In summary, if necessary, a constructed/treatment wetland would be a viable option for a final treatment of the overflow water from the West Pit as it flows toward the Partridge River.</p>	EOO
44	<p>During development of the preliminary design for the Hydrometallurgical Residue Facility, the MDNR and PolyMet specifically discussed the design of the cell cover system and the potential need for long term management or potentially management in perpetuity of liquid recovered from the cell drainage collection system. This drainage would result from the small amount of infiltration that could occur through the single geomembrane barrier component of the cell cover system that was initially proposed, while being prevented from escaping the cell by the composite liner system. To minimize the infiltration to the maximum extent practicable, PolyMet subsequently proposed supplementing the cover systems' geomembrane barrier layer with an underlying geosynthetic clay layer. This composite cover system design is the basis for the hydraulic flow modeling on which the 34 year timeframe estimate is based. Furthermore, this composite cover system design, which exceeds regulatory design requirements for industrial solid waste management facilities and designs normally implemented in the State of Minnesota, will minimize the potential for future infiltration by providing a final cover system with performance matching or exceeding the performance of the liner system, and will thereby minimize and likely eliminate long term drainage management requirements after operating water is collected from the cell.</p>	EOO

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45	<p>The existing groundwater quality at the Mine Site already shows that the groundwater in this area of the State does not meet water quality standards for parameters such as iron, manganese, and aluminum. The results presented in Table 4.1-45 show that the existing parameters that do not meet groundwater quality standards at the Mine Site will continue to not meet those standards. In addition, the results presented in Table 4.1-45 represent one method of calculation (deterministic) for one of the alternatives (Proposed Action) considered in the DEIS. The deterministic method used to calculate these values was based on several conservative assumptions for the leakage through the cover of proposed waste rock stockpiles and conservative assumptions for the load that would be generated from the waste rock. Additional calculations, using the uncertainty analysis method and included in the DEIS demonstrated that for several of these parameters the values calculated using the deterministic method were overly conservative, even for the Proposed Action. Moreover, the results of these calculations helped to guide the development of the Mine Site Alternative, in which the Category 2, Category 3, and Category 4 waste rock would be placed in the East Pit during backfilling, rather than being left in above ground stockpiles. The development of this alternative eliminates the Category 2, Category 3, and Category 4 waste rock stockpile leakage. Thus, while the results of the calculations presented in Table 4.1-45 suggest that potentially adverse impacts to groundwater quality could be possible, given very conservative assumptions, even these limited impacts were enough of a concern to PolyMet and the permitting agencies to consider and ultimately develop a Mine Site Alternative that significantly reduces the potential for even these marginal impacts to occur.</p>	EOO
46	<p>The MODFLOW models used in the evaluation of impacts from the NorthMet project are more than adequate for making the predictions they were designed to evaluate, specifically groundwater inflow rates to the mine pits and base flow reduction in the Partridge River as a result of pit dewatering. The position statement represented in this footnote incorrectly implies that there were “conclusions” from the USGS report and the subsequent meeting (February 26, 2009) that could be implemented. This was not the case. The USGS report suggests ways in which uncertainty could be evaluated using the MODFLOW model and the suitability of the existing model for use in an uncertainty analysis. Further, the referenced meeting did not have participation by all necessary parties for decisions or conclusions to be made; notably no state agencies were represented. The meeting discussed ways in which wetland impacts could be evaluated for future mining projects, and used the NorthMet project as an example, but was not focused on additional work that could or should be done on the NorthMet project, as the footnote implies.</p>	EOO
46	<p>The MODFLOW model provides credible predictions for the type of analyses it was designed to perform, specifically the prediction of groundwater inflow rates to the mine pits and the reduction in baseflow within the Partridge River as a result of pit dewatering. The presence of ammonia in the bedrock well is discussed on page 4.1-11. As stated there, the presence of ammonia is attributed to either collection or laboratory error as the only two samples with hits of ammonia were collected on the same day and both were from 6-inch diameter boreholes that had collection difficulties. Further, there was no nitrite or nitrate found in these samples (these are the forms of nitrogen to which ammonia quickly converts). The lack of nitrite or nitrate indicates the ammonia was recently introduced and there is no on-going source of ammonia.</p>	WR4C
47	<p>The vast majority of the Virginia Formation wall that will be exposed during mining operations will be inundated during the backfilling and flooding of the East Pit. Lime will be included with the water that is used to flood the East Pit and will be directed to the Virginia Formation wall. This process will flush any salts from oxidation of the pit wall into solution where it will be neutralized. The neutralization of these salts in solution is a well understood and well documented chemical process that can be both monitored and controlled during the East Pit backfilling operations and during closure operations. In addition, sub-aqueous disposal of potentially reactive rock is also well documented. Thus, the effectiveness of this proposed operation is well documented and understood. Moreover, as noted, water quality predictions for both the Proposed Action and the Mine Site Alternative were calculated using two different methods – the deterministic method and the uncertainty analysis – which provided a very conservative range of water quality predictions. The basis for establishing both of these calculation methods were developed in cooperation with the permitting agencies and provide a more than adequate range of potential results for consideration of this project.</p>	EOO

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Comment ID	Comment Text	Theme Codes
48	<p>DEIS text is misleading in Section titled "Virginia Formation High Wall" when it states that the method for reducing oxidation and metal leaching from overburden has not been demonstrated. As commented in PolyMet's review of the July 31, 2009 PDEIS, it is not clear from this statement which part of this mitigation measure has not been demonstrated. The geomembrane cover will protected the area from the top of the bedrock wall down to the water table from further exposure to precipitation and erosion, thus limiting oxidation and solute leaching in this area. The wall rock below the water table will be subaqueous, thus limiting oxidation and solute leaching. Both of these methods are proven methods of limiting oxidation and further leaching; each of these methods is described in more detail below. The mitigation measure is depicted on DEIS Figure 3.1-41 and described in Section 3.1.7.2 (Reclamation of Mine Site, Mine Pit – East Pit Category 4 Foot-Wall Cover). It includes the use of a limestone layer applied directly to the face of the Virginia Formation, an overburden core, and capping with a geomembrane cover that extends from the overburden above bedrock to the waste rock four to eight feet below the water table. Geomembrane cover The application of a geomembrane cover for reducing oxidation and solute leaching from precipitation on waste rock stockpiles has been well demonstrated and documented at other mines by several researchers including the EPA, the Corps of Engineers, and the MDNR. The MDNR research at the Dunka Mine shows that, even with improper installation, geomembrane caps significantly reduce solute leaching (Eger, Antonson, and Udoh, 1990). Capping with a geomembrane is also the traditional approach to reduction of oxidation and solute leaching at landfills and other solid waste disposal facilities. Subaqueous Disposal The wall rock that is below the design elevation of the wetland would be subaqueous and therefore not exposed to oxidizing conditions. This is a thoroughly demonstrated method of limiting oxidation and solute leaching. Exposed Area The design elevation of the East Pit wetland is based on the estimated elevation of the long-term groundwater levels, which is estimated to be approximately 10 feet below the existing groundwater levels, as described in the DEIS (Sec. 4.1.3.1 Proposed Action, Groundwater Resources, Mine Closure and Post-Closure, page 4.1-63). The water level in the East Pit will be relatively stable, because it will be controlled by the long-term groundwater level and the East Pit outlet structure. As shown in Figure 3.1-41 from the DEIS, there will be an estimated four feet of bounce within this wetland. In order to maintain the East Pit as a viable wetland, this bounce may need to be reduced to a few feet. The East Pit wetland will be optimized during detailed design prior to closure to minimize the bounce in this wetland, based on a better estimate of the long-term water table elevation. Therefore, the wall rock exposed to this 2-4 foot water level fluctuation will be the only area exposed to oxidation and solute leaching. Summary The area above the water table would be protected from further exposure to precipitation and erosion by the geomembrane cap, which has been thoroughly demonstrated, and the area below the water table would be subaqueous, which has also been thoroughly demonstrated as effective. Therefore, this mitigation measure provides thoroughly demonstrated methods of limiting long-term oxidation and solute leaching from the pit wall rock to the area exposed to the water level fluctuation of the East Pit wetland. Reference: Eger, Paul, Dave Antonson, and Francis Udoh. 1990. Stockpile Capping Report. Minnesota Department of Natural Resources: Division of Minerals. February 1990</p>	EOO
49	<p>As noted previously, the results presented in Table 4.1-45 represent a small portion of the water quality calculations prepared for the consideration of this project. As provided in the comment on Footnote 14 in Section 4.1, during development of the preliminary design for the Hydrometallurgical Residue Facility, the MDNR and PolyMet specifically discussed the design of the hydrometallurgical residue cell cover system and the potential need for long term management of liquid recovered from the cell drainage collection system; just like what already occurs as standard operating procedure at scores of existing landfills in the State of Minnesota. This drainage would result from the small amount of infiltration that could occur through the single geomembrane barrier component of the cell cover system that was initially proposed, while being prevented from escaping the cell by the composite liner system. To minimize the infiltration to the maximum extent practicable, PolyMet subsequently proposed supplementing the cover systems' geomembrane barrier layer with an underlying geosynthetic clay layer. This composite cover system design exceeds regulatory design requirements for industrial solid waste management facilities and designs normally implemented in the State of Minnesota, will minimize the potential for future infiltration by providing a final cover system with performance matching or exceeding the performance of the liner system, and will thereby negate any requirement for an on-site treatment operation beyond the anticipated period of site closure operations.</p>	EOO

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Comment ID	Comment Text	Theme Codes
49	In PolyMet's review of the July 31, 2009 PDEIS it was suggested clarifying that steady state modeling used highest predicted liner leakage rates (corresponding to an open stockpile) paired with highest predicted seepage concentrations (typically corresponding to a closed stockpile). This combination results in an impossibly high mass release of constituents to the environment. This change was not incorporated into the published DEIS.	WR2E
49	In summary, it is clear that both PolyMet and the permitting agencies recognized that the potential need for long-term water treatment at the Mine Site was undesirable. As a result of this concern, both PolyMet and the permitting agencies expended significant additional time and effort to develop a Mine Site Alternative and additional mitigation and monitoring activities for the express purpose of developing a project 'with the end in mind' of not needing long-term water treatment.	EOO
50	In PolyMet's review of the July 31, 2009 PDEIS it was noted that PolyMet does not agree with the approach used to define the pH range in the uncertainty analysis for the Category 1 and 2 waste rock stockpile. For the Category 1 Waste Rock Stockpile it is unlikely that the leachate pH will fall below 8.0. As reported in RS82 Draft-02 (February 2009), the humidity cell leachate pH observed for this type of waste rock stabilized for all samples between 6.5 and 7.5. When these results are scaled to the waste rock size (larger rock) and liquid to solid ratio (less liquid) expected for the stockpile, the corresponding pH of the stockpile leachate will be above 8.0 (see RS53/42 pg. 57, March 2007). The pH will be buffered by weathering of silicate minerals to produce carbonate alkalinity. However, PolyMet used the pH range of 6.6 to 8.0 in the uncertainty analysis because MDNR Division of Lands and Minerals requested this range for the analysis. PolyMet believes that the use of an uncertainty multiplier for the concentration caps, as applied in the analysis of the Category 3 Lean Ore stockpile, is more appropriate.	WR1E
51	Please see response above to Page 4.1-50, Footnote 11.	EOO

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<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
52	<p>The model was calibrated to water levels measured in the bedrock and the surficial deposits, as well as a base flow target for the Partridge River. The fact that the model was calibrated to both head and flux targets helps to minimize the non-uniqueness issue that is often the problem with groundwater models that are calibrated to head targets alone. Please see response above to Page 4.1-50, Footnote 11 regarding the appropriateness of the XP-SWMM model for existing climatic and stream flow conditions in the Partridge River near the PolyMet Mine Site. Regarding dewatering discharges from the Peter Mitchell pits, the Final Scoping Decision Document (FSDD) states that during the 1978-1988 period of stream flow data the Reserve Mining Company (then-operator of the Peter Mitchell Pits) “was not pumping to the Partridge River so [the USGS gauge data] will probably be usable for calibration. This assumption needs to be verified, especially with respect to the impacts of any overflows that may have occurred from Reserve Mining Company pits.” Peter Mitchell dewatering data was not available at the time that the surface water modeling for the Partridge River was completed in October 2007, and later updated in September 2008 (detailed in RS73A and RS73B). Contributions from the Peter Mitchell Pit watersheds to the Partridge River were included in the calibrated XP-SWMM model. This is akin to the assumption that any pit dewatering was for water level maintenance only and any excess runoff was delivered to the Partridge River, but it excludes any significant groundwater inflow to the Peter Mitchell Pit originating outside the Peter Mitchell (surface) catchment area. It is also important to highlight that the 30-day low flows developed from the XPSWMM model (and used in subsequent water quality modeling for the Partridge River) are less than 1.0 cfs for all monitoring locations upstream of the South Branch of the Partridge River (i.e. SW-001 through SW-004). Flows of this magnitude are extremely difficult to measure accurately, especially since they typically occur during winter when streams may be frozen. Monthly discharge data for the Peter Mitchell Pits from 1976-1986 was provided to Barr in an email from Nancy Smith (Northshore Mining) on October 7, 2008 (i.e., after publication of RS73A and RS73B). The data has several significant characteristics with regards to the Partridge River flow record:</p> <ul style="list-style-type: none"><li>• Only monthly total flow data is available because it corresponds to data required as part of an NPDES Permit. Since 30-day low flow periods do not necessarily correspond to calendar months, it is not clear how the dewatering discharges affect all low flow periods.</li><li>• The available data includes discharges from different locations in the Peter Mitchell Pits to different rivers and streams (one of them is the Partridge River). More specifically, the Peter Mitchell Pits discharge from up to 9 points in the Partridge River watershed (see Figure 19, RS73A). Several of these locations discharge directly to the Partridge River or its tributaries, and the flow would be expected to pass downstream relatively quickly (depending on flow rates and velocities). Other discharge locations are on the boundaries of Hundred Mile Swamp or other wetlands, where flow would pass through large saturated areas before reaching surface water streams. Depending on the magnitude of the Peter Mitchell Pits discharge, it is possible that flow through these wetland complexes would not immediately report to the Partridge River during dry periods or periods of replenishment of soil water storage.</li><li>• Discharge from the Peter Mitchell Pits is generally highest during periods of high flow in the Partridge River, and lowest (occasionally zero) during winter low-flow periods. This is consistent with the assumption that dewatering during the majority of this period was primarily for water level maintenance in response to snowmelt and other storm events, and not for significant water</li></ul>	WR3J



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<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
53	<p>As noted in previous comments, the calculations presented in Table 4.1-45 concerning stockpile leachate quality represent one method of calculation (deterministic method) of water quality impacts considered in the EIS process. The deterministic method resulted in conservative calculations of potential impacts. Even though these values were known to be conservative, PolyMet and the permitting agencies considered a Mine Site Alternative that would significantly reduce these potential impacts. Thus, Table 4.1-71 shows that when Agency-accepted sorption values are used, the only exceedances of groundwater standards correspond to antimony. Furthermore, Note 5 of Table 4.1-71 indicates that “The predicted antimony concentrations rely on the concentration cap developed from the contaminated humidity cell testing (80 <math>\mu</math>g/L) rather than MDNR reactor data (3 <math>\mu</math>g/L), which probably results in overestimated of antimony concentrations in groundwater at the Mine Site.” It is worthwhile clarifying that under the Mine Site Alternative, Category 2, Category 3, and Category 4 waste rock will be temporarily placed in geomembrane-lined stockpiles and subsequently used to backfill the East Pit as part of the Closure Plan. Part of the Category 1 waste rock produced in the later years of the mining operation would be permanently placed in these geomembrane-lined stockpiles. The other permanent waste rock feature would be the Category 1 stockpile, which primarily drains toward the East Pit and West Pit. Consistent with the discussion in the previous paragraph, the West Pit does not drive exceedances of groundwater standards at the Property Boundary or Partridge River. The proposed water management under the Mine Site Alternative includes treating waters for part of the period of West Pit filling, not for 2000 years. In addition, pages 4.1-166 and 4.1-167 of the EIS discuss mitigation measures to implement while the West Pit is being filled, with the goal of meeting water quality standards in the West Pit at the time of overflow. In addition, while the results of wetland treatment systems are equivocal it is well understood that wetland systems generally provide a benefit to surface water quality.</p>	WR2E
54	<p>In order to help evaluate potential groundwater quality impacts, four additional monitoring wells were installed north of the Tailings Basin (these wells supplement the previously existing eight monitoring wells). In addition, 15 private wells north of the Tailings Basin were sampled. Analytical samples collected from the monitoring wells and the private wells provide the data necessary for the characterization of existing conditions for the purposes of the EIS. The water quality samples collected at private wells do not have exceedances of groundwater quality standards caused by seepage from the Tailings Basin. As is indicated in Chapter 4.1.1.2 and Table 4.1-6, regional baseline groundwater has concentrations of aluminum, iron and manganese that are over the drinking water standards. The concentrations of these constituents measured in the private wells are within the range of the natural baseline concentrations and reflect baseline conditions and not impacts from the Tailings Basin.</p>	WR4C
55	<p>The available data supports the statement in the EIS that elevated concentrations of aluminum, iron and manganese down gradient of the Tailings Basin may reflect natural conditions in this area. As is shown in Table 4.1-6, regional and background concentrations of these constituents are similar to the concentrations found down gradient of the Tailings Basin. The modeling methodology used to predict down gradient groundwater concentrations does not assume that all constituents in the groundwater are the result of past and current seepage from the basin as the footnote states. Mixing of seepage water and precipitation derived recharge is simulated in the modeling.</p>	WR4C
56	<p>This comment describes the use of lime or limestone to treat the temporary stockpiles of Category 2, Category 3, and Category 4 waste rock prior to being placed in the East Pit during backfilling operations. While it is likely that this operation could have reduced the rate of oxidation of these materials and the resulting load of dissolved solids to the East Pit during filling, the MDNR questions concerning effectiveness of this operation resulted in modeling of this operation using zero percent effectiveness. Because of the conservative use of zero percent effectiveness regarding the use of lime or limestone to treat the temporary stockpiles, this was not a key assumption in the modeling of the waste rock piles for the Mine Site Alternative.</p>	EOO

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Comment ID	Comment Text	Theme Codes
57	<p>Evapotranspiration (ET) covers have been used successfully for over the last few decades to reduce infiltration into landfills, stockpiles, and other solid waste disposal applications. EPA has a fact sheet (EPA 542-F-03-015, Sept. 2003) about ET cover use and application on landfills and hazardous waste sites. Engineered multi-layer soil covers to control acid rock drainage became more popular in the 1990s with the development of modeling tools, such as the SoilCover Model, that could predict the evaporation from the soil cover (GARD, 2009). Upon review of 10 to 15 years of cover performance data, Wilson et al (2003, 2008) have determined that these covers are successful in significantly reducing infiltration and oxidation within stockpiles. These covers are not meant to stop all infiltration into the stockpile from occurring; however, it has been successfully demonstrated that these covers significantly reduce the amount of infiltration into the stockpile, thus limiting the leachate collection from the liner of the stockpile. Wilson et al (2003, 2008), for example, goes into detail on the mechanisms of failure and success of these systems. Their study examined covers in a variety of climates, including temperate rainforests of British Columbia, Canada, humid alpine climate of north central British Columbia, and semi-arid regions of Saskatchewan, Canada and North Queensland, Australia. They have been used successful in either climate type, although the design is different based on the climate. For example, in semi-arid to humid regions, a store and release type system, comparable to what is planned at PolyMet, is recommended. In temperate rainforests, a barrier-type system is recommended. Typical mechanisms of failure in a store and release type system include lack of storage capacity in the soil (a factor associated with soil depth and soil type), vitality and sustainability of the vegetation (a factor related to the vegetation type), and erosion (associated with slopes and stability of the design). One mine, Equity Silver Mine, in north central British Columbia has an ET cover very similar to what is planned at PolyMet. They also have a very similar climate with similar glacial till construction materials for their covers. SoilCover modeling for this mine predicted reductions in infiltration from 60 to 80 percent down to about five percent. Actual field measurements by lysimeters confirmed this drop in infiltration rates and success of these covers (Wilson, 2003). ET covers are also a standard cover for landfills as well as stockpiles. Several researchers have studied the performance of ET covers on landfills, comparing them to other conventional covers. Hauser (2002) reviewed long-term field data that measure the water balance at sites ranging up to 31 years that demonstrated that the ET cover can successfully control water movement. Hauser (2002) did note that improper soil depth was the leading cause of failure. Soil models, such as SoilCover and USAT-H, allow designers to determine what the proper depth of soil is based on areas specific climatic information. Overall, there are numerous researchers, from Federal, State and municipal agencies to private entities that have studied the performance of ET covers for use at mines and at solid and hazardous waste disposal sites. ET covers are not a new technology, but have been used for decades to successfully reduce infiltration. The cover system utilizes natural processes for long term success. Additional research on the cover type should not be necessary. The details of the ET cover design (soil properties, soil thickness, vegetation types, etc.) will be finalized in permitting.</p>	EOO
58	<p>The text is unclear as the section apparently refers to the West Pit Lake, but reference is made to seepage water. In PolyMet's review of the July 31, 2009 PDEIS, it was noted that the pit water is not predicted to have strong acidity; however, limestone could be used to make modest upward adjustments to pH if needed.</p>	WR3C
59	<p>The Central Pumping Station (CPS) will be used during the operation of the Mine Site to transfer treated water to the Plant Site for reuse. This operation will cease when the mining and processing operations are completed. No water will be pumped from the Mine Site to the Plant Site during closure or post-closure. Alternatives that have been considered to accelerate the filling of the West Pit, using water from the tailings basin or Colby Lake, however, could potentially use the CPS pipeline to carry water to the Mine Site (opposite direction of flow in closure).</p>	EOO
60	<p>The DEIS does not state that differentiation of the wetlands was based solely on canopy cover; field work was carried out as stated in the DEIS that, "Based on the habitat mapping, wetland field delineation/mapping was performed in 2004, and supplemented in 2005, 2006, 2007, and 2008 ...". (DEIS, p. 4.2-4).</p>	EOO

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Comment ID	Comment Text	Theme Codes
61	<p>1. The Adams 2009 email (Adams and Liljegren 2009) refers to aerial photographs of lakes that are located very near the Peter Mitchell mine, which clearly show that the nearby lakes (Mud, Iron, and Argo) did not drain over a nearly fivedecade period while mining operations continued at the mine. Adams and Liljegren (2009) did not suggest, nor can the photographs show, small changes in lake water elevation, however it is clear that lakes immediately adjacent to the pit do not show any evidence of lowered water levels during mining activities. The Adams 2009 email (Adams and Liljegren 2009) also presents graphs showing water surface elevations for Argo and Iron Lakes over the period 1946 to 1981 in fractions of a foot. The graphs show lake level fluctuations and a gradual increase in lake surface elevation over the time period, which is also a period of active mining in the vicinity of the lakes. The lake level fluctuations shown on the graphs are presumably weather and seasonally-related, such as the drop in lake levels from 1976 to 1977 due to the drought of 1976 (with only 17 inches of precipitation at Babbitt compared to the average of 28.5 inches over the 1946- 1978 period). These graphs do not depend on "...aerial photos [as an] imprecise measure of surface water level", but are based on detailed measurements of water surface elevations for the lakes. 2. The photographs provided in the Adams 2009 email (Adams and Liljegren 2009) do not show that the pits are "mostly flooded." Only in the photograph sequence for Mud Lake do nearby parts of the pits appear flooded in recent photographs (July 1981 and July 2008). There is no flooding of the pits in the 1972 photograph of Mud Lake, when mining operations were ongoing near the lake with no apparent effect on its water level. 3. The footnote infers that because the NorthMet pits will be deeper than the Peter Mitchell pits, they would somehow be more effective at draining the lakes in question. In fact, water flows downhill, and if water levels in the pit and lake were closely linked via high conductivity strata, then even an 80-foot deep pit would be sufficient to drain the lakes. Only if the lakes were greater than 80 feet deep (which is doubtful) would they retain water. 4. The footnote point about the "lack of recognition that some changes in groundwater hydrology would not be detected by the large changes in surface water level that could be detected by aerial photography" is valid. But the point here is "some changes." The photographs and graphs do not show any change; therefore any change would have to be very subtle. The graphs also indicate that it would be difficult to separate changes induced from mining from changes caused by natural factors, such as weather. 5. The tribal cooperating agencies state that the arguments within the Adams 2009 email (Adams and Liljegren 2009) depend on "... wetland soil conductivity values that are extremely low and for which supporting source citation in the professional literature cannot be found." In fact, the email (Adams and Liljegren 2009) stated that hydraulic conductivity of peat is strongly controlled by its degree of decomposition (Rycroft et al. 1975, Ingram 1983, Boelter and Verry 1977). The generally accepted view of water flow in peatlands can be summarized by this quote from an overview of peatlands (Rydin and Jeglum 2006, p. 143): "Water on the surface may sometimes flow slowly in pools or channels, or as sheet surface flow in water tracks. Below the surface the flow rate will decrease drastically - even weakly decomposed material offers considerable resistance to water movement. The highest saturated conductivities, for example 10<sup>-4</sup> – 10<sup>-6</sup> m s<sup>-1</sup>, are for poorly decomposed fibric peats and undecomposed Sphagnum. Conductivities of 10<sup>-6</sup> or 10<sup>-8</sup> have been reported for moderately decomposed mesic peats and the lowest values, 10<sup>-7</sup> – 10<sup>-10</sup> for highly decomposed humic peats with very fine pores." In addition, two research papers cont</p>	EOO

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Comment ID	Comment Text	Theme Codes
62	<p>This footnote is addressing two related issues, 1) subsurface flow through upland soils to peatlands and 2) identification of wetland plant communities as described in the DEIS. Both points are relevant to the tribal cooperating agencies comments in the WETLAND and WATER RESOURCES portions of the DEIS as related to groundwater flow and the use of wetland vegetation as an indicator of that flow. The comments can be summarized by the statement on p. 5-2 of the DEIS, "It is not possible to completely evaluate the environmental impacts of this alternative to surface water, groundwater, or wetlands due to ... the lack of knowledge on groundwater flow and the lack of understanding of the interconnections of groundwater and the extensive wetland complexes in the area." #1-Subsurface flow through upland soils to peatlands: A commonly accepted misconception is that peatlands directly reflect surface exposures of the regional groundwater system. Two examples show that the link between peatlands and the regional groundwater table is tenuous. In the first example, in the sandy soils of the Anoka Sand Plain in east-central Minnesota, Reuter and Bell (2001) reported that water table behavior differed between the peatland and the surrounding upland. They hypothesized that this difference was because, in the wetland, there was a hydraulic barrier of much lower conductivity between the peat and sand, a highly-decomposed layer of peat or lake-laid sediments, which have very low hydraulic conductivity. The second example is from peatland basins formed by lake filling in north central Minnesota (Boelter and Verry 1977). Monitoring indicated that two kinds of peatlands exist in this landscape, 1) bogs whose water table is perched above the regional groundwater table and 2) fens whose basin lies within the regional groundwater. The bogs are separated from the regional ground water system by very slowly permeable peat or lacustrine deposits, while the water tables in the fens are simply exposures of the regional groundwater table. While neither example is from bedrock-dominated terrains, the peatlands in these examples are isolated to a greater or lesser degree from the regional groundwater table by low-permeability substrates. In these two examples, water does not necessarily run downhill but instead runs from a point of higher potential to one of lower potential. Toth (1963) theorized three types or scales of ground-water flow; local, intermediate, and regional. A local system of groundwater flow has its recharge area at a topographic high and its discharge area at an adjacent topographic low. An intermediate system has one or more topographic highs and lows located between the recharge and discharge areas. A flow system can be considered regional if its recharge area occupies the water divide and its discharge area lies at the bottom of the basin. Water levels in local systems at shallow depths are most affected by seasonal recharge and discharge. Different recharge areas and flow path lengths contribute to differences in the chemical composition of water in different systems. The work on groundwater flow shows that wetlands (peatlands) can have varying degrees of groundwater influence, leading to varying degrees of minerotrophy and variations in vegetation. #2 - Identification of wetland plant communities: Wetlands described in the DEIS were classified using Eggers and Reed (1997) wetland community types as required by the U.S Army Corps of Engineers. As part of additional wetland work requested by the Wetlands Working Group (September 10, 2009), the classification of wetlands on the NorthMet Site included coniferous bogs (47%), shrub swamps (alder thickets and shrub-carr, 28%), coniferous swamps (16%), open bogs (3%), shallow marsh (2 %), open water (0.8 %), sedge/wet meadow (0.5 %), and hardwood swamps (0.4 %). Using the the MDNR (2003, p. 221) classification system, many of the wetlands complexes on the mine site are likely APn81, Northern Poor</p>	EOO
63	<p>The Tribal cooperating agencies correctly point out that there is some difference in the topography north of Cell 2W and Cell 2E. However, PolyMet disagrees with the interpretation of the effects the difference in topography would have on wetland impacts. North of Cell 2W, the upland areas would funnel flow into the low-lying areas. This would cause impacts in the wetland areas to extend further from the basin (more water spread out over a narrower area) than if there were no or fewer upland areas, such as the area north of Cell 2E. Thus, using the distance of observed impacts north of Cell 2W to predict the distance of impacts north of Cell 2E provides a conservative estimate of potential indirect wetland impacts.</p>	EOO

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Comment ID	Comment Text	Theme Codes
64	<p>PolyMet disagrees that there is an inconsistency between Section 4.1.3.1 and Section 4.2 or that the latest information developed for the water resources section (4.1) has not been incorporated into the wetland impact section (4.2) as suggested by the Tribal cooperating agencies comment. Section 4.1 quantifies the amount of seepage from the basin under historic and future conditions. Section 4.2 discusses the distance from the tailings basin where this seepage water likely discharges. Rather than being inconsistent, these two evaluations complement each other. The Barr memo (Lined Tailings Basin Alternative – EIS Data Request, April 8, 2008) describes the basis for the conclusion that wetlands will not become further impacted north of the Tailings Basin.</p>	EOO
65	<p>A screening analysis was conducted by PolyMet to assess the potential deposition of sulfur from fugitive dust emissions to wetlands within 2 kilometers of the Mine Site, including wetlands within the Mine Site property boundary that are expected to be present during mining. The major components of the analysis included: 1) estimating potential fugitive particulate dust emissions (as PM, includes fine fraction and coarse fraction up to 30 microns) from activities that handle sulfide rock (e.g., truck loading in the pit, waste rock dumping in stockpile areas, ore loading); 2) assigning a maximum potential sulfur content, as a percent, to each category of waste rock and ore and estimating potential sulfur emissions for each source; 3) estimating maximum potential total (wet + dry) sulfur deposition rates with the AERMOD model for delineated wetlands within and outside of the Mine Site property boundary; 4) comparing modeled sulfur deposition rates to an estimated average annual background total (wet + dry) sulfur deposition rate of 0.206 grams per square meter per year; g/m<sup>2</sup>/yr; 2004-2008 data (estimated from current background wet sulfate deposition of ~ 4.8 kilograms per hectare per year (kg/ha/yr), historically &gt; 10 kg/ha/yr, National Atmospheric Deposition Program, Fernberg site, MN18; background dry deposition data from Clean Air Status and Trends Network, Voyageurs National Park site, VOY413). Initial results from this screening analysis indicate that the highest modeled deposition rates are estimated to occur immediately adjacent to the pits, stockpiles and rail transfer hopper. A very small number of receptors (~11, representing about 108 acres of wetlands; ~ 10% of wetland area within the Mine Site boundary) are estimated to have deposition greater than 20% of background. Because air concentrations and deposition become smaller as the distance from the emission source increases, most of the wetland areas within the Mine Site boundary and essentially all of the wetland areas outside of the Mine Site boundary are estimated to receive potential deposition that is less than 5% of background. Potential deposition increases that are 5% or less of background are small and the potential impact from fugitive dust associated with sulfide rock handling is not likely to be measurable and is considered to be insignificant. Therefore, for almost all of the wetland acreage included in this screening analysis, the potential increase in sulfur deposition due to fugitive dust from sulfide rock handling is considered to be insignificant. An additional evaluation was conducted for the small acreage of wetlands within the Mine Site boundary that might receive some measurable increase in sulfur deposition. The maximum modeled deposition rate occurred near the rail transfer hopper (0.148 g/m<sup>2</sup>/yr; ~ 72% of background deposition). Adding background to maximum modeled deposition = 0.206 g/m<sup>2</sup>/yr + 0.148 g/m<sup>2</sup>/yr = 0.354 g/m<sup>2</sup>/yr (= 3.54 kg/ha/yr). A very conservative assumption is that all of the estimated sulfur deposition (3.54 kg/ha/yr) converts to sulfate; ~ 10.6 kg/ha/yr as sulfate (wet + dry; model + background) and is within the historic total (wet + dry) deposition levels estimated for the Fernberg site. For the small acreage of wetlands within the Mine Site that might receive some additional sulfate deposition associated with sulfide rock handling, the potential for this additional sulfate to increase mercury methylation rates is uncertain. However, the available data indicate it is unlikely to occur. For example, field data indicate that an increase in sulfate concentration does not necessarily result in increased methyl mercury formation even when wet sulfate dosing was 4 times greater than background (~ 28 kg/ha/yr) (Jeremiason et al., 2006; Mitchell et al., 2008). In most cases there is no relationship between sulfate concentration and methyl mercury concentration in surface waters or fish because both Porcella (1994; Wisconsin lakes) a</p>	EOO

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
159	I received the paper copy of the PolyMet DEIS in its 3 plastic binder. Seeing the beautiful water scene on the cover of this DEIS feels like a knife cutting into my heart. This mining project is the very antithesis of an environment featuring water, wetlands, and wildlife habitat. The PolyMet project would destroy at least 6500 acres of such land, and even PolyMet admits that its mining will contaminate the ground water. Into perpetuity. The cover design of this binder shows me that the agencies have lost touch with the organic living and breathing environment, and have become lost instead within the the virtual reality of pages of statistics, maps, charts, and documents. Throughout this process, I have tried to maintain a sense of respect and purpose for the agencies and their role in protecting our environment. In one painful swoop, the eagle on the binder cover shattered any belief that I had in this process. Why are you offering up an American symbol to Canadian companies, while denying American citizens the real truth about the impacts of this project on their land and water?	EOO,G2A,G7B
<b>Sender Last Name:</b> Palmer		<b>Submission ID:</b> 2174
591	Obstruction of at least 2 of the remaining 13 corridors where wildlife can cross the 120 miles of the Mesabi Iron Range	WI5
1138	increased levels of leached sulfates increasing mercury accumulated in fish tissues	FM1
1796	Enormous releases of sulfate will exceed the state standard for wild rice diminishing famous wild rice beds in the St. Louis River estuary near Duluth	WR4F
2580	I respect that creating jobs for those out of work in the area is critically important but not at the expense of hurting the environment and destroying the livability of that area for everyone if this mining is not stopped. Please protect the fish and wildlife and ultimately the neighboring human beings that currently thrive in and near the Superior National Forest. You must safeguard this area for future generations.	G1,G2
<b>Sender Last Name:</b> Palo		<b>Submission ID:</b> 2661
3157	I grew up in Northern MN and spend part of every month there yet today. I am a property owner in St. Louis county as well. I also have six family members yet living there. I have grave concerns about the future impacts of this project on the local area and the broader region and, despite the positive promise of jobs in the short-term, am against the project for several reasons, including:	EOO,G1
<b>Sender Last Name:</b> Parker		<b>Submission ID:</b> 1259
563	Given that the vast majority, upwards of 80%, of the predictions for ability to maintain water quality have been incorrect in the history of sulfite mining in the U.S., I have no confidence that these projections can be accurate and that the regulatory mechanisms at either the state or federal level are up to the task of making this work. As a taxpayer who is bound to pay for a potential failure of considerable likelihood, I would insist on financial assurance in the billions of dollars.	PD4
2026	Don't destroyed our precious land. We NEED this land untouched for the sake of the species that live there and EVEN US. we strive on the environment and by ripping it all up, you're ripping up our air, and our life. don't kill us all.	EOO,G2C
<b>Sender Last Name:</b> Parvu		<b>Submission ID:</b> 2328

*Alphabetical by sender's first name*

<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
2786	<p>I would like to submit my comments on the PolyMet Mining Corp. NorthMet mining project Draft Environmental Impact Statement. As a resident of this area I can appreciate the short term economic benefit of mining up here, but as a lover and protector of the Wilderness, and as an outfitter, who is dependent on the wilderness for my living, I have very serious concerns about the environmental impact of the proposed mining operation. I have been studying this issue and I simply do not believe that this operation can be done without unacceptable damage to the environment. This type of mining has never been done in Minnesota and has never been done without damage to the environment anywhere. Minnesota should follow Wisconsin's lead and effectively ban this type of mining. What makes this area so special is that it is one of the few remaining reasonably intact wildernesses left. To put our wilderness in peril is simply unreasonable. Please block PolyMet and all other operations that would put our wilderness at risk.</p>	EOO,G2C,G12
<b>Sender Last Name:</b>	Patnoe	<b>Submission ID:</b> 293
307	<p>I support PolyMet Mining's NorthMet Project and I am convinced that PolyMet can produce these metals in an environmentally sound manner and create hundreds of stable jobs that can support families. Not only has PolyMet's \$20 million environmental review demonstrated that it can produce these metals while following Minnesota's strict environmental requirements to protect air, water and land, the metals that Polymet will mine are essential to green technology such as wind turbines and hybrid cars and are necessary for pollution prevention devices such as catalytic converters. The PolyMet project has been designed to minimize environmental impacts especially through reusing a brown field site, reusing existing infrastructure, minimizing disturbance of wetlands and utilizing multiple safeguards to protect the environment. I am particularly impressed that they plan to use the sulfur in the ore as a fuel for processing instead of greenhouse gascreating fossil fuels. PolyMet's 400 employees and the hundreds of spinoff jobs will provide a huge economic benefit to Minnesota and the Arrowhead region as well as providing millions of dollars in local and state taxes to support our communities and educational system. The minimal environmental impact this project will have on our region is more than offset by this huge positive financial impact. PolyMet's 400 employees and the hundreds of spinoff jobs will provide a huge economic benefit to Minnesota and the Arrowhead region as well as providing millions of dollars in local and state taxes to support our communities and educational system. The minimal environmental impact this project will have on our region is more than offset by this huge positive financial impact. I urge you to allow Polymet to proceed with this much needed and environmentally safe project.</p>	EOO
<b>Sender Last Name:</b>	Patrick	<b>Submission ID:</b> 1022
1119	<p>As a ppcnrcned Minnesota citizen, I feel it is my obligation to let you know that I support PolyMet Miriug's NorthMet Project. At a time when our economic situation is unstable, I think we need the contribution that PolyMet will make to the state and local economy. The estimated 400 employees and hundreds of spin-off jobs will give a big boost to the financial situation in the Arrowhead Region, as well as the State of Minnesota, and a big boost to the morale and spirits of the people. It seems clear that PolyMet has completed an extensive environmental impact study that shows they can operate the proposed facility in an environmentally friendly atmosphere that will have a minimal impact on our environment. As a person who lives in northern Minnesota, I understand the need to balance use of resources like minerals and preservation of resources such as water and air. The draft EIS demonstrlltles PolyMet can mine these metals AND protect air, water and natural resources, and I support the project. PolyMet will provide millions of dollars in local and state taxes to support our communities and education system. Let's get on with pennitting this mine. We need the jobs.</p>	EOO
<b>Sender Last Name:</b>	Payne	<b>Submission ID:</b> 3519

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
3250	Dear MN Department of Natural Resources, I am writing to express my grave concern about the proposed PolyMet sulfide metal mining project proposed in northeastern Minnesota. The area that is being considered for this corporate project is amongst one of the largest natural wetland areas. The area is at a cross roads for drainage with portions of the wetland entering the St. Louis river watershed and ultimately Lake Superior and other portions of the wetland finding their way towards the Boundary Waters Canoe Area Wilderness and ultimately border waters and Canada. Sulfide metal mining has never been without issue. Whether it is the sulfuric acid drainage that can result from disgarded tailing piles or the vast treeless expanses that litter the area where once wilderness existed. Why is this project even being considered in this wild area. The short term jobs that can come from this project come at a potentially high cost. The cost of mercury ladened waters, damaged water systems and the habitat lost when open pit mines replace the wilderness. How many more square miles of this region should be considered for mining? Do we really want the the mines of the Mesabi range to move eastward into uncharted territories with such potentially high risks. Please reconsider your position on this project. I realize that the Department has to balance the state's best interest and that of the environment but to me, this controversial project if approved would result in irreversible damage, limited jobs and the highest returns to corporate interests that will never return their profits to our state's citizens or wildlife.	EOO,G7A,G7C
3773	I've served as President of the Bassett-Cadotte Lakes Property Owner's Association for the past 4 years. We hold 2 well attended meetings each year and the Poly Met situation comes up at every meeting. The property owner's are deeply concerned about the possibility of sulfur run-off from the proposed mining. We are doing everything possible to protect our valuable resource. We emphasize shoreline protection, septic system maintenance, buffer zones etc. Past evidence shows thre have been problems resulting from this time of mining.	G7A
<b>Sender Last Name:</b> Pearson		<b>Submission ID:</b> 251
264	We want to let you know that we support the NorthMet project. PolyMet will significantly contribute to the state and local economy at a time when we really need the jobs and economic benefit. PolyMet's 400 employees and the hundreds of spin-off jobs will provide a huge economic benefit to Minnesota and the Arrowhead region. PolyMet will provide millions of dollars in local and state taxes to support our communities and educational system.	EOO
418	The first comment I want to make is I think it's ridiculous to have a public meeting and not allow the public to speak, okay. It's unheard of -- maybe a new process -- but it smacks as if the outcome of this thing has already been decided, and this is to minimize people from hearing other people with like opinions communicate. So I think it's a very poor system that you've set up here -- the DNR.	PRO6
2627	Secondly, I'd like to ask the question as to why this project is different, and all the other mining projects similar to this. They've never been able to prevent the seepage problem. What do they expect different of this project to make it not happen?	G2
2628	And then, I guess, finally, is what kind of monitoring will there be as a safeguard to prevent seepage and other problems from going into the lakes. Thank you.	G2
<b>Sender Last Name:</b> Pegg		<b>Submission ID:</b> 1153
1268	The proposed project's are very short term & limited; the damages to the environment & our health are long term & profound.	EOO
<b>Sender Last Name:</b> Pekuri		<b>Submission ID:</b> 3503



*Alphabetical by sender's first name*

<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
767	Greetings. First of all, extend the comment period another 45 days. This issue will affect N. Minnesota for the next 100 years. The citizens and the environment deserve a thorough review of the proposal, unhampered by a limited time period. Second, we need more public meetings, particularly in Ely and Babbitt since these areas will be directly affected by run-off, infiltration through the ponds, and acid rain. Third, I am opposed to the project because the tailings pond will leach acid into the ground water. The proposed technology is unproven. This is not the place, if indeed there is ANY place to test new processes. Fourth, the separation process will use great quantities of electricity, produced by coal-fired power plants, which increase the amount of carbon dioxide in the atmosphere.	PRO3,PRO6
<b>Sender Last Name:</b> Pengal		<b>Submission ID:</b> 305
319	This letter is provided as support for the PolyMet Project near Hoyt Lakes, by NORAMCO Engineering Corporation. The strong economy of Northeast Minnesota is closely tied to natural resources, as has been seen by the effect on the pulp/paper/chip board industries, and also the faltering of iron ore. Tourism alone cannot support the standard of living these industries provide. The PolyMet project will allow a solid third leg to the wood industry and iron economies, which in turn will help enhance the tourism factor. I truly believe that PolyMet has a sound environmental plan which will allow the mine to earn a profit. Furthermore, the employees and community will have a more stable economy in which to live, and I feel both the environment and tourism will also be protected. We, at NORAMCO Engineering, are pleased to endorse projects that positively impact our region's economy and are in compliance with air, water and natural resource standards. NORAMCO Engineering Corporation strongly recommends issuance of permits for PolyMet Mining Company.	EOO,G11
<b>Sender Last Name:</b> Pepin		<b>Submission ID:</b> 1597
937	Negative effects on water quality will be substantial and unacceptable. Water leaching from waste rock piles at the site is expected to exceed water quality standards for up to 2,000 years. Mining companies will simply be able to maintain water treatment facilities for that amount of time, and it is an unfair burden to pass on to future generations of Minnesotans who will inevitably be left to pay for these operations. Additionally, it will be all but impossible to calculate sufficient financial assurance for a mining operation that will require such long-term care	PD2,PD3,PD4
<b>Sender Last Name:</b> Perreault		<b>Submission ID:</b> 2190
2596	JOSEPH PERREAULT: I'm a 23-year-old boilermaker apprentice. I have an 11-month-old son. I just had him last year. I was laid off for four months last year because of the shortage of work and the economy. It would be greatly appreciated if this was passed and they got more work for us up there. It would make it a lot easier on a lot of guys, and it would also help stimulate the economy. And as a young father raising a new family, it would definitely be appreciated. That's all I have to say.	EOO
<b>Sender Last Name:</b> Perrizo		<b>Submission ID:</b> 3709
20511	VII. The Draft EIS Analysis of Impacts to Cultural Resources is Inadequate The National Historic Preservation Act ("NHPA") includes provisions that apply to Native American Tribes. 16 U.S.C. § 470a(d)(6); Muckleshoot Indian Tribe, 177 F.3d at 805. Under the NHPA, properties of traditional religious and cultural importance to a Tribe may be determined to be eligible for inclusion on the National Register, and in carrying out its responsibilities under Section 106 of the NHPA, federal agencies must consult with any Native American Tribe that attaches religious and cultural significance to these properties. Id; 36 C.F.R. § 800.1. The proposed NorthMet mine site and plant site are located within the 1854 Treaty Ceded Territory where the Bois Forte Band of Chippewa, Fond du Lac Band of Lake Superior Chippewa, and Grand Portage Band of Chippewa retain hunting, fishing, and gathering rights under the Treaty of 1854. Thus, in considering the potential impacts to cultural resources, the Corps must consult closely with the affected Tribes and Tribal members.	PRO5,G3,CR1,CR2,CR3,C

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
20512	<p>II. The Draft EIS Fails to Adequately Explain How the Proposed Mine, Which Would Destroy and Adversely Modify Designated Critical Habitat, Would Not Violate the Endangered Species Act (“ESA”) The Endangered Species Act (“ESA”) represents “the most comprehensive legislation for the preservation of endangered species ever enacted by any nation.” <i>Tennessee Valley Authority v. Hill</i>, 437 U.S. 153, 180 (1978). “The plain intent of Congress in enacting this statute was to halt and reverse the trend towards species extinction, whatever the cost.” <i>Tennessee Valley Authority</i>, 437 U.S. at 184. In enacting the ESA, Congress spoke “in the plainest of words, making it abundantly clear that the balance has been struck in affording endangered species the highest of priorities, thereby adopting a policy which it described as ‘institutionalized caution.’” <i>Id.</i> at 194. “One would be hard pressed to find a statutory provision whose terms were any plainer than those in [Section] 7 of the Endangered Species Act.” <i>Tennessee Valley Authority</i>, 437 U.S. at 173. “Its very words affirmatively command all federal agencies “to insure that actions authorized, funded, or carried out by them do not jeopardize the continued existence’ of an endangered species or ‘result in the destructions or modification of habitat of such species.’” <i>Id.</i>, (quoting 16 U.S.C. 1536) (emphasis in original). “This language admits of no exception.” <i>Id.</i> Thus, pursuant to Section 7 of the ESA, each federal agency must consult with the U.S. Fish and Wildlife Service to insure that any proposed action is not likely to jeopardize the continued existence of any threatened or endangered species, or result in the destruction or adverse modification of the species’ critical habitat. 16 U.S.C. § 1536(a)(2). The ESA therefore mandates that “federal agencies take no action that will result in the ‘destruction or adverse modification’ of designated critical habitat.” <i>National Wildlife Federation v. National Marine Fisheries Service</i>, 524 F.3d 917, 933 (9th Cir. 2007) (quoting 16 U.S.C. 1536(a)(2)). “Destruction or adverse modification” of critical habitat is defined as a direct or indirect alteration that appreciably diminishes the value of the critical habitat for both the survival and recovery of a listed species. 50 C.F.R. § 402.02. Such alterations include alterations that would adversely modify any of the physical or biological features that were the basis for determining the habitat to be critical. <i>Id.</i> The courts have found, however, that this definition “reads the ‘recovery’ goal out of the adverse modification inquiry, and that agencies must in fact consider impacts that appreciably diminish the value of critical habitat for either survival or recovery. <i>National Wildlife Federation v. National Marine Fisheries Service</i>, 524 F.3d at 934; <i>Gifford Pinchot Task Force v. U.S. Fish and Wildlife Service</i>, 378 F.3d 1059, 1069-71 (9th Cir. 2004). Thus, the agencies’ assessment of the impacts of a proposed action on a listed species’ critical habitat must include the project’s impact on the species’ habitat in terms of the species’ recovery as well as its survival, and how the action may impact the physical or biological features that were the basis for the species’ critical habitat determination. 50 C.F.R. § 402.02; <i>National Wildlife Federation</i>, 524 F.3d at 935; <i>Gifford Pinchot</i>, 378 F.3d at 1069. In addition, the agencies are not allowed to characterize as “insignificant” the potential impacts on a species’ critical habitat by considering only the broad scale or long-term impacts. <i>National Wildlife Federation</i>, 524 F.3d at 935; <i>Gifford Pinchot</i>, 378 F.3d at 1069. For the proposed NorthMet mine, the agencies acknowledge in the Draft EIS that the proposed mine site is within formally designated critical habitat for both Canada lynx and gray wolves. DEIS, 4.4-2,3. More specifically, the mine site is located within “Lynx Analysis Unit” 12 on the Superior National Forest, and 94% of this Unit currently pro</p>	WI1,WI5
20512	<p>As acknowledged in the Draft EIS, “the Project may affect historic properties of religious and cultural significance to the Ojibwa Bands on and off reservation, or tribal lands.” DEIS, 4.8-3. The Corps, however, is once again placing the cart before the horse by releasing the Draft EIS for public comment before this consultation occurs. <i>Id.</i> (stating that “a significant amount of consultation and survey work remains to be completed”); see also DEIS, 4.8-13 (stating that “[t]he identification of historic properties of religious and cultural significance to the Ojibwa is the subject of ongoing consultation between the [Corps] and the Ojibwa Bands,” and that “[t]he potential impacts to any historic properties identified will need to be assessed”); DEIS, 4.8-15 (“[t]he cumulative impacts of past, present, and future mining projects to Ojibwa culture are unknown, but may be very significant”).</p>	PRO5,G3,CR2,CR3,CR4

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Comment ID	Comment Text	Theme Codes
20513	One of the primary purposes of NEPA is to allow meaningful public involvement in the environmental analysis, and this cannot occur where the analysis is simply described as ongoing and not disclosed for public comment in the Draft EIS. As set forth in the Draft EIS, It is the positions of the Ojibwa Bands that this chapter cannot be completed without significant additional consultation with the Tribal cooperating agencies, development of full, Tribal surveys of historic properties of religious and cultural significance to tribes, proper evaluations of natural and cultural resources based upon the recentlydefined (and much expanded) APE, and much more research. Therefore, the Tribal cooperating agencies take the position that even with the inclusion of all earlier changes and comments, the chapter will be far from ready for publication in the Draft EIS. The Tribal cooperating agencies expressly condition their comments on this position and maintain the position that Section 106 consultation is incomplete and inadequate, as to nearly every section. DEIS, 4.8-15. The Center agrees with this position of the Tribal cooperating agencies. In order to comply with NEPA’s public disclosure and involvement requirements, a Supplemental Draft EIS will need to be prepared and released for public comment in order to properly address this and other issues.	PRO5
20513	Similarly, as explained by EPA, the Draft EIS “has not described all impacts to tribes and tribal uses in the mine site area.” July 31, 2009, EPA Comments, p. 5. EPA thus “continues to recommend” that the Draft EIS “include an evaluation of impacts to tribal uses, insofar as the DEIS should disclose impacts to the environment and to the public from the project and provide pertinent information to all decision makers.” Id.	G3,CR2,CR3,CR4
20513	Last, impacts to cultural resources again indicate why the proposed land exchange between PolyMet and the Forest Service is a connected action that must be analyzed together in a single EIS. See July 31, 2009, EPA Comments, p. 5 (noting that “some direct impacts to tribal uses are related to the transfer of public land out of the Ceded Territory,” and questioning “how assessing the impacts of this connected action can be deferred to a separate analysis”).	PRO5,PD1
20515	VIII. The Draft EIS’s Analysis of Environmental Justice Issues is Inadequate and Misleading The Draft EIS attempts to brush aside any environmental justice concerns by stating that the affected community does not have a significant Native American population. What the analysis fails to consider and address, however, is that the affected Native American population has an increased interest in the natural resources that would be adversely affected, polluted, and destroyed by this mining proposal, as their culture is dependent on continued access to these natural resources, and in fact their current access to these resources is protected by treaty rights. When considered along with the related land exchange, there is no question that the adverse environmental consequences and related impacts resulting from this proposal would disproportionately affect the Native American Tribes and Tribal members. This is therefore a classic environmental justice issue in which a more privileged segment of society is making decisions that would benefit themselves – through jobs and the end products that would be produced – to the detriment of Tribal members in the region. As just one example of environmental justice issues that must be addressed and disclosed in considerably more detail, see DEIS, 4.5-22, n. 11 (Tribal cooperating agencies explaining that “the potential impacts to tribal members of a significant increase in mercury in fish harvested in on-Reservation and ceded territories waters has not been adequately addressed”).	G3,FM1,CR1,CR2,CR4

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<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
20516	<p>IX. The Draft EIS Fails to Provide Necessary Information Pertaining to the Closure Plan and Financial Assurance The Draft EIS explicitly defers its discussion and analysis regarding financial assurance. DEIS, 2-6 (stating that “[t]he amount of financial assurance associated with reclamation actions cannot be estimated until these actions are understood at a more detailed level of design” and thus “discussion of financial assurance figures and instruments are not included in the DEIS”); id., 3-38 (stating that details regarding the amount of financial assurance cannot be estimated until these actions “are understood at a deeper level of design detail”). As explained by EPA, the information regarding financial assurance must be included in the Draft EIS “because one key component to determining the environmental impacts of a mine is the effectiveness of reclamation and closure activities.” July 31, 2009, EPA comments at 5. Further, “EPA as found the amount and viability of financial assurance are critical factors in determining the effectiveness of closure and reclamation and therefore the significance of environmental impacts.” Id.; see also DEIS, 3-49, n. 13 (explaining that “[b]ecause of its experience in expensive cleanups of contamination from many defunct or bankrupt sulfide mines, EPA Region 9 has strongly urged other Regions over the past two years to require financial assurance disclosure in the NEPA process,” and that new national rules for financial assurance are under development by EPA because “Given the history of adverse environmental effects resulting from some hard rock mines, and the expenditure of public funds used in some cases to address environmental problems caused by mining, EPA believes it is necessary to analyze these factors in the DEIS (from InsideEPA.com, Tuesday, August 25, 2009)”). Indeed, in a comprehensive analysis and report prepared in 2003, it was found that the amount of financial assurances provided by mining companies usually falls far short of the actual reclamation and closure costs. Attachment 5 (“Putting a Price on Pollution, Financial Assurance for Mines Reclamation and Closure”). The report found that the mining industry and regulating agencies regularly fail to accurately estimate reclamation costs, potential for acid drainage generation, long-term treatment needs, and the effects of pollutants such as cyanide, mercury, and selenium that present expensive and potentially long-term reclamation issues. Id. The Tribal cooperating agencies agree that the long-term environmental impacts of the proposed project cannot be meaningfully evaluated without additional disclosure of the closure plan and financial assurance. DEIS, 3-49, n. 13 (“It is the position of the tribal cooperating agencies that financial assurance should be fully explored in the DEIS. This is especially important given the potential for very long-term/perpetual treatment, maintenance and monitoring that may be needed for the Proposed Action”); id., 4.1-131 (“Tribal cooperating agencies note that there is no up to date closure plan for the proposed project. It is the tribal cooperating agencies’ position that a closure plan is needed to evaluate long term environmental impacts and to inform calculations of financial assurance that would be needed for the project”). The required analysis and disclosure for financial assurance must also take into the account the high likelihood that perpetual treatment would be needed for this proposed mine to insure no future violations of water quality standards. And as noted by mining expert David Chambers, if a prediction of an end date on which treatment will no longer be required cannot be made with a reasonable degree of certainty, then the discharge and the mine should not be allowed to begin. Attachment 6 (“A Position Paper on Perpetual Water Treatment for Mines”). Minnesota law requires that a mine operator provide financial assurance to cover the contingency reclamation costs prior</p>	CR1
<b>Sender Last Name:</b>	Peters	<b>Submission ID:</b> 219
221	<p>Dear Sir, I just want to let you know personally how important the PolyMet project is to our economic lives in this part of the world. There are many very good reasons to allow the project to go forward from strategic mineral resources for the U.S., taxes paid directly to the State of Minnesota but most importantly the hundreds of good paying jobs in a region that is economically disadvantaged. The Draft EIS should be adopted and the permits issued to PolyMet. Thank you for your faithful work and careful consideration on behalf of the citizens of the region.</p>	EOO
<b>Sender Last Name:</b>	Peterson	<b>Submission ID:</b> 3751
1	<p>I just want to say that I think this project will probably be pretty beneficial for everybody in this area. It would be nice to see a company like this come in, you know, and provide more jobs for everybody in this area, you know, at least for some more growth, you know, to have more money in the community. I'm -- I support it all the way. So I think that's about all I have to say.</p>	EOO

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
1	The Range Association of Municipalities and School (RAMS) wishes to go on record as being in support of the Environmental Impact Statement (EIS) that has been published by the Minnesota Department of Natural Resources (MDNR) and the Minnesota Pollution Control Agency (MPCA) regarding the PolyMet Project. RAMS is an organization consisting of 25 Cities, 15 School Districts, 10 Townships and 20 Associate Members made up of private and private non-profit organizations located in the Taconite Tax Relief Area (TTRA) We are excited by the large impact the project would have on the economy and tax base for our area and region. Our support however is based more on what the published EIS says and requires. Historically RAMS has supported projects based on the economy and the environment. Minnesota is known as a very tough place to receive permitting. We attribute that to both the MPCA and the MDNR, and support their process. Although we have been asked, we have never joined efforts to shortcut the process or change timelines. We know that when an EIS is published with facts and solutions, the interests of the environment have been the top priority. Based on our review of this EIS, RAMS supports the EIS and the permitting of the PolyMet Project.	EOO
1	As we debate the pros and cons of the Polymet project on the Iron Range the world demand for minerals continues to grow. This demand will be met by companies with high regards for air and water quality such as Polymet or it will be met by companies that do not have the same standards, such as the new copper mine currently being built by the Chinese in Afghanistan. Our country needs good jobs created by good companies. Polymets time has come and it is time to get to work.	EOO
1	Thank you for the opportunity to provide my comments on the draft environmental impact statement (OBIS) for PolyMet Mining Co. I believe that this project holds great promise for economic development on the Iron Range, and that is why I am hopeful that the EIS process can be completed and the adequacy determination be finalized. I appreciate the environmental issues that have been discussed in the DEIS and on going public comment period, and I am hopeful that PolyMet can take appropriate steps to address the concerns raised. As you know, PolyMet proposes to mine copper, cobalt, nickel, palladium, platinum and gold in an established mining district near Hoyt Lakes, Minnesota. The company would reuse much of the infrastructure from the former LTV Steel Mining Company and would employ hundreds of people. Nonferrous metals are used in applications in daily life throughout the United States, and we have few domestic sources. The United States imports between 40 and 95 percent of the nonferrous metals it uses. When we can't get the materials we need from domestic sources, we are forced to import them from countries that don't share our commitment to environmentally responsible practices. In addition, the carbon footprint of these imported materials is extremely large, as they are shipped around the globe for processing, manufacture and delivery to the end user. At a time when our state and national economies are increasingly global, competitive, and unstable, we must protect our shared commitment to economic development through responsible resource management. That is why I encourage you to continue to move forward with the EIS process to ensure that the project meets all applicable state and federal guidelines.	EOO
2	Without question, the world needs these minerals and the area can desperately use the jobs. This project cannot begin to move ahead soon enough.	EOO
2	On behalf of the membership I can state with confidence that the NorthMet Project has received overwhelming support due to two main reasons. First, and most obvious, the economic benefits to our members and their families. Many of them live on the Iron Range and consequently are very anxious to start their next project. Our Local currently has close to 900 active members and we have recently completed two very successful projects in Northern Minnesota. Mesabi Nugget and Minnesota Power's SCR project at Clay Boswell. Since then the amount of work has dropped off drastically and we are experiencing unemployment rates in excess of 50 percent. Secondly, nearly all of our members have worked at taconite plants in their careers. PolyMets' plan to reuse an existing brown field site (old taconite facility) along with the specifics of the Draft EIS overwhelmingly convince us that this project makes good sense with minimal environmental impact. In conclusion, on behalf of Boilermakers' Local 647, I strongly encourage approval of the Draft EIS of Polymets' NorthMet Project. We are all eager to be part of this project and trust that your department, after all things considered, will conclude that this is right for northern Minnesota .	EOO

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
3	I totally support the PolyMet project because it will contribute to the local economy at a time when we really need jobs. Plus all the spin off jobs it will create for the Arrowhead region & Minnesota. To the opposing side that are stating Polymet will impact the Boundery Waters. That statement is absolutely incorrect. The Laurentian Divide separates the Boundery Waters from the PolyMet project. We do send unpolluted pristine water from the north to the south by way of the Minnissippi River. By the time the river leaves the southern boundries of this state it is very polluted. My suggestion to who oppose, you spend the same amount, 20 Million dollars that PolyMet has spent on the Environmental Impact Statement to clean up the Mississippi River. Then I might consider listening to your side.	EOO
4	Need jobs. Good for the state	EOO
4	On behalf of the City of Aurora, as Mayor I have a responsibility to ensure the longterm health, sustainability and vitality of our community. Long-term sustainability requires a clean environment and stable employment. I feel that the Department of Natural Resources and PolyMet have thoroughly addressed the environmental issues related to the mining operation. PolyMet has invested millions of dollars in studies to inform the EIS and permitting process, fulfilling and oftentimes exceeding expectations. Based on the extensive documentation outlined in the EIS, I am confident that impacts to the air, water or land will, be minimal, if any. Foreign suppliers of these metals don't necessarily follow sound environmental practices, creating a greater global environmental impact. PolyMet can produce these metals, metals that we use every day, in an environmentally sound manner and create hundreds of stable jobs that can support families in our community. PolyMet's economic benefit will be widespread; the beneficial effects include increased employment opportunities, a larger tax base, and increased county revenue from production and property taxes.	EOO,G4
4	I am in favor of this project I believe this project can be done while protecting the environment We need the jobs this project will create, both in the short term with construction and long term with the plants employees and support industries We also need the tax base this plan will provide I am also in favor of this project providing us with metals that we otherwise would have to import	EOO
4	How can we conclude that the job openings created will be filled by northern Minnesotans? Maybe people will be hired from elsewhere who will expect to stay in the area after the mine closes. This has the potential to increase the economic burden to create even more jobs in the Northern MN.	EOO,RFI
5	One of the comments I'd like to make is I'm a business manager for the Heat and Frost Insulators for Local 49 out of Duluth, Minnesota, and a lot of my members live throughout northern Minnesota, Wisconsin, and we have a very big territory that we heat, insulate pipes, boilers, you know, green, you know, everybody thinks green, you know, for the environment and everything for safety. What we do is insulate mechanical systems, and as a business manager, I have a lot of people that come into my office to fill out applications for a job, and I put these people to work, and what I have in front of you right now, as you can probably see, these are just kids, young kids that come into my office that want a job, a good paying job. I'm a union business manager. We pay our fringe benefits with health insurance, a pension, just like what everybody wants, health insurance, and what I got in front of you right here is about 75 people, young kids, that have come into my office for a job. And not only that, I have about 30 percent of my membership that's off, that's not working at this time through these difficult times, so it's just not only about my membership, it's about young kids that come in that want to make a job to pay their bills, families, and have health insurance and a good way of life, and my comment is times have changed. I know there's a lot of concerns about this project, but today is the day, and we're not going to move forward if we don't get jobs, produce jobs, and carry on and move forth.	EOO
5	The Superior Nat'l Forest, the BWCA and Lake Superior are for everyone to enjoy and are not to be compromised for short sighted economic gain.	EOO
6	This mine threatens our water, Lake Superior & possibly Birch Lake, the Kawishiwi River and everything down stream.	WR3B,WR3D
6	The jobs are short-term & exaggerated. The mining companies will use machines, not people. They promise 400 jobs, but we'll be lucky if 200 people have jobs for 10 years.	SE3

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
7	Mine now baby.	EOO
7	I am in support of PolyMet. This is a huge opportunity for us.	EOO
9	Let's approve this project and get some development in the Northern MN. Northern MW, MW and this country needs this to happen. this will put people to work with stable jobs. The construction project will put hundreds of construction works to work for 2 years or more. This process of mining has proven to be clear and environmentally safe if done correctly. The studies that have been done with the process PolyMet is going to use looks as if it will leave a minimal impact. Let's get past this and move ahead with this project.	EOO
18	Steve Peterson, I'm the mayor of the city of Virginia. Well, I believe that PolyMet has done due diligence, and we need jobs, we need stability and optimism for the area. I think they have brought together all the people they talked about, they've spent upwards of \$20 million bringing in geologists, environmentalists, all the people that need to put this package together. And I'm no expert, but I think that when you put that kind of package together and you spend that kind of money, that there's a commitment on the PolyMet side. And I think that if we cry wolf every time somebody comes out with a new idea, we're never going to complete projects up in this area, and I think that's what's happening right now with some of the environmentalists. I think it's a viable project, and again, we welcome PolyMet to the area, to the whole region, and I think it's a win/win situation. I don't feel that going forward there's going to be problems because there are so many strict environmental regulations in place with EPA and all the other agencies, that PolyMet will be watched and monitored very closely, so I'm comfortable, and again, I welcome them and wish them all the best. That's about all I have to comment.	EOO
120	Let's try this: The people of this state want and deserve clean water. The people of this state want and deserve good jobs. We have the ability, the knowledge and the will to have both clean water and good jobs. This is not an either/or situation. We can, and must, have both clean water and good jobs. That's it.	G1,G7
679	I believe the damage done to the Boundary Waters Wilderness and Lake Superior from the outflow of contaminated discharge from the waste will be permant. One cannot rely on Polymet's wetland treatment plan. It's unreliable. There is leakage to rivers and lakes downstream. Our streams and lakes already suffer from the buildup of mercury. Now is the time to think ahead of what could destroy them for future generations – long after the jobs created have come and gone.	WR3B,WR3D
1552	Last night I saw a letter presentation at the Izaak Walton League which is why I am writing to you. I hope it matters that I take the time to do this.	G10
2058	The PolyMet DEIS describes significant environmental issues associated with this proposed mine. These issues should be resolved before this mine is approved by the Minnesota Department of Natural Resources and the U.S. Army Corps of Engineers. The BWCA is a treasure because of its pristine nature. Please do not let it be dessimated by mineing.	G10
<b>Sender Last Name:</b> Petty		<b>Submission ID:</b> 2315
2764	As a longtime traveler in the BWCA I am appalled by the suggestion that we undercut one of the best things our state has going for it for a mine. I've guided trips in the BWCA for multiple summers and can tell you all about its beauty and its power to change teenagers for the better. Let's not threaten this resource. When I tell my friends from out of town that there are places in my state where one can still drink straight out of the lake they are impressed by Minnesota's commitment to environmentalism. Help me keep it that way.	EOO
<b>Sender Last Name:</b> Pfankuch		<b>Submission ID:</b> 3514

*Alphabetical by sender's first name*

<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
533	AIR QUALITY IN PRISTINE BOUNDARY WATERS: The DEIS does not approach the most important question of cumulative impacts of this mine and the others that are proposed in the district. Polymet can not be looked at as a single, one-time event in N.E. Minnesota. With permitting of Polymet will come at least 2, perhaps 4 or more new applications for permitting from other mining companies. What will be the total impact on the environment by all these potential mines and how will the EIS deal with mitigation of all these in concert? Specifically the Boundary Waters, which is down wind of all these projects, will be negatively impacted in terms of atmospheric haze from dust particles and other emissions blown into the air. According to the U.S. Forest Service, the Polymet project alone will cause significant haze impairments in the Boundary Waters 36 days each year! Tell us how this cumulative effect on air quality must be dealt with for Polymet and all future applications. In addition how is global warming affected by this mining operation and the combinations of all potential mines in the future?	AQ3,AQ4B
1124	WILDLIFE: The mine site disrupts natural corridors for the movement of wildlife. Specifically the Canada lynx which is a federally-listed threatened species that requires large territories and benefits from undisturbed forest corridors. No provision is made for mitigating this loss of habitat in the DEIS.	WI5
3246	BOUNDARY WATERS WATERSHED: There was little or no field sampling done on the movement of ground water through the bedrock. Since the mine and its waste storage site sits nearly on the continental divide it should have been determined if there is any chance that polluted mine drainage (including acids, metals, or sulfates) could move in the rock over time to the north and into the Boundary Waters watershed. This was not done and should be before permitting.	WR2A
3247	SULFATES IMPACT: Sulfates are a problem that are not dealt with rigorously in the DEIS. Sulfates in surface water demonstrably impact aquatic vegetation, specifically wild rice. In addition sulfates react with elemental mercury in a process known as mercury methylation. Methylmercury is the form that bioaccumulates in fish and animals that eat fish, including humans. What process has been identified to detect and mitigate methyl mercury in the environment and how will community health be dealt with and paid for? The Boundary Waters is a very unique National Park that deserves to be fiercely protected. Developing open mine pits without the proper monitoring and regulations spells doom for this pristine paradise - if not in our generation, certainly in our grandchildren's time. Please do the right thing and protect this national treasure by addressing the above issues.	WR1E,WR4B,WR4C,WR4F
3701	RECLAMATION: The DEIS does not outline any specific plan for reclamation after the mine site is closed. In the same vein there is no specific mention of the method or amount of financial assurance that the mining company will need to set aside for the potential disasters after closing. Because acid mitigation is difficult to predict and long term treatment after closing is necessary, there needs to be a large sum of cash held in escrow as a damage deposit and that amount should be specific and included in the final EIS.	PD3
3702	MONITORING PLAN?: Where is the plan for constant monitoring of the mining operation by the DNR? Waste rock needs to be sorted by sulfide content, tailings basins need to be inspected for leaks, and waste piles need to be sampled for pH in runoff water regularly. Do we just depend on the mining company to do its own monitoring? There should be a program set up in the EIS for constant monitoring of operations by an independent environmental concern or the DNR.	PD2,PD3,PD5

**Sender Last Name:** Pfeifle

**Submission ID:** 1996



*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
2482	Please accept these comments on the PolyMet Mining Corp. NorthMet mining project Draft Environmental Impact Statement. I have grave concerns about this project's potential impacts on Minnesota's natural resources and public health. I lived in salt Lake City, Utah from 1979 to 1985 and personally observed what I considered the devastating effects of sulfide mining on the area around the Kennecott Bingham copper processing area. The area around the processing area looked sterile and it did not appear as if there were even weeds growing in the immediate treatment area. I did not physically tour the site and all of my observations were from the air. Many times when making a final approach from the south to the airport we would be routed to the west side of the valley and make our approach to the airport directly over the treatment areas in West Jordan. I cannot visualize the type of operation I saw in Utah being placed in the Boundary Waters Area. The price of copper is high now but I also remember in 1983/4 when the price of copper was just a few pennies a pound Kennecott was laying off workers that had 20 or more years of service. Is it worth a few jobs and the tax money the State will receive to place a risk like this mine in such a unique and valuable area? The PolyMet DEIS describes serious environmental issues associated with this proposed mine. These issues should be addressed and resolved before this mine is approved by the U.S. Army Corps of Engineers and the Minnesota Department of Natural Resources.	G2,G6
<b>Sender Last Name:</b> Philipson		<b>Submission ID:</b> 1316
1536	It is imperative that we protect the fish and wildlife that currently thrive in Superior National Forest and safeguard this area for future generations. The lessons learned (hopefully learned) from the continuing ground water pollution caused by the 3M issues in the Twin Cities area should be enough to show it is easier and cheaper to prevent the introduction of pollutants than to try and clean them up later. Your consideration of the above in this matter will be appreciated.	G2C
<b>Sender Last Name:</b> Phillips		<b>Submission ID:</b> 3676
1	Comment: Note: wetland classification is discussed in the comments on Section 4.2. It is correct that not all wetlands have the same carbon sequestration or emission potential. As a result of this and other terrestrial carbon-cycle uncertainties, the quantitative analysis of Project carbon footprint did not take any credit for the mitigation of wetland impacts. The discussion in the DEIS focuses on the fact that wetland creation will mitigate some of the carbon sequestration capacity lost from impacted wetlands, not that it will necessarily offset all sequestration loss. The assertion that there is a net decrease in carbon uptake due to an equivalent amount of Type 8 wetlands not being involved in mitigation, is not in a larger sense the appropriate metric to judge the overall impact on long-term GHG emission budgets. This is because it neglects to factor in the highly uncertain impact of methane on net radiative forcing. The current state of knowledge about wetland carbon sequestration and emission suggests that it is not yet possible to unequivocally assume that wetlands, as a whole, result in net negative radiative forcing. Recent research suggests a high degree of uncertainty surrounding carbon balance estimates for North American wetlands, including the rich peatlands mentioned in the comment, due primarily to their emissions of the more potent, but shorter lived GHG methane (Bridgman et al. The Carbon Balance of North American Wetlands. Wetlands 2006, 26(4), 889-916).	EOO

*Alphabetical by sender's first name*

<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
2	<p>The DEIS discussion of mineral fibers needs to be revised to accurately characterize applicable law and include important and available scientific information. The DEIS states that regulation of amphibole fibers is based on the District Court decision in Reserve Mining in 1974. In 2009, the Eighth Circuit Court of Appeals held that the Reserve case was “moot.” Legal determinations regarding mineral fibers from a moot decision regarding a different facility and based on 35-year-old science are not germane to the potential environmental impacts from PolyMet—particularly as more recent research and studies provide the best available information on this issue. The DEIS also is misleading in its description of so-called “MN-fibers” and “MN-regulated fibers.” No state agency has ever promulgated a regulatory definition of a “MN-fiber.” The DEIS discussion of fibers also is misleading and incomplete based on its failure to consider and discuss the most recent and relevant science available regarding the potential for health risks from fibers. The International Symposium on the Health Hazard Evaluation of Fibrous Particles Associated with Taconite and the Adjacent Duluth Complex—Regulatory Toxicology and Pharmacology Vol. 52, No. 1, October 2008 (“Symposium”), specifically evaluated the potential risks from taconite fibers and found that “fiber” emissions from Northshore Mining Company in Silver Bay, based on fiber emission levels that are many times greater than anticipated from PolyMet, do not pose a risk to human health or the environment in the area surrounding the facility. In fact, the Symposium describes the environmental risk of the “taconite-derived fibers” as “trivial.” Among the many specific findings of the Symposium’s researchers were the following: (a) “fibers” in the area are best described as “cleavage fragments,” which are separate and distinct from asbestos in their morphological characteristics and lack the carcinogenic properties of asbestos; (b) ambient “fiber” levels in the Silver Bay area are not significantly different than those found in other non-urban environments in the United States and Europe. In fact, the levels observed in Silver Bay are at what the World Health Organization considers the “low end” of “background” levels for airborne asbestos concentrations; and (c) a cancer risk assessment of environmental exposure in the Silver Bay area showed that even if one takes the overly conservative assumption that cleavage fragments generated at the Northshore facility have a carcinogenic potency equal to that of asbestos, the estimated risk of 0.24/1,000,000 cases would be comparable to the background rate of mesothelioma unrelated to asbestos exposure. The Symposium’s findings represent state-of-the-art peer-reviewed determinations that support that “fiber” emissions from PolyMet do not pose a health or environmental risk. The Final EIS should thoughtfully consider and address these relevant findings.</p>	EOO
3	<p>Comment: The analysis provided on p. 4.11-3 (section 4.11.3.1) states: “The upland forest communities surrounding the Mine Site to the east, south, and west would shield groundlevel views of the Mine Site in those areas...Potential users on elevated terrain to the east, north, or west of the mine would have a limited view of the mine and stockpiles.” This assesses receptors in publicly accessible areas other than those explicitly mentioned in section 4.11.1.1.</p>	EOO
4	<p>The statement in DEIS Section 4.13.3.1 that “it is unknown if the slimes layer exists under the facility” is incorrect and may lead to the erroneous conclusion that a significant data gap exists in the DEIS analysis. To the contrary, part of the additional geotechnical exploration performed in 2007 in the tailings basin was specifically targeted at Cell 2W, the area proposed for the Hydrometallurgical Residue Facility. As a result of this additional geotechnical exploration and from review of other historic tailings basin information, it is known that slimes exist under the proposed Hydrometallurgical Residue Facility location. Geotechnical modeling to evaluate the impact of the slimes on the stability and integrity of the proposed hydrometallurgical residue cell liner system was conducted for a worst-case scenario with only saturated slimes (no fine tailings lenses, though they exist rather frequently and aid in drainage and excess pore pressure dissipation) under the hydrometallurgical residue cell liner and dikes. This analysis will be made available as part of the FEIS and will be submitted as part of permitting to fulfill overall permit application requirements, thereby affording the public opportunities for further review and comment. Further, it is inappropriate to use the word “hazardous” when discussing the hydrometallurgical residue. “Hazardous” has specific regulatory implications when applied to discussion of solid waste; the hydrometallurgical residue is an Industrial Solid Waste and is not hazardous.</p>	EOO

*Alphabetical by sender's first name*

**Comment ID    Comment Text    Theme Codes**

4 Proposed designs of the waste rock stockpiles are consistent with those employed throughout the Minnesota Iron Range in similar, if not nearly identical, geotechnical and hydrogeologic settings. These designs have proven to be effective and stable for over 50 years such that failure of stockpiles of similar design is not reasonably foreseeable. Furthermore, given the characteristics of the stockpiled materials, consisting of silt, sand, gravel, cobble and boulder size materials, it can be anticipated that in the unlikely event of a slope failure, the failure will be relatively isolated and easily remedied. Therefore, such a failure would be unlikely to result in significant environmental impact. The addition of the stockpile liner systems and in particular the stockpile subgrade preparation that must precede liner construction will only serve to improve stability of the stockpiles. Existing evidence and subgrade improvement plans notwithstanding, it is routine for stability analysis to be performed and submitted as part of permitting, affording sufficient opportunity for further public review and comment.

EOO

4 A stability analysis has been performed and is presented in the following document listed in DEIS Section 7.0 References: Barr Engineering Company (Barr). 2009. "Preliminary Geotechnical Evaluation, Flotation Tailings Basin." GT01, Draft 02. March 18 The analysis presented in the Preliminary Geotechnical Evaluation was based on review of historic geotechnical information for the tailings basin and on the performance of additional geotechnical exploration in 2007 specifically in support of the DEIS and future permitting, including the following in-field testing: • Cone Penetration • Standard Penetration Testing • Dilatometer and Vane Shear • Seismic Shear Wave Velocity • Dissipation This in-field testing was performed at multiple locations within tailings basin Cells 1E, 2E and 2W. The in-field testing was supplemented with in-laboratory testing of tailings samples recovered from the field, which included standard materials classification testing and the following additional in-laboratory testing: • Triaxial Compressive Strength • Consolidation • Hydraulic Conductivity The cross-sections of the Cell 2E north tailings basin dam expected to exhibit the lowest slope stability factors of safety (Sections F, G and N) were analyzed using: • Effective Shear Strength Analysis (ESSA) • Peak Undrained Shear Strength Analysis (USSA peak) • Liquefied Undrained Shear Strength Analysis (USSA liquefied) The resulting slope stability safety factors as summarized in the Executive Summary of the Preliminary Geotechnical Evaluation report and as copied below were: Slope Stability Analysis Slope Stability Safety Factor Target Minimum Factor of Safety for Year 20 Proposed Conditions Section F Section G Section N ESSA ~1.5 2.63 2.86 3.22 USSA peak ~1.3 1.64 1.63 1.88 USSA liquefied ~1.05 1.055 1.06 1.11 In all cases the slope stability safety factors met or exceeded the target values. In the event that higher slope stability safety factors are desired by PolyMet for the USSA liquefied case and/or if performance monitoring during the life of the tailings basin shows slope stability safety factors lower than anticipated, the slope can be buttressed to improve safety factor values. A preliminary buttress design evaluation for the USSA liquefied analysis case was performed for the cross sections with the lowest safety factors (Sections F and G) in conjunction with the slope stability evaluation and the results are included in the following table, a copy of which has previously been presented to the MDNR: PolyMet's Consolidated Comments on NorthMet DEIS February 3, 2010 Page 55 of 61 Slope Stability Factor of Safety with Varying Buttress Height Top of Buttress Elevation (feet) Section F Section G Buttress Height (feet) Factor of Safety Buttress Height (feet) Factor of Safety 1535 48 1.06 31 1.06 1540 53 1.09 36 1.07 1545 58 1.11 41 1.09 1550 63 1.12 46 1.10 1555 68 1.13 51 1.12 1565 78 1.17 61 1.15 As evidenced by the summary of slope stability modeling results presented above and the evaluation presented in the Barr 2009 Preliminary Geotechnical Evaluation, Flotation Tailings Basin, the analysis that has been suggested has already been performed. This geotechnical evaluation will be resubmitted as a part of the application for a Tailings Basin Dam Safety Permit, which is the normal venue for agency review of such analysis, but also affording sufficient opportunity for further public review and comment.

EOO

**Sender Last Name:** Philzois

**Submission ID:** 1029

1129 I am in support of the PolyMet Mining project. PolyMet can produce these metals in an environmentally sound manner and create hundreds of stable jobs that can support families. Based on the documentation outlined in the DEIS, I am confident that impacts to the air and water will be minimal. As a person who lives, works and plays in Northern Minnesota, I understand the need to ensure a safe environment project. Let's get on with a project that will do nothing but enhance the Iron Range. Thank you for your cooperation.

EOO

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
<b>Sender Last Name:</b> Phinney		<b>Submission ID:</b> 3199
740	I request a time extension of 30 to 45 days for review of the EIS. I request more public meetings in more places to gather input. The current schedule is too limited. I request that the public meetings include the option for citizen statements and discussion in the open meeting.	PRO6
<b>Sender Last Name:</b> Piekarski		<b>Submission ID:</b> 3336
3629	In the past sulfide mining has caused extreme damage in the western United States. Letting sulfide mining occur near a pristine wilderness area such as the BWCA seems like we want to ruin our environment. Water is a resource that wars are currently being fought over, & we are thinking about letting people come in and potentially damaging it for several years into the future. I personally have been to the BWCA, & would hate to see it destroyed.	G7
<b>Sender Last Name:</b> Pier		<b>Submission ID:</b> 3129
3499	This is to express my concern about proposed mining operations in NE Minnesota. Information I have reviewed suggests that sufficient attention to negative environmental impact has not been provided. I have no confidence that the mining companies will adequately police themselves. I urge you to use extreme caution in assessing this proposal and to consider the potential for devastating and irreversible damage to this magnificent ecosystem.	G2,G8
<b>Sender Last Name:</b> Pierce		<b>Submission ID:</b> 2267
1860	The sulfuric acid and sulfates produced when the ore is mined will effectively contaminate not only drinking water and fish populations, but be devastating to wetlands and the St. Louis River watershed. The mining plan presented to the MN DNR won't prevent irreversible water pollution.	WR3D
2681	The PolyMet copper mine plan is being described by the mining industry as safe and of no threat to our water supply. However, similar mines (one in South Dakota) described as having low sulfur content in the rock have created very real acid mine drainage problems. We're told about 'new techniques', but studies have proved that this new technology is untested and false claims for it are being made.	G7
2682	Not only do our lakes, streams and forests provide a healthy tourist industry, they are a beloved part of our heritage here in the northland--enjoyed by the majority of Minnesotans. If we compromise our natural resources, there will be no possibility of renewal. PolyMet should be required to give letters of credit with no expiration date in amounts sufficient to ensure that no matter what happens to the company, state taxpayers don't get stuck cleaning up the mess.	G4
<b>Sender Last Name:</b> Pierson		<b>Submission ID:</b> 2859
458	According to the US Forest Service, this project will cause significant atmospheric haze from dust particles and other emissions. How will this be addressed, and what will be the impact on the area?	RFI,AQ5
2729	The Impact Statement predicts that the "West Pit" will begin discharging polluted water at year 65 and that arsenic, cobalt and selenium will exceed water quality standards.	WR3C
2730	There was little or no field sampling done on the movement of ground water through the bedrock. What are the possibilities of polluted mine drainage seeping into other areas, including the Boundary Waters?	WR2A

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
2731	The Statement describes a relatively high sulfate concentrations in seepage from the Tailings Basin which would be released into the wetlands to the north and into the lakes downstream on the Embarrass River. What will the effect of this be on the fishing and other recreation activities in this area.	WR3A
3160	The Impact Statement talks of water from waste rock piles being polluted for up to 2,000 years (Table 4.1-45), yet no where does it provide for specific financial assurance from the mining companies for long term treatment or maintenance. Will financial responsibility for this be absorbed by the DNA?	PD4
3215	I spent most of my adult life making a living in northeast Minnesota...first in the recreational arena in the BWCA, then in the social services arena of the Iron Range. Coming from that background, I empathize with the arguments to explore mining development to ensure the survival of the communities in the region; but, one simple statement regarding the potential impact on what is being proposed with the Polymet mine: Last I heard, one should not eat the trophy trout that exist in some of the reservoirs created by the mining industry...and levels of toxic lead and mercury were remarkably high even in Birch Lake, due to the run off of decomposing mine tailings. One simply cannot assert that mining done on the potential scale of Polymet will not have the same effect. The evidence is right there in front of everyone. Learn from the past...and its immediate impact on the present. Do not add fuel to what is often a disregard of very real environmental concerns for relative short-term development benefits.	G1,G2C,G7A
3732	PLEASE DO NOT ALLOW THIS TO PASS! I have young children and if this passes, I will consider moving out of the area. I will not subject my children to this environmental disaster. I am currently not working and could possibly get a job to support my family if this does pass. But I'm not willing to trade the health of my children for a paycheck in my pocket. This project may produce numerous jobs but many people will leave and the tourists will stop coming, which will result in job losses for others. Please. Do not allow this to happen.	EOO,G1,G11
<b>Sender Last Name:</b> Pilipauskas		<b>Submission ID:</b> 1633
2054	With all of the sulfide mining that has taken place in the U.S and the consequences of those mines such as poisoning ground water and killing off streams and lakes why would we want to allow these kind of mines to drain into the Boundary Waters? Obviously they weren't allowed to mine in Canada for a reason. Tell them to go home and mess up their own water.	EOO,G7B
<b>Sender Last Name:</b> Piron		<b>Submission ID:</b> 1114
1220	I am writing to express my personal support for the Polymet project for the following reasons: 1. The Polymet project will provide several hundred high paying full-time jobs in the region that will benefit the local economies as well as Minnesota' - especially at a time when our country is in desperate need of good jobs. 2. The Polymet project will provide a reliable source of several metals critical to the production of electronics and other high tech components and products, thus reducing our dependence again on foreign countries that do not have our best interests in mind. 3. Polymet has complied with the regulatory requirements and deserves a chance to show that it can be both a huge benefactor to the regional and state economy as well as a responsible, caring steward of our natural environment. Please allow this important project to move forward at a time when our region, state and country truly need good jobs, economic development and a success story to celebrate.	EOO
<b>Sender Last Name:</b> Pister		<b>Submission ID:</b> 2227
2635	Get 'er done.	EOO
<b>Sender Last Name:</b> Plendl		<b>Submission ID:</b> 3394

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
3684	Before Franconia is allowed to go any further, it should be an imperative that all aspects of this EIS is considered. When considering longevity of industry in NE MN, this proposal makes no sense considering its affects 50+ years down the road. As a BWCAW user, long term vacationer to Birch lake, business owner and environmentalist, I feel this situation needs to be heavily acrutinized before any further action is allowed by these mining companies.	EOO,G10
<b>Sender Last Name:</b> Pliml		<b>Submission ID:</b> 3163
3536	Polymet will provide many needed jobs for the short and long term for the east range area. Along with needed jobs it has been shown that Polymet has spent countless hours planning how their process will provide safe gaurds for the environment. This is a business that should be given the green light.	EOO
<b>Sender Last Name:</b> Popovich		<b>Submission ID:</b> 1083
1187	This email is to send. my SUPPORT for the, PolyMet Mining Project. I have been involved in the informative public meetings that have taken place in Hoyt Lakes, Mn. As a part of the city of Aurora Chamber of Commerce, I have also been involved in meeting Mr. Scipioni to gain more information about the mining project. This project Is good for our area in that it will provide many jobs to help our the local economy . The main point about this project is that it will be done In a way that will have the minimum environmental impact on the site. This is a brownfield site that has a great deal of infrastructure already in place that will be used and cared for properly. Water on the site will be claimed and reused in the process and will meet all state requirements.for quality. , Much time, effort and monies have been sp_ent in preparation for this project and it is now time to move the process forward and get the permits to this company to allow production. .	EOO
<b>Sender Last Name:</b> Porter		<b>Submission ID:</b> 3169
713	Request I am requesting that the response period to the DEIS be extended for 120 days. This would give time for the public to: 1.Better understand, evaluate and determine the effectiveness of the methods (many very technical) the company and government agencies are proposing to eliminate threats to the environment. 2.Require that the company must establish, ahead of time, that when the mine closes, the water flowing from and through the site won't need to be treated before emptying into groundwater or surface water. 3.Propose regulations that would require the PolyMet Company to have the amount of money available for any cleanup bill at the end of the mining period, or, if it leaves the state or becomes bankrupt. 4.Review the PolyMet Company business plans to determine if this project will be sufficiently cost-effective and profitable for it to compete globally for their projected life of the	PRO6

*Alphabetical by sender's first name*

**Comment ID    Comment Text**

**Theme Codes**

3123 Non-ferrous mining in northeastern Minnesota proposal Dear Sir: This is not just another “iron ore” mining operation! Non-ferrous mining requires a process to separate the metals from sulfide minerals. If not done properly, the sulfuric mine drainage would cause irreversible groundwater and surface water contamination and other environmental degradation. The PolyMet Co. proposal for sulfide mining does not contain any examples of non-ferrous mining operations in Canada or the United States that have not resulted in environmental pollution including contamination of groundwater and surface water...during or after such mining. Supporters of the proposal believe that the opportunity to create new jobs far outweighs the potential threats to the environment and the company will be using “mining techniques that are much cleaner than those used in other countries”. However, the EIS does not state any of the older, present or newer technologies and methods have resulted in no introduction of hazardous material to the environment. In recognition of the environmental risks associated with this type of mining, other states have already established strict criteria for the permitting process for drilling exploration and mining of non-ferrous materials. They adopted these regulations fully realizing the tradeoff that was being made between needed jobs and maintaining a quality environment. State of Wisconsin Wisconsin has a “Mining Moratorium Law” that requires an applicant to provide examples of a mining operation in the U.S. or Canada that have not resulted in a significant environment pollution. The law includes specific qualifying criteria that must be satisfied in order for the example site, or sites, to be considered. The mining company must submit documentation from groundwater/surface water monitoring that includes data showing that: (1) An example mine has been closed for 10 years without the pollution of groundwater or surface water from acid drainage at the tailings site or at the mine site or from the release of heavy metals; and; (2) An example mine has operated for 10 years without the pollution of groundwater or surface water from acid drainage at the tailings site or at the mine site or from the release of heavy metals. In addition, the candidate mine or mines identified must be located in a sulfide ore body that together with the host rock has a net acid generation potential (i.e. the potential to create acid drainage). Furthermore, the candidate mine cannot be listed on the national priorities list of contaminated sites, and cannot be an operation for which the operator is no longer in business and has no successor that may be liable for contamination. The Department must verify the information and present its recommendations on satisfying the requirements of the Mining Moratorium Law before a mining permit can be issued. State of Oregon Oregon has established a Mined Land Reclamation (MLR) program which regulates mining that insures that off-site impacts (contamination of groundwater or surface water) and that the site is mined in a way that guarantees the reclamation of the site will be completed. It includes Best Management Practices (BMPs) that describe the mechanical means of minimizing or eliminating water-quality problems.

WR1E

**Sender Last Name:**    Pospeck

**Submission ID:** 126

115 I think it would be good for the economy up there because jobs are needed, and I think they aligned my fears, what they were going to do to the environment, just by the methods that they are going to come up with and get the copper, minerals out. I think it would be real good for the area just to have the jobs and the economy. That's why I was for it, because I think it would really be good for the economy, because we need jobs up there. That's, basically, it.

EOO

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
167	We strongly support the Polymet project in Hoyt Lakes. We believe the draft EIS demonstrates that the impacts to the water and air will be minimal. Furthermore, Polymet is located on an existing brown field in an area where mining has occurred for over 100 years. The Polymet operation will impact the environment far less than the iron mining operation that occupied the minesite for the fifty years previous. A lot has been said about Polymet's proximity to the Boundary Waters. It IS NOT in the Boundary Waters watershed so this argument is nothing more than a red herring. Because the Northmet project will produce strategic metals essential to the American economy which are currently being imported, it is important to note we will no longer have to rely on foreign countries for these strategic metals. In an era where we are desperately trying to reduce our dependence on foreign oil it should be a lesson heeded. Besides, mining these metals in one country, processing them in another and then transporting them to the U.S. creates unnecessary greenhouse gas emissions. Foreign suppliers of these metals don't necessarily follow sound environmental practices, thereby creating a greater global environmental impact. We further believe that the benefits to be derived from the Polymet operation, such as providing livable wage jobs for over 400 people in an economy that desperately needs jobs; and injecting millions of dollars of state and local taxes into the state coffers at a time when the state badly needs additional dollars to operate should be of primary consideration. It will be a great boon to the local economy, encouraging growth in housing, retail development and hundreds of spin-off jobs. We on the Iron Range NEED this growth to survive and we've been patiently waiting for this interminable permitting process to be finally completed so we can get on with it. In closing, let me emphasize the we who live in Hoyt Lakes understand, perhaps better than anyone, the need to balance environmental concerns with the need to provide jobs for the region and we firmly believe that Polymet will take draconian measures to ensure that their operation will produce jobs and the metals critical to the United States in a responsible manner in accordance with Minnesota's strict environmental requirements to protect air, water and land.	EOO,G5
<b>Sender Last Name:</b> Powers		<b>Submission ID:</b> 337
358	I live on the White Lakes chain. I know this is only the first request of many to follow. If this mine is permitted, there will be no way to save this area from degradation to the point that no one will want to be here. Don't do it.	EOO
429	I am concerned that the comment period is too short to allow adequate study and response to the DEIS. Please extend the comment period and take time to make the best decision possible considering the tremendous consequences to the area.	PRO6
2360	I am concerned about the need for financial assurance sufficient such that the citizens of Minnesota will not be left to clean up that remains when the Mining Company has taken it's profits and left the state (or declared bankruptcy). The EPA is developing rules to assess adequate financial assurance and the EPA believes financial assurance should be addressed in the DEIS, not later.	PD4
<b>Sender Last Name:</b> Pranskatis		<b>Submission ID:</b> 3492



*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
3766	Stuart Arkley, EIS Project Manager Environmental Review Unit Division of Ecological Resources Minnesota DNR 500 Lafayette Road Saint Paul, Minnesota 55155-4025 February 2, 2010 Dear Mr. Arkely, Please be advised that my wife and I DO NOT support the proposed Polymet sulfide mining operation in northeastern Minnesota. We have reviewed the Environmental Impact Statement and have concluded that it would be irresponsible to let this project move forward. Our land and water quality are simply too precious. Interestingly, this EIS reminds me of a similar EIS that I read years ago regarding oil exploration on the north slope of Alaska. The company, British Petroleum, assured everyone that they would effectively mitigate land, air and water quality and that no harm would be done to the environment. Imagine my surprise, or lack thereof, when the Anchorage Daily News reported about a spill that happened this past December. Their headline dated December 09, 2009 read, "Spill is one of worst on the North Slope." BP was fault. In fact, not only were they at fault, but they were still on probation from an even larger spill that occurred on their watch three years earlier. Time and time again we are promised one thing but delivered another. We cannot keep taking these chances, not when clean drinking water and our last remaining wild places are at stake. In closing, please know that I, (we), can always find other work, but we cannot just pull a new ecosystem out of our hats when something goes wrong. Thank you for your time. Sincerely, Chris and Catherine Pranskatis 2629 Van Vac Road Ely, MN 55731	EOO,G2,G7
<b>Sender Last Name:</b>	Priem	<b>Submission ID:</b> 3338
3631	I agree 100% with this video. We need to stop mining. Mining near the boundary waters is an extremely stupid idea. I can't believe this can even happen. How can someone think this is ok? I think this is awful. Great video, and I think everyone needs to think about this a little more!	EOO
<b>Sender Last Name:</b>	Pritchard	<b>Submission ID:</b> 1179
1294	I saw the "Precious Waters" video which discusses the mining proposals for the Boundary Waters area. I am definitely opposed to this. We have a natural resource second to none. We must preserve this pristine area. Clean water is a precious commodity that is becoming more scarce. Do not proceed with mining ideas!!	EOO
<b>Sender Last Name:</b>	Prittinen	<b>Submission ID:</b> 294
308	I am writing you in regard to Poly Met Mining, Inc., North Met Project. I am the General Manager of Viking Explosives & Supply, Inc. in Hibbing, Minnesota, which provides explosives to the mining and quarry operations in Northern Minnesota. At the present time 30% of our employees are on layoff due to the reduced activity in the iron ore industry. We regard the Poly Met project as one of the only potentials to increase our production and employment. Hibbing, Minnesota at the present time has the highest unemployment rate in the State of Minnesota. The huge economic benefit that Poly Met will provide to our communities and educational system cannot be ignored. I recognize the need that the project be operated in an environmentally sound manner, as a graduate Mining Engineer and former General Manager of Raw Materials for LTV Steel I have had the opportunity to review their flow sheet and it is my sincere opinion that this project can be operated in a manner to minimize any environmental impacts. The critical need in our country for the metals they will produce is obvious. It is my opinion that their project should secure approval which will not only benefit us locally with jobs that are critically needed jobs but will be a domestic source of metals that are critically needed in our country.	EOO
<b>Sender Last Name:</b>	Proescholdt	<b>Submission ID:</b> 3678
1	Stock Piles – Waste Rock Stockpile Design and Cover: It is the position of the tribal cooperating agencies that in order to adequately assess the potentially significant environmental impacts of a stockpile failure, a slope stability analysis must be performed and included in the DEIS. For more information, see section 4.13 of this document.	PD2

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
2	DEIS 4.1.2.1, Hydrologic Alteration of Streams, Lakes and Aquifers Impact Criteria, lists a series of parameters recommended for a “range a variability approach”, and states “The deviation from existing conditions, based on modeling, in the mean values of the hydrologic parameters help determine the degree of impact to stream ecology.” It is the tribal cooperating agencies’ position that there is no mechanism to accurately develop the data listed above. Field data collection is spotty or non-existent and the numbers used in this DEIS are derived from the MODFLOW groundwater model and XP-SWMM model. It is important to note that the MODFLOW model was developed to assess the rates of mine pit inflow and as such, the results it gives for areas outside the mine pit footprint are unsupported by data. The XP-SWMM is based on stream gage data that is 17 miles and 20 years distant from the proposed project. Therefore, the above listed parameters calculated for the Partridge River have little data to support them.	WR1E
2	The discussion of LTVSMC Tailings Basin seepage and exceedances of the mercury criterion is puzzling. In reviewing other permit applications and environmental review technical documents, Fond du Lac has heard repeatedly from the state agencies about taconite tailings’ affinity for sequestering mercury. Evidently seepage from the Tailings Basin (which currently holds only taconite tailings) contains mercury at concentrations that frequently exceed the applicable GLI standard (Table 4.1-30), but the discussion on page 4.1-48 includes completely contradictory information (“Mercury monitoring has occurred at the LTVSMC Tailings Basin and along the Embarrass River, which generally found mercury concentrations consistent with baseline levels....all samples were well below average concentrations in precipitation...”). Not only is this problematic for permitting this project, it also sheds doubt on other existing taconite operations and their lack of permit requirements to treat for mercury removal. Most of this region (the St. Louis River watershed) is not covered by the statewide mercury TMDL, and additional actions, both regulatory and watershed-based, must be employed to remove the mercury fish tissue impairment. It is irrelevant to compare tailings basin seepage mercury concentrations to ambient precipitation mercury concentrations; precipitation is not regulated through a NPDES permit.	EOO,WR4B,WR4E,FM1,F
3	DEIS 4.1.3.1 Proposed Action/Closure (Years 20-65) discusses process water (e.g. stockpile leachate) generation and required treatment at the WWTF, pumping to the East Pit, and flow through a passive wetland treatment system before filling the West Pit. The Band has seen no evidence presented of the long-term effectiveness of this treatment system, and in fact, a similar passive wetland treatment system employed to treat discharge from the Dunka Pit has not been effective in meeting effluent limits. The DEIS predicts that seepage from the Hydrometallurgical Residue Cells would cease after 34 years. It is the tribal cooperating agencies’ position that this 34 year timeframe is unlikely to be correct. Because all cap and liner systems leak, some pumping of water that enters the hydrometallurgical residue cells would be needed in perpetuity. This would be particularly true as the cap ages and develops additional leaks. Post-Closure (After Year 65) states that PolyMet would continue to collect and treat leachate....until monitoring show that treatment is no longer necessary to meet water quality standards”. Tribal cooperators note that stockpile leachate is predicted to not meet water quality standards for thousands of years (Table 4.1-41). Without a dry cap, Tailings Basin seepage will continue to occur; it is the tribal cooperating agencies’ position that water quality and hydrologic impacts to wetlands and the Embarrass River under this proposed alternative would be perpetual.	WR1A
4	Effect on Flow in the Embarrass River discusses alterations to flows in the Embarrass River due to seepage from the Tailings Basin during operations, closure and post-closure. It is the tribal cooperating agencies’ position that there will be surface water discharge to the Embarrass River. Aerial photography and state Public Waters inventory maps indicate that there is currently a direct surface water connection between the northwest corner of cell 2W and the Embarrass River. Aerial photos show that water discharging from the tailings basin follows a natural channel westward, through existing wetlands and intersects a channel that leads directly to the Embarrass River.	WR3A

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**Comment ID    Comment Text**

**Theme Codes**

4 Effects on Surrounding Groundwater Levels During Mine Operations states that “In this hydrologic setting, however, it is not practical to gather such locally variable input data for a MODFLOW model”. Tribal cooperating agencies disagree with this assumption. It is the tribal cooperating agencies’ position that in order to adequately predict potentially significant environmental impacts, hydrogeologic data must be collected that can be used as input to a MODFLOW model. Tribal cooperating agencies contracted with the United States Geological Survey (USGS) to review the uncertainty of the MODFLOW model and provide recommendations on how the model could be improved. The USGS report was submitted to the lead agencies in February of 2009 (USGS 2009, Letter Report reviewing PolyMet ground-water model. January 29, 2009). Tribal cooperating agencies organized meetings between USGS staff and participants in the EIS, including the applicant, to openly discuss all issues related to the USGS report, the MODFLOW model and the implications for the proposed project. The conclusions of the report and the meetings should be implemented so as to produce a useful model of project site hydrology. Tribal cooperating agencies believe that impacts to surface waters, groundwater, and wetlands for a project of this complexity demand a scientific, data driven approach rather than one based solely on professional opinion. Finally, it is the tribal cooperating agencies’ position that a robust groundwater model must be developed for this project in order to adequately characterize the potential impacts of various project alternatives to natural resources. The DEIS concludes that most surface water features, including bogs, are isolated and not affected by groundwater drawdowns (mine pit dewatering). As previously indicated, the empirical observations in the Adams 2009 email are insufficient to support the conclusions. The evidence presented in the email can be interpreted to indicate substantial impact of the Peter Mitchell Pits on adjacent lakes. However, it is the tribal cooperating agencies’ position that aerial photography, without ground verification or georeference is an exceedingly imprecise method for determining water levels in lakes and wetlands (GLIFWC 2009, Memorandum to Jon Ahlness and Stuart Arkley: Photographic evidence for pit impacts to wetland hydrology. April 24, 2009). The DEIS also defers an analysis of hydrologic impacts until the future, relying upon monitoring to reveal impacts rather than developing strong predictive tools. It is the tribal cooperating agencies’ position that the DEIS should not rely on future monitoring to detect impacts as a substitute for the development of data and analyses that would reasonably identify and predict those impacts as part of a DEIS. Virginia Formation High Wall mitigation measures are discussed. Tribal cooperators strongly disagree with the assumptions used in the groundwater quality modeling for the mine site. It is the tribal cooperating agencies’ position that relying on the effectiveness of a technology with highly variable outcomes (limestone treatment) in calculating long-term water quality is not a conservative approach. The DEIS should provide a range of water quality results including the groundwater quality under a scenario where lime treatment and covering the Virginia Formation wall is ineffective. Effects on Upper Partridge River Morphology concludes that sediment deposition would only be temporary, and no other significant effects on river morphology would be expected. It is the tribal cooperating agencies’ position that the available data do not support the conclusions presented in this section. The impacts predicted by technical reports (RS73B) to the Partridge River are primarily reduction in base flow due to mine pit dewatering and those impacts are predicted by the MODFLOW model. MODFLOW modeling in (RS22-Appen.B) forms the foundation for the predicted impacts. The MODFLOW mod

WR1E,WR3B

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Comment ID	Comment Text	Theme Codes
5	West Pit Overflow again discusses the passive wetland treatment system as the mitigation for water quality impacts. Tribal cooperating agencies believe the characterization in the previous paragraph is misleading. First, as previously indicated, the WWTF would need to operate for a minimum of 2000 years in order to treat leachate from the stockpiles. Second, the effectiveness of the passive wetland treatment system has not been demonstrated and it is likely that the wetland treatment system would not function as the applicant has suggested (see discussion below). Finally, the long term water quality of the pit lake is a concern. It is unlikely that this water would ever meet surface water quality standards. It is the tribal cooperating agencies' position that the DEIS should discuss the implications of leaving a polluted pit lake at this site in perpetuity. The DEIS notes that "passive treatment is an important component of the MnDNR's regulatory goal of minimizing or avoiding the need for long term maintenance. Constructed wetlands performance, however is not sufficiently reliable to function as the primary treatment measure for assuring consistent year-round compliance with water quality standards. Based on these uncertainties, it is the tribal cooperating agencies' position that primary water treatment at the WWTF would need to continue for thousands of years. This does not meet the Minnesota goal for maintenance free closure. The DEIS identifies a potential for water quality standards exceedances in an unnamed tributary. It is the tribal cooperating agencies' position that all waters of the state are protected by Minnesota water quality standards and using this unnamed water as a mechanism to dilute mine related contamination is not appropriate. In addition no flow information for this unnamed water is available. The DEIS states that "Water quality in the West Pit is expected to improve as oxidation would be negligible once the pit walls were submerged." It is the tribal cooperating agencies' position that because of continued inputs from the stockpiles, the tailings basins, and the pit walls, the pit lake could exceed surface water quality standards for thousands of years. Tribal cooperating agencies note that 20 feet of pit wall will never be submerged and as such constitute a perpetual source of mine related contaminants.	WR3A
6	Embarrass River Water Quality Results It is the tribal cooperating agencies' position that because the Embarrass River already exceeds water quality standards, it would be difficult to permit the addition of additional contamination from new or expanded sources.	WR3A
6	Water Quality in the Lower Partridge River states that "All parameters are expected to meet surface water standards under all flow conditions for all mine years as is predicted for the Upper Partridge River and Colby Lake". It is the tribal cooperating agencies' position that contaminants from the project would contribute to exceedances of standards below Colby Lake. Wild rice beds are located on the Partridge River immediately below Colby Lake. Therefore, the State of Minnesota wild rice standard for sulfate of 10 mg/l should apply along all of the Lower Partridge River.	WR4F
6	Mercury in Surface Waters discusses uncertainty as to whether the West Pit overflow would meet the GLI standard for mercury, and recommends additional analysis. Fond du Lac agrees; tribal cooperating agencies take the position that the analysis should be incorporated in the DEIS so that environmental impacts can be predicted and reviewed by the public. This may be one of the most significant environmental impacts of the Project, and clear analysis of the probability of non-compliance with water quality standards is undoubtedly a subject that requires full evaluation in the DEIS.	WR3I,WR4A
7	Increased Sulfate Loadings concludes that "the risk of increased sulfate loadings from the Mine Site promoting methylation of mercury in wetlands is expected to be low." Fond du Lac strongly disagrees with this conclusion; the Band believes that any increase in mercury or sulfate loadings is a significant environmental impact.	EOO
8	Nondegradation Standards suggests that simply monitoring for mercury from future West Pit overflows is sufficient. Tribal cooperating agencies disagree with this approach. It is the tribal cooperating agencies' position that the determination of the final water quality of the west pit should be included in the DEIS so that potential water quality impacts to Lake Superior can be characterized. As a downstream water quality regulatory agency, Fond du Lac is specifically concerned about this project's potential for further degradation of our most important on-reservation fishery, the St. Louis River. Any additional releases of mercury, or loadings of sulfate that enhance downstream methylation of mercury and bioaccumulation in fish, is an unacceptable violation of our water quality authority. As we do not have delegated §303(d) CWA authority, EPA Region 5 will be calculating a mercury TMDL for the Fond du Lac reach of the St. Louis River, which is impaired for mercury in fish (Fond du Lac has concurred with the state of Minnesota's impaired waters lists on our shared waters for the last three iterations).	WR4B,WR4C

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
9	DEIS 4.1.3.2 No Action Alternative/Effects on Groundwater states that “The monitoring data that are available do not suggest regular exceedances of groundwater evaluation criteria at downgradient evaluation points (e.g., property boundary). It is the tribal cooperating agencies’ position that data collected in 2009 show that private wells north of the basin have been impacted by historic tailings basin effluent. Although two additional groundwater samples north of the basins collected in 2009 indicate that exceedances exist at the property boundary, the full extent of the contaminant plume has not been defined. This section also predicts that over time, concentrations of groundwater contaminants from the LTVSMC tailings would diminish, “but the relatively high concentrations of aluminum, iron and manganese currently found downgradient of the Tailings Basin may reflect natural conditions in this area.” It is the tribal cooperating agencies’ position that the available data does not support this claim. In addition, a basic assumption (i.e. plug flow [TB-14, July 2, 2009, page 9]) of the contaminant transport modeling at the basin (RS74) assumes that all constituents in the groundwater are the result of past and current seepage from the basins. This is yet another example of troubling inconsistencies in model assumptions and conclusions drawn in the DEIS. Fond du Lac disagrees with several of the key conclusions in Table 4.1-69, “Water Resource Impact Summary of the No Action Alternative”. The tribal cooperators take the position that the basins will drain until seepage equals precipitation at which point the hydrology will have returned to approximately pre-basin conditions. As seepage declines, as has been already seen over the past 8 years, surrounding wetlands will begin to recover from the previous hydrologic impacts. The tribal cooperators take the position that the assumption of plug flow in the contaminant modeling suggests that as precipitation becomes the dominant source of new water to the aquifer, groundwater quality may improve dramatically.	WR1E
10	Hydrometallurgical Residue Facility Reclamation: (Drainage) It is the position of the tribal cooperating agencies that these pumping and water treatment activities would have to be conducted in perpetuity, and that the cover and liner would require perpetual maintenance.	PD6
10	Flotation Tailings Basin: It is the position of the tribal cooperating agencies that in order to adequately assess post closure impacts, this section should estimate the length of time that seepage collection would be required at the tailings basin.	PD2
11	It is the position of the tribal cooperating agencies that: • The applicant has not demonstrated the effectiveness of the secondary wetland treatment system. • The characterization of post closure activities as “occurring for many years” significantly underestimates the potential long term impacts of the project and the potential need for post closure activities to continue for hundreds or thousands of years. • Other continued maintenance activities would also have to be conducted in perpetuity (repair of stockpile and tailings dike slope erosion, wetland and outflow structure upkeep, woody species and tree removal on stockpiles and hydrometallurgical cells with membranes, tailings pond maintenance, and seepage collection from the Tailings Basin. • If this project would require perpetual maintenance, it cannot be deemed to be “reclaimed” and would violate the stated goal of Minnesota’s reclamation statute.	PD5
12	The DEIS differs from previous drafts that we reviewed and provided comments to the lead agencies. This version states that “At the brownfield Plant Site, Cliffs Erie LLC would be required to complete closure and reclamation activities required under an existing MnDNR- and MPCA-approved Closure Program.” Yet, on page 3-19 of the DEIS, it is stated that PolyMet “owns or leases 15,100 acres of which approximately one-third is predicted to have ground-level disturbance due to Project operations. Most of that area that would be disturbed has already been impacted by LTVSMC operations”. The July draft EIS included discussion of PolyMet as a responsible party for closure and reclamation activities under the VIC (Voluntary Investigation and Cleanup) program. It appears that any reference to PolyMet’s liabilities for the acres they have acquired has disappeared from the DEIS. Under NEPA, hazardous waste sites are “unequivocally relevant to future use of a site”, and in fact should be driving the decision-making process.	PD3
12	Tribal cooperating agencies disagree with the assumption that the proposed project would only result in social and economic benefits. The environmental impacts of the project on the 100 Mile Swamp, an undisturbed and very high quality wetland complex, would constitute a social impact. Furthermore, economic development that is not centered on heavy industry (tourism for example) would be adversely impacted by the project. At the end of the project life, there would also be negative economic impacts as the surrounding communities deal with the loss of primary employment and economic revenue streams that were dependent on the Project.	PD5

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
13	It is the position of the tribal cooperators that water treatment of the discharge would be required to comply with the wild rice water quality standard. The Partridge River contains several wild rice beds immediately downstream of the proposed discharge point. In the discussion of demonstrating a Permeable Reactive Barrier (PRB) north of the tailings basin, the DEIS notes that it may require periodic recharging. The tribal cooperating agencies' position is that if this PRB is a proposed mitigation for an identified significant environmental impact, then the DEIS should include explicit estimates of how often "periodic recharging" would need to occur.	G1
13	Tribal cooperating agencies note that although they participated in the identification of potential mitigation measures for the tailings basin, they did not participate in the development of the tailings basin mitigation design. In addition, it is the position of the tribal cooperators that an untreated discharge of contaminated tailings basin water to the Partridge River in order to dilute and dispose of tailings basin water would have environmental impacts that must be avoided in order to adequately protect the environment	PD3
14	It is the position of the tribal cooperating agencies that this alternative was eliminated prematurely and without sufficient consideration. We note that analysis of unquantified environmental impacts, values, and amenities have not been evaluated as required by CEQ regulations. A study of this particular deposit was performed by U.S. Steel that recommended underground mining. By examining cross-sections showing the distribution of ore by depth, it appears that there are substantial ore reserves at depths that likely could not be accessed by the proposed open-pit mine. The ecological costs of open-pit mining and above-ground disposal of tailings and waste rock are immense. This ecological cost, combined with the most current understanding of deposit ore grades and reasonably possible metals prices, must be evaluated to determine the viability of this alternative. Under §404 of the Clean Water Act, the USACE is required to identify the "Least Environmentally Damaging Practical Action". Economics can play a role in determining the feasibility of an alternative, but it cannot be the sole source of making that determination. The economic analysis presented in the DEIS is flawed, because it does not take into account the money and resources saved by doing underground mining (reduced mitigation costs, etc.) 40 C.F.R. 23.10 (a)(2) "An alternative is practicable if it is available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes. The DEIS includes information comparing the initial capital cost of underground mining as compared to open-pit mining, but does not consider any other pertinent costs, such as wetland mitigation, wastewater treatment, pollution prevention and remediation, mine closure or reclamation or costs to purchase and exchange public forest lands. It is not possible to determine, based upon information presented in the DEIS, whether any of the costs associated with greater environmental risks of open-pit mining are included in the "unit costs" per ton from which the DEIS concludes that underground mining is infeasible. While the DEIS discusses the decrease in recoverable ore tonnage resulting from preserving pillars of ore left in place for geotechnical stability, it does not discuss the potential that open-pit mining methods to the depths specified in the DEIS will leave substantial ore reserves at depths inaccessible by open-pit mining. Although a consultants' memorandum is cited, the DEIS provides no basis to determine whether an independent review of feasibility of underground mining was performed, and includes no data pertaining to metals commodity pricing, costs of ongoing operations and reclamation, or profitability over time as a basis for determining whether underground mining is infeasible or simply less profitable than the proposed open-pit extraction. The DEIS does not diminish our concern that greater feasibility of open-pit mining may largely be attributed to the company's gross underestimation of future costs of long term water quality treatment, mine closure and reclamation.	PD5

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**Comment ID    Comment Text**

**Theme Codes**

14 Baseline. The baseline data for both the mine site and the tailings basin are sparse. A comparison of hydrologic data that was collected for two other projects in the region (GLIFWC letter to Jon Ahlness and Stuart Arkley, February 6, 2009) demonstrates that the PolyMet project is data-poor in the area of basic hydrology. The use of flow data on the Partridge River from a site twenty years and seventeen miles distant from the proposed project does not provide sufficient information to allow a full assessment of the hydrologic and environmental impacts of the project on the Partridge River. The lack of groundwater level data in the surficial aquifer and in the bedrock, except in the immediate vicinity of the mine pits, does not allow for a full or complete characterization of the watertable or the potentiometric surface in the bedrock or the surficial aquifer. The current bedrock groundwater model calibration to shallow wetland piezometers cannot be justified. The lack of groundwater level data at the tailings area except in the immediate area of the tailings piles prevents complete characterization of water tables, potentiometric surfaces, and groundwater flow direction. The dramatic scarcity of hydrologic data for the PolyMet project, both at the mine site and at the site of the tailings basins has been repeatedly recognized by hydrologists at technical meetings. Limited data collection to fill in the data gaps has recently been conducted and in general not incorporated into hydrologic analysis of the mine or plant site. Analysis. Hydrologic characterization using MODFLOW models was done for the immediate area of the mine pit and the tailings pile only. There are no groundwater models that were designed to characterize the watertables, the potentiometric surface in the aquifers, fluxes to rivers and streams or to predict impacts to the water tables or surface waters. The MODFLOW groundwater model at the tailings area is restricted to the tailings pile and cannot be used to characterize groundwater flow direction, the watertables, the potentiometric surface in the aquifers, fluxes to rivers and streams or to predict mounding impacts to the water tables or surface waters. Data driven models need to be developed and these impacts need to be predicted and evaluated. The view that mine pit dewatering impacts will be very limited or non-existent (Adams, John and Michael Liljegren. 2009 "Additional PolyMet peatland data/information." email communication to Stuart Arkley, February 1, 2009) is based on the assumption that there is little or no connection between the bedrock and surficial aquifers (GLIFWC 2009, Memorandum to Jon Ahlness and Stuart Arkley: Photographic evidence for pit impacts to wetland hydrology. April 24, 2009). However, the scant data that does exist characterizing mine site hydrology suggests that there may be substantial connection between the bedrock and surficial aquifers. Such a connection would mean that dewatering of the mine pits could cause significant drawdown of the watertable in the surficial aquifer. Data presented in RS02 indicates that ammonia can be found in deep boreholes. Section 3.3 Analytical Results, Pg.10 of RS02 states: "The water sample from boring 05-407M exceeded the criteria for ammonia (1,900 ug/l)"; and goes on to state, "The sample from boring 05-401M exceeded criteria for ammonia (610 ug/l)."; and "Water quality criteria were exceeded for ammonia, aluminum, copper, and silver in both boreholes."; and concluded that, "The presence of ammonia in the deep boreholes may indicate that the water in the borehole came from the shallow surficial deposits. Ammonia is not typically found in deep bedrock systems but is common in wetland environments." Similarly, technical document RS10 concludes: "The presence of ammonia nitrogen in the samples likely indicates that there is a hydraulic connection between the bedrock aquifer and the surficial aquifer; however, the nature of this connection cannot

WR2A

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
15	<p>The old LTVSMC taconite mining and processing site encompasses approximately 60,000 acres. The PolyMet project would use some of the degraded areas of the old LTV site to develop the mine plant site and re-use the tailings basin. Groundwater contamination from the previous mining activities is still an issue near the LTV tailings basin more than twenty years after operations ceased. Because of the limited distribution of monitoring wells, the extent of the contaminant plume is not known. However, recent well data show that the plume extends in some areas at least as far as private wells along the Embarrass River. In the wells that do exist near the tailings basin, pollutants including iron, sulfate, manganese, aluminum, and fluoride exceeded drinking water standards. Recent wells near the northern property line show substantial contamination of the groundwater aquifer (Barr 2009, Memorandum: Results of Tailings Basin Hydrogeological Investigation. June 2, 2009). The baseline data on which to base estimates of the impact of the proposed project on water quality at the mine site and the tailings basins is insufficient. The existing analysis for the PolyMet project calculates the additional constituents that the project will add to groundwater but is unable to realistically estimate what the resulting water quality will be because background water quality has not been incorporated into the estimates. Private domestic wells lie between the tailings basin and the Embarrass River where tailings basin discharge water is expected to ultimately discharge. Some of the sampled private wells have contaminants at levels several times the drinking water standard (Barr 2009, Memorandum: Results of residential well sampling north of LTVSMC tailings basin. January 27, 2009) Samples from these wells show exceedances of manganese and close to exceedances of the arsenic standard. Once a groundwater flow model is developed that would show the direction and rate of groundwater flow, that pattern of flow should be used to plan a groundwater sampling scheme that would map the extent of the existing contaminant plume. This data and analysis should then feed into estimates of how the proposed project would interact with existing contamination. The combination of existing conditions with impacts due to the proposed project would show what groundwater quality can be expected during and post project. Surface water quality at the project has been poorly characterized or left uncharacterized. The limited data that exist suggest that surface waters are already adversely impacted by mining activity. Mercury, sulfate and specific conductance have exceeded Minnesota surface water criteria in surface water samples collected near the tailings basin proposed for use by PolyMet, at nearby Area Pit 5, and mercury exceeds surface water criteria in the Partridge River downstream of Colby Lake. However, no water samples have been collected from lakes near the tailings basin (Heikkilla, Mud, Kaunonen, or Hay Lakes) to determine if the pollutants found in the surface and groundwater at the existing tailings pile have caused contamination of those waterbodies. Contaminant transport modeling suggests that the PolyMet project will cause manganese, aluminum and sulfate to exceed standards. Proposals to collect data and monitor groundwater after the issuance of the DEIS would not allow for identification of potentially significant groundwater and surface water impacts, or provide this analysis and information to the public during the primary public comment period.</p>	WR1A,WR1E
15	<p>Tribal cooperating agencies strongly disagree with this conclusion (that the peat “bogs are isolated from the underlying groundwater, receiving virtually all of their water and nutrient input from precipitation”). It is the tribal cooperating agencies’ position that there is no data to substantiate this assumption. This assumption is based on incidental observation and the analysis of aerial photography, which is by its nature imprecise (Adams, John and Micheal Liljegren. 2009 “Additional PolyMet peatland data / information.” email communication to Stuart Arkley. February 1, 2009). Tribal cooperating agencies note that the wetland delineation indicates the presence of several hundred acres of cedar swamps and tamarack wetlands. These vegetation types, by definition, rely on an influx of groundwater to support them. Finally, tribal cooperating agencies note that the wetland delineation does not encompass all wetlands that are likely to be affected by the project. Because no initial determination of the projects area of influence (AOI) on wetlands was made, the site field surveys of wetland and other vegetation was limited to little more than the area within the project fence. The existing characterization of wetland and other vegetation does not cover even one-half the area that might reasonably be expected to be impacted by secondary impacts of the mine due to disruption of the existing hydrology. Around the tailings basin virtually no wetland delineation has taken place although wetland impacts from inundation are likely to occur. It is the tribal cooperating agencies’ position that any conclusions based on this aquifer test data have a great deal of uncertainty given the variability in the results (Table 4.1-3).</p>	WR3B,WR3N



*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
15	Tribal cooperators note that hydrologic data indicates that this aquifer is saturated by tailings discharge water. It is the tribal cooperating agencies' position that therefore, it is not possible for recharge from precipitation to occur.	WR2H
16	It is the Tribal cooperating agencies' position that the existing LTVSMC tailings are contributing substantially to the level of constituents observed in the groundwater. Unfortunately the modeling of PolyMet contaminants at the basins does not take these or other existing constituents adequately into account (RS74 and TB-14). The result of this oversight is that the contaminant modeling done by PolyMet comes to the illogical conclusion that seepage water from PolyMet, after passing through both LTVSMC and PolyMet tailings, will be cleaner than the existing seepage that is passing only through the LTVSMC tailings. According to PolyMet's consultant "the predicted concentration of seepage from the PolyMet basin is lower than the actual measured concentration of existing seepage".(TB-14, page 9). It is unclear how the addition of mine waste to the basins would cause seepage water quality to improve.	WR2F
17	Tribal cooperating agencies note that additional legacy issues exist. Over the many decades of operations at the tailings basin, thousands of gallons per minute of tailings basin water have been discharged through the bottom of the basin, into groundwater. This water has then moved downgradient and into surrounding wetlands and as stated in the water quality section below, ultimately reaches the Embarrass River. It is the tribal cooperating agencies' position that despite very limited recent groundwater sampling that shows groundwater contamination at the property line and at private wells north of the basin, the full extent of the contaminant plume and the existing contamination to groundwater has not been defined. The Band questions the conclusion on page 4.1-16, that "At Closure, all historic and any potential operational AOC's would be investigated and remediated as necessary." It is not acceptable to defer remediation of known contaminated sites from past mining operations until closure of the proposed project operations at some unknown future date. PolyMet's acquisition of portions of the Plant Site, as we point out in earlier comments, should also confer remedial liabilities with clear timelines for remediating those lands. The DEIS treatment of this critical issue – responsibilities for legacy contamination, and inclusion of existing contamination in the modeling and predictions of future conditions – is grossly inadequate. It should also be made clear to the public, and be a consideration for any future permitting, that Cliff's permitted facility (SW625) for land treatment of petroleum contaminated soils within Cell 2W of the Tailings Basin is by definition a hazardous landfill.	WR1E,WR5A
18	It is the tribal cooperating agencies' position that these patterns (streamflow records suggesting significantly reduced summer flow) are not representative of the Partridge River near the mine site. The gauging station is seventeen miles from the mine site and the data from that station are twenty years old and therefore, unlikely to be representative of current conditions at the mine site.	EOO
19	It is the tribal cooperating agencies' position that, as stated in Minn. 7050, the 10 mg/l of sulfate standard for wild rice applies for waterbodies where wild rice is found. The PCA has used this approach in past permitting activities (MINNTAC Schedule of Compliance, 2008). The 10 mg/l sulfate standard also applies to the Partridge River below Colby Lake where several wild rice beds are located. Tribal cooperating agencies note that the Army Corps has not completed consultation on cultural issues with the potentially affected tribes. This delay means that the extent of existing wild rice beds has not been fully characterized.	WR1E,WR4F,CR1,CR2
21	Tribal cooperating agencies take the position that the contaminant modeling for the project has not been adequately vetted, and consequently produces results that are illogical. For example, the contaminant modeling for the tailings basins (RS74B and TB-14) proposes that adding PolyMet tailings to the existing LTVSMC tailings will improve the quality of seepage coming from the basins for some parameters. The assumption (TB-14 of July 2, 2009, page 9) that PolyMet seepage water from the basins will be of better quality than the current seepage water results in an unexpected modeling result. The modeling proposes that the more PolyMet seepage that PolyMet releases from the basins, the better the water quality will be for Al, Mn and Fe in the Embarrass River (see Tables in TB-15 of June 24, 2009). It appears that the modeling at the basins does not appropriately account for leaching from the LTVSMC tailings when predicting future seepage quality.	WR2F

Sender Last Name: Prokop

Submission ID: 2242

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
2650	Please take the time to add supplements to the draft EIS and give people in Minnesota a fair chance to know what impact the PolyMet project would have on our State the Lake Superior basin. The MNDNR is supposed to endeavor to maintain, enhance and improve the opportunities for quality outdoors experiences. That doesn't seem to be the case here. Can anyone explain why this is so? Perhaps the DNR commissioner, Mark Holsten can do this. Ask him why he is in support of this project. Thank you.	G6,G7A
<b>Sender Last Name:</b> Przybylski		<b>Submission ID:</b> 155
146	My name is Paul Przybylski and I have lived in the northern end of Minnesota, being the Iron Range, for the last 32 years. And I have seen both good times and bad times up there; but I have always wondered why we have maintained basically a single industry economy up there, being the Iron Range. Efficiencies within the iron mines have led to a decline in our young people population in that area -- and also hard economic times during different periods of our history. I believe that PolyMet will help reverse the decline of our young people population in northern Minnesota and also will provide a tremendous boost to our economy. As far as the environmental issues, I honestly believe, having travelled the world quite a bit, including more extensively in the United States, that the state of Minnesota enjoys an excellent reputation as safeguarding the environment of not only Minnesota, but of the world. And that if we allow PolyMet -- the operations such as PolyMet to move into other parts of the world, we will lose control of environmental controls that we impose which I think will provide safeguards to prevent pollutions of any magnitude. And I believe that the management of PolyMet, through their continuous public expression of their willingness to safeguard and improve the environment will continue. And I do not think that the PolyMet operation will have a significant impact in a negative way upon Minnesota; but will only add to the diversity of our state and our reputation as being people concerned with the world and how we live. Thank you.	EOO,G5
<b>Sender Last Name:</b> Ptacek		<b>Submission ID:</b> 2850
3206	I would like to add to the public comments concerning the proposed mine. Employed as an outfitter in the BWCA wilderness for four years during college, I helped to facilitate thousands and thousands of visitors to the wilderness. The reasons these people headed north were many, including beauty, solitude, spirituality, and to smile at the simple pleasure of knowing that some areas on this planet remain free from the impacts of man. I know this area well and love it more than anywhere else on earth, and I am not the only one. This land's value is far greater than any amount of mineral in the ground; the pristine environment found in northern Minnesota is something that cannot be bought back if it is lost. Please take this into consideration before any regretful decisions are made.	G11
<b>Sender Last Name:</b> Quick		<b>Submission ID:</b> 3602
3310	The DEIS enumerates several anticipated water quality concerns for surface water, groundwater, wetlands and the greater St. Louis River Watershed, which empties in to Lake Superior, both during and after the mine operation . How will these be addressed?	RFI
3873	The MPCA and USEPA have been understaffed and under funded in recent years. A project of this scope with untested and unproven processes would require substantial and consistent monitoring to ensure the watershed is not being polluted. I ask "Are these agencies able to handle an increased workload given the current scope of funding?"	EOO
3874	In addition to substantial monitoring I feel there must be public access to the monitoring data.	EOO
3875	Long-term Local Finances Mining projects similar in scope to this project have left enormous economic burdens on surrounding communities resulting from environmental degradation and social impacts, especially after closure of active mining. PolyMet talks of long-term jobs being for 20 years. In the life of a community that is very short-term. The mining companies involved must be required to put sufficient funds into escrow to alleviate both environmental and social long-range impacts. Companies who have no local ties must be held accountable for the impact their operations will have on those of us who live here.	G1

*Alphabetical by sender's first name*

**Comment ID    Comment Text** **Theme Codes**

3876 Environmental Degradation Several states have a moratorium in place on this type of mining because it has caused horrendous environmental degradation everywhere it has been tried. Wet environments are more negatively impacted by the release of sulfur and mercury than dry environments. PolyMet claims they have a new procedure that will limit the environmental impact. Is a system that drains into the world's largest freshwater lake the best place to test this possibility? G7B,G12

**Sender Last Name:**    Quiram **Submission ID:** 3488

1119 Any failure of this basin to hold its contents would result in long-lasting and serious contamination. PolyMet should complete a stability analysis of the basin and devise an acceptable design before being able to proceed with the project. WI2

1324 It is unacceptable to proceed with a mine that already predicts these kinds of pollution outcomes. Wisconsin has already banned sulfide mining due to the unacceptable environmental risk it presents. It is also my understanding that PolyMet proposes to use an existing mine tailings basin for the disposal of its tailings basin for the disposal of its tailings and toxic materials - but that the basin already has stability issues making it unsafe. GT2

3238 In addition, the DEIS predicts contaminated waters to be discharged from the mine site into the Partridge River after the mine's closure, as well as tailing's basin discharges high in sulfate concentrations. High sulfates can turn mercury into forms that make fish dangerous to consume. As an avid fisherwoman who grew up along the Minnesota River and was cautioned about consumption limits, I have always found areas in northern Minnesota, especially the boundary waters, a welcomed retreat where I do not have to be so afraid of the long term consequences of enjoying the states natural resources. WR4B,FM1

3688 Water quality impacts remains a top concern. How is it acceptable to allow for up to 2,000 years of environmental impact for the short term gain of one company? Who will pay for the long term treatment required? PolyMet has few assets and little financial history. The DEIS fails to address where the funding will come from to pay for postclosure treatment, monitoring and maintenance. As a result, it seems likely that Minnesota taxpayers may have to pay millions of dollars to clean up after Polymet is gone. PD2,PD4

3762 Having studied the effect of the release of sulfuric acid into the soils in the Mekong Delta in Vientam, I can tell you first hand that soils and waters containing sulfides exposed to oxygen are able to support a very limited biotic community. Further, the PolyMet NorthMet project will result in total loss of 1,454 acres of federally designated critical habitat for two endangered species known to be in the vicinity of the mine site – the Canada lynx and the gray wolf. Finally, cumulative impacts must address the loss of revenue to the Boundary Waters Canoe Area Wilderness and Superior National Forest tourist industry as part of a sulfide mining district. While I fully understand the economic necessity of mining, and need for natural resources in our society, we need to be responsible in our decisions. Certain types of mines should simply not be permitted in certain places where the risk to the environment is too great. This appears to be the case for sulfide mining in northern Minnesota. The PolyMet DEIS describes significant environmental issues associated with this proposed mine. These issues should be resolved before this mine is approved by the Minnesota Department of Natural Resources and the U.S. Army Corps of Engineers. Sincerely, Gina Quiram G2C,G8C,G11

**Sender Last Name:**    Rademacher **Submission ID:** 2702

3173 We need to keep this planet as clean as possible, but this mining will pollute the waters that are dear to Minnesota. Please don't do this, we need to preserve what is left of this planet. G7

**Sender Last Name:**    Radotich **Submission ID:** 3245

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
3568	I and my husband are natives to the Iron Range. My grandfathers both worked in the iron ore underground mines and then the open pit mines. They were immigrants from Slovenia. My father was a shovel operator in the open pit mines until retirement in 1969. They loved our land and taught our family to love our land. In order to maintain the population of the Iron Range, we need employment. If this Polymet project does not get the DNR go-ahead, the Iron Range will depend solely on the taconite industry, which has shown in the recent past that it alone cannot sustain a modest, let alone a vibrant economy for us and our children and grandchildren, who love this area as much as we do. My husband and I, along with one of our sons have been mechanical contractors, structural steel erection contractors and crane service for over forty years. Our other son is a heavy equipment contractor. We all love the Iron Range and would be against this project if we thought it would harm our home in any way. We have looked at the process to be used very carefully, and feel that it is the future of copper mining and not the 'bad boy' that the opposition is trying to make it. Please consider this comment in your decision.	EOO
<b>Sender Last Name:</b> Radzak and Reynoso		<b>Submission ID:</b> 313
327	Teamsters Joint Council 32 is writing to ask for your support for the PolyMet Mining Company's proposal to develop a nickel, platinum, palladium, gold and cobalt mine near Hoyt Lakes. We believe that PolyMet working with federal and state agencies on a draft Environmental Impact Statement (EIS), has demonstrated that this project could and will be environmentally responsible. The Building Trades in Minnesota are struggling. The economic recession has devastated the building and construction industry that has employed our members for many years. As many as 50 percent of building trades workers are sitting on the bench on any given day. This project offers our members some hope because it will require approximately 1.5 million man-hours of construction over a two-year period. This will be a huge boost to the economy, not only in the immediate area, but in all of Minnesota. PolyMet has made your job relatively easy by proposing a very environmentally friendly project. Much of the infrastructure for transportation and processing will be recycled from the old LTV plant. Stockpiles will be managed so water infiltration is minimized. In the remote event that any water does percolate through the piles, it will be collected and treated. Sulfur in the ore will be used as fuel in the process and waste streams will be managed. Air emissions will be much less than other facilities in the region- so much less they're considered a minor source. The draft environmental impact statement for the project has done a very thorough job of looking at all the potential impacts and offering options for mitigation, where appropriate. The draft EIS should be deemed adequate so that permitting can begin quickly- and so our members can start working to build the facility.	EOO
<b>Sender Last Name:</b> Ramer		<b>Submission ID:</b> 3295
760	The issue of safe mining in northern Minnesota is very important, too important to rush through in 90 days. Northern Minnesota needs good jobs but not just next year. We need a good sustainable approach to managing both mineral, water and forest resources. Please don't cut the debate short.	PRO6
<b>Sender Last Name:</b> Rand		<b>Submission ID:</b> 2295
2731	The PolyMet DEIS describes significant environmental issues associated with this proposed mine. These issues should be resolved before this mine is approved by the Minnesota Department of Natural Resources and the U.S. Army Corps of Engineers. As a tax payer, serious environmentalist and user of the Boundary Waters, I am opposed to any action by any action in and around the Boundary Waters that could even remotely harm this pristine area.	EOO
<b>Sender Last Name:</b> Range Association of Realtors		<b>Submission ID:</b> 3228

*Alphabetical by sender's first name*

<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
3557	<p>The undersigned RANGE ASSOCIATION OF REALTORS have and will continue to support the Polymet Project on Minnesota's Iron Range. There have been many man hours and many, many dollars applied to the Environmental Impact Statement as well as mounds of research to insure land, air and water quality for our current and future generations. This has been a long and tedious study and we are confident in PolyMet's due diligence. They have followed all of the Minnesota Environmental standards as well as all other guidelines set and re-set by our laws and regulators and regulations. This project is a THUMBS UP project in all it has to offer, not only in jobs to the Range area but also badly needed tax dollars to our state and county. In an economy such as our country is in and still facing it is imperative that this company move forward and begin production as soon as possible.</p>	EOO
<b>Sender Last Name:</b>	Rasch	<b>Submission ID:</b> 3561
3824	<p>I have been to every major presentation by the PolyMet or MiningMinnesota people regarding nonferrous mining in Minnesota that was possible to attend. I have seen the mine plan and process change as required by environmental concerns. I have been on the fringe of the mining industry in Northern Minnesota for years since my graduation from college as a mechanical engineer in 1970. I am aware of how things have changed environmentally in the industry in that time. What I see with the PolyMet people are a group willing to do whatever it takes to do the job right and adhere to not just specific regulations but the spirit and intent of the law. As I'm sure you know that has not always been the case in the mining business. Whether you are a conservationist, environmentalist, Twin City dweller, Native American or a working miner you should support this project. We have an opportunity to have the most environmentally responsible copper mine in the world today right here in Minnesota. Not only providing all the economic benefits to an area that really needs it but a show place for the world to see that copper can be extracted in a profitable, environmentally responsible manner. Please accept my letter of support for the PolyMet NorthMet project.</p>	EOO
<b>Sender Last Name:</b>	Rauk	<b>Submission ID:</b> 3108
3488	<p>I am writing in regards to the PolyMet mining project. I am opposed to the mining in northern Minnesota. As a Minnesotan, I love our state and what it represents. If we allow the mining of our Northern country, I am concerned about the air pollution, ash disposal, water pollution, and where all of Polymet's waste will go. Northern Minnesota relies on tourism and real estate business; I worry that sulfide mining could potentially kill those related industries. Our waters are already under great stress; the people of Minnesota spoke loud and clear last fall when we voted and passed a tax increase to take care of our water and the land that we love. To now allow mining companies to come into our great state is very counteractive to what we agreed to protect. I agree with Senator Tom Bakk when he said, "I live there; the last thing I want is to do something that has long term impacts to the water quality for my kids or grandkids." We are at a pivotal point as Minnesotans and environmentalist. We need to protect what is ours for the future of our children and grandchildren.</p>	G2,G7,G11
<b>Sender Last Name:</b>	Rayamajhi	<b>Submission ID:</b> 3349
3641	<p>Senators and Representatives Listen to the voice of people, not the voice of rich company. Your decision will be responsible to the unwanted death of innocent people in future. "Peace" (drawing) We all know that we are destroying our nature everyday. Let's not just see the short term economic gain, but let's think about the impact of this mining in future. You! People all live away from the real place of mining or polluted area. We are the people who are playing with the pollution created by the mining and the decision is made by your guys. For example: Tar sand project. come on! Money is like the dirt on your hand. It's temporary. Nature is permanent, where we live. So, if your are the real representative as people, you should listen to us and take it seriously.</p>	EOO
<b>Sender Last Name:</b>	RC Fabricators	<b>Submission ID:</b> 198

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
195	We at R.C fabricators who represent 40 employees of our own, strongly support Polymet mining,s NorthMet Project. It is vital to our business and the surrounding communities economy for badly needed jobs and the economic benefit that Polymet will bring. As people who live in Northeastern Minnesota, We understand the need to balance use of resources like minerals and preservation of resources such as water and air. We feel this EIS lays the proper groundwork for developing an environmental and economically sustainable project and we wholeheartedly support it.	EOO
<b>Sender Last Name:</b>	Reardon	<b>Submission ID:</b> 3311
3604	As far as I can see it, the cons far outweigh the pro s and there is no reason this should happen.	EOO
<b>Sender Last Name:</b>	Redlin	<b>Submission ID:</b> 1508
1817	I was born in Duluth, so Lake Superior is very important to me. I don't want to see this national treasure polluted with sulfuric acid pollution. Please accept these comments on the PolyMet Mining Corp. NorthMet mining project Draft Environmental Impact Statement. I have serious concerns about the safety of this project and its potential impacts on Minnesota's natural resources.	G7B,G11
1818	Minnesota's lakes, rivers and streams are critical to the health, economy and future of our state. That's why we need to ask new nonferrous mining companies to take a little extra care when they begin operations near these precious resources.	G7A
<b>Sender Last Name:</b>	Redmond	<b>Submission ID:</b> 3296
761	I would like to join the many people requesting a longer period for comment on the PolyMet mining proposal--ie, a 90-day extension, coupled with better publicity re the proposed project. I have been a user of the Boundary Waters for 45 years, have done my best to support local businesses in the North as part of this commitment. And, I recognize that the BWCAW is truly a unique area in this nation, if not the world. From what I've read, it does not seem that the mining could be done without substantial degradation of the waters nearby. I would like to see more scientific evidence that these uses are compatible. I would also like to see more informational and public participation meetings scheduled, before such a decision is made. We lose nothing by gathering more information. We could permanently degrade a treasure by rushing. Thus, as it now stands, I strongly oppose granting PolyMet's request.	PRO3,PRO6
<b>Sender Last Name:</b>	Reed	<b>Submission ID:</b> 3572
1973	1. PolyMet should be required to grant financial assurances (in excess of \$100 million) that might be required to clean up the operation in 20 years from now. This money should be to protect the taxpayers. 2. I am concerned about open-pit mining on the Superior National Forest land and ruining this prime natural resources 3. Upon reading the DEIS, it appears there is concern about mercury levels. This is of great concern. 4. I am concerned about other pollution mentioned in the DEIS.	WR3I,PD4,FM1
<b>Sender Last Name:</b>	Reierson	<b>Submission ID:</b> 3558

*Alphabetical by sender's first name*

**Comment ID    Comment Text**

**Theme Codes**

3821 I support the Polymet project in Hoyt Lakes and believe the draft EIS demonstrates that the impact to the water and air will be minimal. Furthermore, Polymet is located on an existing brown field in an area where mining has occurred for over 100 years. Much has been discussed about Polymet's proximity to the Boundary Waters, however it is not in the Boundary Waters watershed so this argument is unfounded. The Northmet project will help decrease the importing of strategic metals from foreign countries, who don't necessarily follow sound environmental processes. This, coupled with the decrease in energy used for shipping will help reduce global greenhouse gases. Most importantly, this project will provide living wage jobs for over 400 people in an economy that desperately needs them while injecting millions of dollars of state and local taxes at a time when state and local governments are facing revenue shortages and budget problems. And this doesn't even include the spin-off jobs and economic activity that will happen as a result of this project. The Iron Range NEEDS this growth to survive and has been patiently waiting for this interminable permitting process to finally be completed. I think everyone associated with this project understands and considers the need to balance environmental concerns with the need to provide jobs. I firmly believe that Polymet has and will take the necessary steps to ensure that they are producing jobs and metals critical to the US in the most responsible manner, following Minnesota's strict requirements to protect air, water and land.

EOO

**Sender Last Name:**    Reindl

**Submission ID:** 3297

762 Please take action to extend the public comment period for the Polymet mine, and present more public forums so citizens can find out more about this proposal. This mine may be only the first sulfide mine to be proposed for northern Minnesota, and people need to know exactly what such mines may do to this state.

PRO6

3586 We humans have done extraordinary damage to the earth that sustains us and to the creation God gave us to keep and till. We have forgotten that we are only one of many life forms here on this earth, and are intricately connected to all other forms, including those in the soil, water and flora. Sulfide mining is inherently dangerous to the surrounding environment, especially to the waterways. I seems to me we humans would examine very painstakingly any proposal that will further damage our life-support system. It is my understanding that the copper to be extracted is negligible in quantity compared with the amount of mining and rock disruption needed to obtain it, and the processing water. Further, Polymet is a Canadian company, and thus its permission to mine in the U.S. possibly opens the door to the rules of the Free Trade Agreement between U.S., Canada, and Mexico, requests for permission to mine in Minnesota by other multinational corporations, and rulings of the WTO which supersede those of individual countries let alone states. Consideration of this proposal seems to be mostly about jobs. Jobs of course are very important in today's high-unemployment economy, but in light of current knowledge about pollution and the high environmental cost of mining to any community in which it is located, and eventually to all of us, it seems wise to not allow Polymet to locate a mine in northern Minnesota. Therefore I ask that you diligently pursue the EIS in every regard with the aim of disallowing this mine.

EOO,G1,G2,G7A

**Sender Last Name:**    Reinehart

**Submission ID:** 1069

1174 I am adamantly opposed to the acid mining in MN.I vacation in Northeastern MN during the summer & enjoy teaching my son to fish in such pure uncontaminated waters. I am very aware of the- acid mining byproducts. They n,egatively impact the environment. I reside in TN & the're is an obvious difference in the waters here & in MN with TN having morecontaminatiotr.

EOO,G7B

**Sender Last Name:**    Reinke

**Submission ID:** 3166

3582 They should have to provide an ironclad guarantee that they will clean up after they are done mining. If they don't the requesting company officials should be put in jail and personally fined for cleanup costs. A 100 billion performance bond in advance should cover this. Do not allow this without a performance bond in hand.

PD3,PD4

*Alphabetical by sender's first name*

**Comment ID    Comment Text** **Theme Codes**

**Sender Last Name:**    Reisenweber

**Submission ID:** 2269

1861 Mining copper and nickel in the Iron Range will cause sulfuric acid runoff which would enter the watershed, run into the St. Louis River via a tributary and from the St. Louis River into Lake Superior. Damage to plant and animal life would be irreparable. The sulfuric acid-polluted waters would require treatment "in perpetuity." Please do not use your position to sell out Minnesotans' precious waters to those who wish to mine Minnesota. Long term, safe drinking water for Minnesotans, NOT short term mining goals, is the legacy citizens expect and deserve from the DNR. I urge the DNR to adopt Wisconsin's standard and NOT allow sulfide mining anywhere in Minnesota, unless it has a proven ten-year, clean record.

WR3D

2685 What this type of mining will destroy in northeastern Minnesota, no man can replace. No one should take the authority to "approve" these mines.

EOO,G2

2939 What this type of mining will destroy in northeastern Minnesota, no man can replace. No one should take the authority to "approve" such mines.

EOO

2940 Mining copper and nickel in the Iron Range will cause sulfuric acid runoff which would enter the watershed, run into the St. Louis River via a tributary and then into Lake Superior. Damage to plant and animal life would be irreparable. The sulfuric acid-polluted waters would require treatment "in perpetuity." Please do not sell out Minnesotans' precious waters to those who wish to mine Minnesota. Long term, safe drinking water for Minnesotans, NOT short term mining jobs, is the legacy citizens expect and deserve from the DNR. I urge the DNR to adopt Wisconsin's standards and not allow sulfide mining anywhere in Minnesota, unless it has a proven clean record for ten years. Thank you for weighing these concerns.

G6,G7A,G12

**Sender Last Name:**    Reisman

**Submission ID:** 2830

3197 I have reviewed information on this and similar types of mining done at other sites in the US. I am concerned that the results at other sites have resulted in water pollution and damage to the environment that reclamation does not resolve. It is very disconcerting that approval could be considered for this project when the safety of the process has not been proven. I believe that MN should follow Wisconsin in requiring the mining company to prove the safety of their mining methods to people and the environment. Also, scientists have issued a statement asking for a ban on open pit mines. I hope that you will decide to take a very cautious approach and reject the PolyMet's environmental impact statement.

G2,G7,G12

**Sender Last Name:**    Renner

**Submission ID:** 3603

3738 The promise of jobs can be overwhelming and immediate needs can certainly cloud long term outcomes. Is there adequate funding now and will there be in the future to ensure total, complete and on-going monitoring by MPCA and USEPA? Is current knowledge adequate and testing methods available to absolutely know that the watersheds are not being polluted in increments undetectable until years after Polymet and others are gone? Will sufficient monies be held in escrow to (financially) prompt the companies to hold to their promises that mining will be done safely? Do we really know what hazards, impacts, outcomes will result? Best guessing, even by the best environmentalist, scientist, and very learned people have, at times, been totally disproved with costly results. This is not a 20 year project. The legacy of decisions made now will forever impact the future of this very sensitive, unique and beautiful area. I, personally, feel a responsibility to the future of this area . Does Polymet feel the same?

PD3,PD4

**Sender Last Name:**    Resch

**Submission ID:** 130



*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
119	Our entire family is from the Iron Range. We have been mining for years. We, obviously, feel there is things to protect the environment, and we do it the right way. And we believe that, you know, we need jobs up there. If we could, we would move up there in a heartbeat, but we need to make a living, and right now there is no way to do that up there. We think PolyMet is a good company, and if they do everything correctly, we would have so many jobs for people up there. That's it.	EOO
2626	I grew up on the Iron Range. We've mined up there for years, many years. I have family that worked in the mines. You know, I think that the mining industry is a safe industry. They do a -- they do a fine job of protecting the environment, protecting -- protecting everything that they can, and I think that this is a value that a employer, future employer of the range, and I feel that this is an opportunity for my wife and I to possibly move back up to the Iron Range where we'd like to raise our family.	EOO
<b>Sender Last Name:</b> Reschke		<b>Submission ID:</b> 3679
19247	DEIS 4.1.3.3 Mine Site Alternative again suggests that monitoring is sufficient to ensure the effectiveness of the lime treatment of waste rock stockpile leachate. Tribal cooperating agencies disagree with this approach, and take the position that the effectiveness of lime treatment is very important in the final water quality of mine effluent. Therefore, this analysis should be conducted prior to the construction of the facility, and the results included in the DEIS. Fond du Lac also disagrees with the proposal to apply a vegetated soil layer over the waste rock stockpiles. The tribal cooperators take the position that the effectiveness of the evapotranspiration caps has not been demonstrated. Tribal cooperating agencies have requested that this analysis be done (GLIFWC Comment letter of June 30, 2008 and GLIFWC comment letter of February 6, 2009).	WR2L
19248	Effects on Surface Water Quality within the Partridge River Watershed concludes that "both the Proposed Action and the Mine Site Alternative would comply with all surface water quality standards along the Partridge River." Tribal cooperating agencies note that wild rice grows on the lower Partridge River. Therefore, it is the tribal cooperating agencies' position that the wild rice sulfate standard applies and the mine site alternative effluent would exceed that standard (Table 4.1-74).	WR3C
<b>Sender Last Name:</b> Reutter		<b>Submission ID:</b> 3093
3033	There was little or no field sampling done on the movement of ground water through the bedrock. Since the mine and its waste storage site sits nearly on the continental divide it should have been determined if there is any chance that polluted mine drainage (including acids, metals, or sulfates) could move in the rock over time to the north and into the Boundary Waters watershed.	WR2A
3476	This is not a proven large scale mining process.	EOO
3477	The state of Wisconsin banned this type of mining due to the sulfite leakages into the ground water.	G7A
3478	Finally, mining like before will eventually expend the available natural resources and close down. It would be a public disaster if the BWCA were lost to future generations because we allowed mining operations during a brief period of time.	G11
3487	The DEIS does not outline any specific plan for reclamation after the mine site is closed. In the same vein there is no specific mention of the method or amount of financial assurance that the mining company will need to set aside for the potential disasters after closing.	PD3,PD4
<b>Sender Last Name:</b> Reynolds		<b>Submission ID:</b> 3447
3667	I am just a citizen concerned about the potential environmental and financial hazards to this state if we go ahead with this project. I have yet to hear or read about any non polluting form of this kind of mining. And the citizens are always left to finance the cleanup. I am sure this is about jobs, and I am sure folks in Northern Mn do not want to hear from the big city folks in the Twin Cities. But the taxpayers of this STATE will have to pay the price to clean this mess up, because there will be a mess. And I am a taxpayer.	PD4

*Alphabetical by sender's first name*

**Comment ID    Comment Text**

**Theme Codes**

**Sender Last Name:**    Rheineck

**Submission ID:** 2066

2492 I have been a longtime resident of Minnesota, and I have been visiting the BWCA since 1980, and it has made an enormous impact on my life and the lives of my children. The area in and around the BWCA is very important to me, and I consider it a precious resource that is unique in the United States. We have very little unspoiled wilderness remaining in our country, and by protecting the area, we can provide a very special experience and reminder for future generations. We are already dealing with challenges due to water level changes and acid rain effects within the BWCA, and risking further impacts from projects such as the proposed mining activity strikes me as unnecessary and unwise. It upsets me that we may be making short-term financial decisions due to the economic crisis our country is facing without properly considering the legacy we wish to leave for the future.

G2,G7

**Sender Last Name:**    Rice

**Submission ID:** 2263

2675 This letter is being written to fully support Polymet's effort to obtain mining permits. I am an insignificant stock holder but have been touched by the importance of the Polymet project. I do not have engineering degrees or expertise in the mining arena. I do have a very strong opinion on where our nation as a whole is heading. This year the United States have become more and more dependent on foreign governments. This has been through energy, mainly oil, debt, mainly incurred this year, and most important to this subject, raw materials, the same ones that will be mined by Polymet. As I see it we have a company requesting to mine ores by utilizing an existing facility tailing basins, power lines, etc. so minimal new ground is required to be disturbed. They have spent millions of dollars so far to make sure they will be probably the most environmentally responsible mining company ever in the United States if not the world. They are employing environmentally smart mining processes throughout. Our country is subservient to foreign governments for our oil since drilling from our vast supplies have been hampered or squashed by 'environment concerns'. These 'environment concerns' also want to squash the Polymet project. Many of the very ores that Polymet wants to produce is currently being obtained from foreign governments, some which are hostile to the United States. The United States should never be held hostage by any foreign concern. I was privileged to have had a tour of the Polymet facility. The journey there went through miles and miles of economic desolation. It was evident that economic prosperity had become a dim dream. Until then I was never in a casino that didn't have people waiting for a seat. The casino at the hotel was like a ghost town. Even after being awed at the tremendous magnitude of the reused facilities, I was really touched by talking to a few of the men currently hired by Polymet. They were seasoned miners that were almost giddy over having a job in their field of expertise and the prospect of being there with their friends for many more years. Their dreams may become a reality. It's now become personal. This is one of the best chances I have ever seen for the United States to become independent again at least in this field of raw resources. As global demand for raw resources will dramatically soar over the next few years, Polymet will help put the United States in control again leaving the foreign governments being dependent on us. Isn't that a welcomed reversal of the current trend? Polymet will also help thousands of local residents support their families and start to rebuild their lives. You have a company that wants to do the right thing for the United States, the state of Minnesota, the environment, and the residents. Please make a difference and issue the mining permits for Polymet.

EOO

*Alphabetical by sender's first name*

<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
3465	I have personally seen the results of such mining operations in Canada. The environment for almost 50 miles in all directions is completely destroyed. Trees are dead and wildlife is non-existent. It is unthinkable to allow such mining in our beautiful state just south of the Crown Jewel of Minnesota's tourism industry the BWCA. If this issue is really about offering jobs to the area then a better solution would be to lure Green Energy industries to the area to manufacture wind turbines, solar panels, and geothermal equipment thereby providing jobs and not destroying the environment. Our neighbors to the east of us, Wisconsin, has laws on their books explicitly forbidding this type of mining. Why would Minnesota even consider it? Kansas, California, Vermont, Michigan...etc. are locations of former sulfide mines that are 6 now Superfund sites awaiting clean up. Many of these location can never be cleaned up because of acid and heavy metal penetration into the aquifer. Do we really want to risk long term degradation of our natural resources for short term economic gain? Please do not allow passage of any legislation allowing this form of mining in our beautiful state. If it must be considered then DEMAND than an Environmental Impact Statement be prepared for review before any legislation is passed.	EOO,G1,G2C,G7A,G12
<b>Sender Last Name:</b>	Rich	<b>Submission ID:</b> 2792
3192	Along with all of these aspects of your decision, I strongly urge you to consider this: the Boundary Waters and Lake Superior coastal areas have long been home to many people seeking recreating and a back-door to the wilderness. Please don't let this be taken away from my brothers, sisters, and I. Keep the environment in mind and also let it be known that the Boundary Waters is my second home.	G11
<b>Sender Last Name:</b>	Richardson	<b>Submission ID:</b> 2314
2763	I have been hearing rumors that the Minnesota Boundary Waters area is at risk of environmental contamination, and have had it confirmed when hearing about happenings such as the NorthMet mining project. I would like to voice my opinion regarding the current events as one who knows the true value and beauty of the Boundary Waters and appreciates its singular place within Minnesota and the entire United States. Simply put, I feel the very idea of allowing a reputable pollution practice to occur anywhere near a wilderness area such as the Boundary Waters to be outright embarrassing. The idea that this practice is even being considered in such an area shines a poor light on Minnesota resource management. We know the risks. The damage has happened time and time again across our country, despite the promises of the mining promoters. I am disappointed that there is talk about throwing away future generations of soul-edifying experiences in exchange for a short-term economic stimulus package. I understand that creating and maintaining jobs in the area is a significant stress. This mining project, and others like it, however, is only a short-term solution. It is exchanging sustainable practices such as ecotourism for a relatively few years of economic gain. Is this project really worth so much, and our awe-inspiring wilderness area worth so little? I whole-heartedly encourage and support all efforts to maintain the Beautiful Boundary Waters wilderness area in it's current state, rather than sacrificing one of the most gorgeous places in the country for a few dollars gain.	G7,G11
<b>Sender Last Name:</b>	Riffel	<b>Submission ID:</b> 2907

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
3236	<p>I have read the draft EIS for the Northmet project and I have concerns about this project's impact on the environment in which I live. It is not in the best interest of my community or the Iron Range to create jobs at the expense of our health and water quality that is all we have. As I read the impact of the project on ten of the fourteen resources evaluated, I was stunned. Those that concern me most are: Mine site Groundwater Quality, antimony, manganese, and nickel predicted to exceed USEPA primary Maximum Contaminant Levels or MDH Health Risk Limits potentially FOR THE LONG TERM at the Mine Site. What will this mean for the health of the workers? And how will the sulfate would exceed the groundwater evaluation criteria? impact the entire watershed? (page S8) Groundwater Levels Downgradient of the Tailings Basin seepage would exceed aquifer flux capacity resulting in significant seepage upwelling and wetland impacts. Seepage of toxic chemicals will put our water quality at risk. (S8) Mercury methylation risk from high sulfate concentrations in seepage from the Tailings Basin released to wetlands (S9) and to the entire chain of lakes (S10). Fishing is a major tourist draw as well as a subsistence means for local tribal groups. Endangering fish is not in the best interest of our population nor our economy. I know that jobs vs. the environment is an ongoing tradeoff. But I teach environmental sociology and I also know that jobs rarely win in the long run. We must learn from other areas of the country where jobs were once thought to be more important than the environment. The jobs go away, and are predicted to last only a generation for this mine; the environmental damage takes many generations to mitigate, if that is even possible.</p>	G1,G2C,G7A,G11
<b>Sender Last Name:</b> Rimestad		<b>Submission ID:</b> 2986
3372	<p>I don't know a lot of the technical and deep-thought comments, but I would really prefer that this mining project doesn't go through. A few years ago I was introduced to the BWCA through the Wilderness Canoe Base at the end of the Gunflint Trail. It has made me a better person inside and out. To see the world's wilderness in such a beautiful way is amazing. This area has changed me and caused me to look at the world in a different way. I just want you to know that this mining project shouldn't go through because of its significance to my life and thousands of other lives. The Boundary Waters is a place of peace for us and we would hate to see it go away. I hope what I have said is at least considered.</p>	E00
<b>Sender Last Name:</b> Ringer		<b>Submission ID:</b> 3508
3694	<p>I live approx. 25 miles SE of the proposed Northmet mine site, and I have concerns about the whole project. 1. Money needs to be set aside for any cleanup costs that will be associated with this type of mining, and we know there will be environmental cleanup needed. 2. I am concerned about the other mining interests that are keeping a close eye on the Polymet project. Some of the other companies are interested in areas that would have any acid mine drainage heading thru Birch Lake and into the BWCA wilderness. 3. I am concerned about the DNR mineral rights leasing process. Our property was put on the lease rolls at the sale in Jan. 2009, and if we weren't so diligent about obtaining information for this whole process, we would not have known anything. 4. I am concerned that mining companies have too much power and control, and can dangle the carrot of new jobs, and the range communities gobble it all up, without looking at the bigger environmental picture. 5. I am concerned about the current Dunka mine site, and what it is leaking into the ground.</p>	PD1,PD4,G4A,G8C,G9,G13
<b>Sender Last Name:</b> Riordan		<b>Submission ID:</b> 2192
2598	<p>MR. RIORDAN: My name is Brian Riordan, R-I-O-R-D-A-N, of Esko, Minnesota. I am here to state that I wish for the PolyMet North project I would like it to go ahead and get their permitting in place so that myself, being a resident of Northern Minnesota, and my children and other people in the areas can benefit from the resources that are there for us to use. I think that the way that things are going to be mined in the area with the newer technology and the newer regulations, that it would be a safe and beneficial way to use the minerals that are in the area for the public benefit. I see no reason for not granting PolyMet to do this sort of mining in the areas and other ones also. The area has been used as open pit mines for many years, and there is no reason that they shouldn't be able to go ahead with the mining. Thank you very much.</p>	E00

*Alphabetical by sender's first name*

**Comment ID    Comment Text** **Theme Codes**

**Sender Last Name:**    Risser **Submission ID:** 1198

1313 There is a history of water pollution and environmental degradation associated with sulfate mining. There simply is no guarantee that our waters will not be degraded – harming fish and wildlife. It is incredibly short-sighted to allow long-term damage for short-term gain. Water from waste rock piles will be polluted for up to 2,000 years. Minnesotans & future Minnesotans shouldn't be burdened for the benefit of a foreign company. We will be left with a mess to clean up.

G2C,G7A

**Sender Last Name:**    Rivers **Submission ID:** 32

30 I would like to say that I strongly support the PolyMet project. I worked at the former LTV site for ten years and currently work for U.S. Steel at Minntac right now, and I'm very confident that the material could be mined in such a way that would be environmentally friendly, and I'm sure that the mining company would try to do it the right way that it needs to be done. And that's all I have, I guess.

EOO

**Sender Last Name:**    Roalson **Submission ID:** 338

359 I am in favor of PolyMet's NorthMet project being approved for facilities/plant construction and mining activity. As long as PolyMet meets the safety and environmental criteria as laid out, and the DNR & MPCA continually monitors their compliance, the mining of non-ferrous metals should go forward. In addition, I propose that it be enacted, if possible, that the copper products such as wiring and tubing be made right here on the Iron Range for a strong value-added economic effect for this region and the whole state. There are strong environmental groups, however, that are dead-set against this project. To them I would say, "If we do not go forward with this now, the minerals will be mined elsewhere in the world, and monetary gains will benefit a dictatorship, warlord, or a terroristic network, and the environmental damage will be catastrophic due to no environmental oversight at all." (Worse than China today).

EOO,G1

**Sender Last Name:**    Roberts **Submission ID:** 3707

1 The result of all these gaps in analysis is that, among other problems, the proposed action and the preferred alternative do not comply with the requirements of Clean Water Act ("CWA") Section 404(b)(1) guidelines.110 The CWA does not allow a permit when there are practicable alternatives that would have less adverse effects, when the Project would lead to a violation of state water quality standards, or when it would cause or contribute to significant degradation of waters of the United States.111 Significant changes in the design of the Project have occurred and other important information needed to determine the nature and magnitude of the Project's impacts has been developed since the public notice of the Project was provided by the USACE in May 2005. As indicated in the Tribal Position, 112 but omitted from the main text of the DEIS, 113 public notice for the Section 404 Permit should be reissued and that the Mirmesota Pollution Control Agency ("MPCA") should be afforded the opportunity to analyze and make a determination under Section 401 of the Clean Water Act.

WE4

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
2	A. Cultural resources. Section 106 consultation between the USACE and Tribes is ongoing. Therefore, despite significant changes through recent, increased consultation with tribal cooperators, the Cultural Resources chapter of the DEIS is still incomplete, and the requirements of the National Historic Preservation Act ("NHPA") 124 have not yet been fulfilled, and the Project cannot proceed until they are. Under the NHPA implementing regulations for the protection of historic properties, 125 the Band has been designated a "consulting party," and the lead agencies "shall consult with the THPO [Tribal Historic Preservation Officer] instead of the SHPO [State Historic Preservation Officer] regarding undertakings occurring on or affecting historic properties on tribal lands."126 Additionally, the lead agencies must consult with any tribes that attach "religious or cultural significance to historic properties that may be affected by an undertaking," regardless of the location of the historic property.127 The agencies must give a tribe "a reasonable opportunity to identify its concerns about historic properties, advise on the identification and evaluation of historic properties, including those of traditional religious and cultural importance, articulate its views on the undertaking's effects on such properties, and participate in the resolution of adverse effects."128 The regulations go on to inform agencies that they "should be aware that frequently historic properties of religious and cultural significance are located on ancestral, aboriginal, or ceded lands of Indian tribes... ," as in the Ceded Territory here. 129 One aspect of the identification of such historic properties is through gathering information from consulting tribes, through a variety of methods. 130 Where, as here, there are historic properties affected, then there is an entirely separate level of adverse-effects assessment that must be performed, again in coordination with consulting agencies. 131 In light of these rules, and as the chapter itself acknowledges, it is apparent that far more consultation and site work must be done to comply with Section 106.	AQ3,WI2,WI3
3	As the Band pointed out at least as early as its comments on the June 2008 PDEIS, the DEIS acknowledges that there are bald eagles that nest within 2.4 miles of the Project. 148 The Band is therefore concerned that this culturally-important animal could be subject to serious noise pollution or other habitat impacts, and further analysis must be done. Critical habitat, habitat segmentation, environmental mitigation measures, and changes in plant cover or forest type all fall under both the categories of traditional environmental and cultural analysis for purposes of the DEIS.	WI1,G3,CR1,CR2,CR4
4	11. Summary, Section III.B.2, p. S-10; The Tailings Basin and hydrometallurgical residue facility embankments may be geotechnically unstable due to the fines and underlying soils in the existing LTVSMC Tailings Basin. This potential problem is in addition to the potential problems created by storm events and/or flooding.	GT2
4	10. Summary, Section III.B.2, p. S-10; Potential loss of critical habitat for Canada lynx and gray wolf, and a greatly increased risk of vehicle strikes for these species are significant potential ecological impacts in the Mine Site area.	WI1
5	25. Section 4.1.2.1, p. 4.1-50; The DEIS states that "(t)here are currently no impact criteria for change in water levels", even though the DEIS acknowledges that drawdown in the Mine Site and groundwater level increases in other areas (e.g., north of the Tailings Basin) may affect surface water flows and wetlands. This is an issue that should be addressed at the DEIS stage, and criteria should be developed for changes in water levels.	WR3E
5	2. Sulfide mining and its attendant environmental degradation. It surprises me that Minnesota, as a way to create jobs for its citizens, is turning to an industry known for creating environmental degradation as part of its industrial processes. Wisconsin's experience with sulfide mining at the Flambeau mine resulted in the passage of the Mining Moratorium Law (s.293.50, Stats.). Why aren't we learning from Wisconsin's mining experiences?	G2,G12
6	2. There appear to be no contingencies for worst-case scenarios, such as flooding of pits or tailings basins.	WR3A
7	Similarly, the Draft EIS analysis for mercury and sulfates must also factor in the related impacts and contributions that would be created by the predicted water level fluctuations, which may be another major source of methyl mercury.	WR4A

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Comment ID	Comment Text	Theme Codes
8	<p>The Draft EIS also fails to comply with NEPA by failing to disclose, address and respond to the credible scientific evidence strongly indicating that the wetland mitigation will be ineffective. See 40 C.F.R. § 1502.9(b) (agencies must discuss “any responsible opposing view”); <i>South Fork Band Council v. U.S. Dept. of Interior</i>, 2009 WL 4360798 (9th Cir. (Nev.)) at *6-7 (stating that an essential component of a reasonably complete mitigation discussion is an assessment of whether the proposed mitigation measures can be effective). As summarized by the Forest Service, “[f]urther analysis is needed to disclose how effective and reliable the [constructed] wetlands will perform in the field.” September 2, 2009 Forest Service Comments. For instance, in a 2001 report, the National Research Council found that “the literature on compensatory mitigation suggests that required mitigation projects often are not undertaken or fail to meet permit conditions.” Attachment 3 (“Compensating for Wetland Losses under the Clean Water Act”); see also, 1992 report by the National Academy of Sciences, concluding that “many [mitigation] projects fall short of the goal of returning ecosystems to the predisturbance condition, and there is indeed considerable controversy over whether or not wetlands can actually be restored”). The National Research Council further found that “[s]ome wetland types – in particular, fens and bogs – cannot be effectively restored with present knowledge.” <i>Id.</i> Moreover, because the legal and financial mechanisms for assuring long-term protection of wetland mitigation sites are often absent, especially for permittee-responsible mitigation, the National Research Council recommended that compensatory mitigation should be in place concurrent with, and preferably before, the permitted activity. <i>Id.</i> Similarly, the U.S. Government Accountability Office has found that the Corps has performed very limited oversight to determine the status of the required compensatory mitigation. Attachment 4 (“Wetlands Protection, Corps of Engineers Does Not Have an Effective Oversight Approach to Ensure that Compensatory Mitigation is Occurring”). Because many projects do not receive any oversight, the Corps cannot definitively assess whether the required compensatory mitigation has even been performed. <i>Id.</i> The Corps has thus consistently failed to ensure that the mitigation it has required as a condition of obtaining a 404 permit has been completed. <i>Id.</i></p>	PRO3
9	<p>In sum, these numerous predicted water quality exceedances are not allowed under the CWA (see e.g., 33 U.S.C. 1311; 40 C.F.R. § 122.4(d); 40 C.F.R. § 122.4(i)), and the EIS must more thoroughly assess and disclose the extent to which water quality violations are likely to occur.</p>	WR3I
10	<p>The Band continues to object to the lack of a comprehensive cumulative-impacts analysis throughout the DEIS. The CEQ has issued guidelines that illustrate the breadth of the required analysis, which the DEIS purportedly relies upon. 114 While the draft “Protocol to Assess Expanded Cumulative Effects on Native Americans” is mentioned in this section, there is no evidence that any expanded data collection or analysis was done in this area.115</p>	G3,CR2,CR4,CR5
11	<p>As noted in the Tribal Position, 116 there are multiple examples in the DEIS where cumulative impacts have not been fully addressed: 1. There has been no analysis of the 1854 Ceded Territory as a discrete area of impact. The Band continues to ask that it be included. As mentioned previously, cumulative effects to the 1854 Ceded Territory have not been adequately considered in the DEIS. The DEIS simply says “[t]he tribal representatives view themselves as uniquely and disproportionately impacted by mining activities in the 1854 Ceded Territory and it has not been possible to reach agreement on a number of conclusions within the DEIS.”117 In other words, the preparers believe that because they did some consultation but disagree with the Tribe, they need not properly evaluate impacts to Band members or the Ceded Territory in the EIS. This is entirely incorrect, given the federal agency trust responsibility to affirmatively protect these resources. For example, while Uniquely Affected Communities does mention that the Bands maintain rights under the 1854 Treaty, 118 it solely identifies as potentially-impacted resources wild rice and moose. It then states that wild rice is “common” in the region and compares the relative occurrence of moose resources as compared to “other portions of the 1854 Ceded Territory.” 119 These are not the appropriate standard for evaluation of the cumulative impact on those species, nor does it include the many other culturally important species that must be evaluated. Furthermore, the section acknowledges that there will be a loss of tribal access, and that there is no guarantee that there will be a “land swap” within the Ceded Territory that would then be available to the tribes. Another example is that cumulative impacts to wild rice have not been assessed. Wild rice grows in the Embarrass, Partridge, and St. Louis Rivers. Wild rice is a valuable tribal resource that has been declining throughout the 1854 Ceded Territory. Mine effluent is often associated with levels of sulfate that has impacted wild rice and hydrologic changes from pit dewatering and seepage from tailings basins can also impact wild rice, which is dependent upon a relatively stable hydrologic regime. More analysis of the cumulative impact on treaty rights is needed.</p>	G3,CR1,CR2,CR3,CR4

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12	2. Climate change implications of the proposed Project have not been detennined. The project would disturb extensive areas of peat. Peat is known to be an important carbon sink. Wetlands in general are recognized as important carbon sinks and areas where wildlife will seek refuge as the climate warms.	AQ3
13	I. The DEIS fails to properly "disclose and discuss all major points of view." The Council on Environmental Quality ("CEQ") has implemented specific regulations regarding the requirements of a sufficient EIS, in accordance with NEPA. Under 40 C.F .R. Section 1502.9, a lead agency "shall make every effort to disclose and discuss at appropriate points in the draft statement all major points of view on the environmental impacts ofthe alternatives including the proposed action."8 All three Bands and two intertribal agencies (1854 Treaty Authority and Great Lakes Indian Fish and Wildlife Commission, or "GLIFWC") worked together to produce one set of comments on the July 2009 PDEIS to encompass the "Tribal Position." As requested, these groups jointly prepared, at significant time and expense, an integrated, in-line set of comments, which is attached with some edits to the DEIS at Appendix D, including the Tribal Position in blue. But the co-lead agencies the Minnesota Department of Natural Resources ("MNDNR") and the U.S. Army Corps of Engineers ("USACE") only selectively included tribal comments in the DEIS text or footnotes, instead of addressing all these major tribal points of view this way. Even where it does "disclose" tribal positions in footnotes, the DEIS offers none of the required "discussion" ofthese major tribal points of view. In short, the DEIS does not comply with the plain language of Section 1502.9 to make disclosures of major points of view at appropriate points, or to discuss them. The DEIS inconsistently also claims that it "includes almost all of the tribal position statements submitted in response to the July 31, 2009 Preliminary DEIS (PDEIS)" and that "the differing opinions are included in footnotes throughout the document."9 But this is untrue. While some revisions have been made, some tribal comments regarding key, controversial aspects of the Project have been entirely selectively left out of the DEIS Volume I footnotes and text. Examples of these problems include failure to either discuss or mention at the appropriate location the Tribal Position asking for inclusion of the expected leakage rate of waste rock liner and cover systems might be; 10 failure to discuss the Tribal Position on what long-term maintenance might be required for those systems;11 and what changes in the water quality predictions might result from those effects.12 The DEIS also fails to discuss the Tribal Position regarding the possibility that stockpile failure might occur and request that a slope stability analysis should be performed and the results included in the DEIS.13 Potential cumulative effects to the Partridge River, almost all of the Tribal Position regarding cumulative impacts analysis for air, and a large portion of the Tribal Position regarding cumulative effects to the St. Louis River watershed were also omitted. 14 The tribal cooperators had many conference calls with the lead agencies to try to resolve these and other disputes to ensure that the Tribal Position was included and discussed in the main body of the DEIS, even if only in footnotes, to no avail.15	PRO9
13	3. Cumulative impacts to culturally-important plant and animal species that are not listed as threatened or endangered have not been analyzed. Species that are important to tribal and non-tribal members would likely be impacted by mining projects, and these, too, must be evaluated. A substantial moose population has been identified in the mine site area by aerial and ground surveys. Moose are likely to be impacted through disturbance of two of the few wildlife corridors remaining along the Mesabi Range and through wetland impacts ofthis project. The Project has proposed the largest direct wetland fill ever permitted in this region. The wetland mitigation that is being proposed would be outside of the St. Louis River watershed and 1854 Ceded Territory.120 The MNDNR's Moose Advisory Committee studying the decline of the moose population in northeastern Minnesota has recommended preserving wetlands as sanctuaries for moose from heat stress. 121 Therefore the Project will have cumulative effects on the moose herd and tribal harvest in the 1854 Ceded Territory. At a time when moose populations in Minnesota are declining, this analysis is particularly important and should have been done as part of this DEIS.	WI2,WI3,WI5,G3,CR1,CR4



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Comment ID	Comment Text	Theme Codes
14	4. The DEIS fails to adequately analyze cumulative impacts to the water quality of the Partridge, Embarrass, or St. Louis Rivers. In Colby Lake, the community water supply for the City of Hoyt Lakes, aluminum, iron, copper, and mercury concentrations already exceed MN WQS. 122 The existing large number of water quality exceedances and the suite of constituents, particularly trace metals, exceeding MN WQS shows the site has not been remediated from previous mining activities. Additionally, amphibole or asbestos-like mineral fibers, known to cause digestive tract cancers in high concentrations, have been identified as existing pollutants in the Hoyt Lakes community water supply and their presence should be identified in the DEIS. Related cumulative-impacts issues such as groundwater drawdown or mounding due to multiple mine projects, water quality in aquifers impacted by previous and existing other mine projects, and surface waters such as the Partridge and Embarrass Rivers and Second Creek that are impacted by multiple mines need further analysis. 123	WR5A
15	5. The cumulative effects of noise and vibration have not been analyzed although they were raised by the public during scoping.	N3
16	6. The cumulative risk analysis of transportation of hazardous materials has not been analyzed.	HM3
17	7. Discussion of the Project's cumulative effects on fish and macroinvertebrates is unreasonably limited to sulfate and mercury, and cumulative effects of habitat degradation on the fisheries of the region have not been discussed.	FM3
18	S. Post-closure impacts should also be included in the cumulative effects analysis because some mine features (e.g. pit lakes) would become permanent features of the landscape.	CR5,G3,CR1
19	III. The DEIS continues to lack sufficient characterization of existing and predicted impacts analysis of cultural resources and the 1854 Ceded Territory. Just as the DEIS does not evaluate cumulative impacts to the Ceded Territory, it does not fully evaluate direct and indirect impacts. Significant supplementation is needed.	CR2,CR3,CR4
20	A key piece of the work that remains to be done is traditional cultural property ("TCP") studies. The National Register of Historic Places defines a TCP as "one that is eligible for inclusion in the National Register because of its association with cultural practices or beliefs of a living community that (a) are rooted in that community's history and (b) are important in maintaining the continuing cultural identity of the community."132 An appropriate investigation of the Project site using this standard, and in cooperation with all involved THPOs, must be performed and properly documented. 133 They will require a high level of tribal input and consideration of seasonal changes. As noted in the chapter, consultation is underway on this topic, but is far from complete.	CR2,CR3
21	The DEIS should include language to the effect that the Band continues to take the position that the Ceded Territory is itself a TCP and does not agree with the USACE's determination that it is not. 134 Nevertheless, in the interests of timely evaluating Project risks and mitigation, the Band has agreed, for the time being, to proceed in accordance with the USACE's offer to fully evaluate the Ceded Territory, including all factors that would be considered in a TCP analysis, pursuant to its trust responsibility. 135	G3,CR2,CR3,CR4
21	Based upon the Tribal Position, this chapter now includes language acknowledging that the acceptability of the proposed land swap for purposes of preserving treaty interests depends upon many factors, none of which have yet been evaluated. 136 This underscores the need to include consideration of the land swap in this EIS.	PD1

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22	<p>A. Financial assurance. In order to determine the impacts of a mine, the effectiveness of closure and reclamation after the mine is no longer in use must be assessed.<sup>16</sup> But in the DEIS, there is no discussion regarding the type and estimated amount of financial assurance that would be sufficient for reclamation, closure, mitigation, and remediation of adverse effects from the Project, despite tribal calls for it to do so.<sup>17</sup> Nor is there any discussion regarding financial assurance for the existing contamination associated with previous mining activities at the site that PolyMet would be responsible for cleaning up-as previously noted, the former LTV site is a brownfield. <sup>18</sup> This is of particular concern because the hardrock mining industry has a pattern of failed operations, which often require significant environmental responses that cannot be financed by industry. <sup>19</sup> In fact, there is widespread acknowledgement for the need to provide such financial assurance on projects like these. The General Accounting Office ("GAO"), in testimony before the Senate Committee on Energy and Natural Resources, U.S. Senate entitled "HARDROCK MINING: Information on Abandoned Mines and Value and Coverage of Financial Assurances on BLM Land," presented findings that in total, the federal government spent at least \$2.6 billion to remediate hardrock mine sites from 1998 to 2007, highlighting the need for adequate financial assurance. <sup>20</sup> The EPA recently identified mines as a priority class of facilities for which to develop financial responsibility requirements.<sup>21</sup> In 2009, as part of the largest environmental damage bankruptcy case in U.S. history, the mining company ASARCO was ordered to pay \$194 million billion to resolve environmental liabilities from operations that contaminated land,water, and wildlife resources on federal, state, tribal, and private land.<sup>22</sup> The State of Minnesota has spent millions of dollars remediating mine sites (e.g. Reserve Mining).<sup>23</sup> Yet financial assurance discussions have been postponed for the penning phase of this Project. This approach fundamentally contradicts federal and state environmental policy and the DEIS must be revised, with significant additional study, to appropriately evaluate closure, mitigation, and reclamation.</p>	HM3,FM3,PD1
22	<p>On page 4.8-6, the paragraph beginning "In 1999, the U.S. Supreme Court held ... " should be moved down the page and inserted below the quoted portions of the 1854 Treaty in order to properly preserve the chronology of the authorities cited.</p>	EOO
22	<p>On page 4.8-9, the reference to the "two Indian trails," although edited, still improperly concludes that the preparer's third-party contractor "was unable to locate either trail."<sup>137</sup> As the Tribal Position states, any such attempt was not made in consultation with the Band's THPO (nor with any other cooperating tribe's THPO, to the Band's knowledge).<sup>138</sup> This field work must be re-done in consultation with the relevant tribes, who are well aware of the location and cultural importance of these trails.</p>	CR2
23	<p>Finally, citations in this section should be made consistent with the remainder of the DEIS, and additional proofreading is in order.</p>	EOO

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24	<p>The preparers have not completed consultation with the potentially affected tribes regarding culturally-important species. This delay means that the extent of existing wild rice beds, which are protected both under federal and state law, has not been fully characterized. Consequently, evaluation of the impacts and cumulative impacts to wild rice has not been determined. The DEIS has unreasonably limited discussion of these impacts, as evidenced by its own language. For example, one footnote purporting to "discuss" the Tribal Position simply reprints it: "[i]t is the position of the tribal cooperators that water treatment of the discharge would be required to comply with the wild rice water quality standard. The Partridge River contains several wild rice beds immediately downstream of the proposed discharge point." 139 Wild rice areas are not only protected under the 1854 Treaty but under Minnesota State law. 140 Moreover, portions of the DEIS fail to recognize the field studies done in August and September 2009 that identified wild rice along the Upper and Lower Partridge River, the Embarrass River, and the lower St. Louis River, amongst other locations. 141 Given the obviousness of the threatened impact to such wild rice beds, additional analysis and mitigation must be included throughout the DEIS. As noted, wild rice grows on the Embarrass River, the lower Partridge River, and the St. Louis River; therefore, the MN WQS of 10 mg/l sulfate standard applies. 142 This standard would be exceeded by the PolyMet discharge. Furthermore, there are other projects (including Mesabi Nugget Phase II and Laskin Energy) that are discharging water with elevated constituents. Given these existing sources, it is unlikely that PolyMet would be able to discharge untreated tailings basin effluent without violating the CWA. Regardless, treatment of the tailings basin effluent prior to discharge to the Partridge River is not included in the potential mitigation measures. Again, the DEIS merely acknowledges this Tribal Position without addressing the obvious problems with any untreated discharge: " ... it is the position of the tribal cooperators that an untreated discharge of contaminated tailings basin water to the Partridge River in order to dilute and dispose of tailings basin water would have environmental impacts that must be avoided in order to adequately protect the environment." 143</p>	G3,CR1,CR2,CR4
24	<p>C. Band member use of other usufructuary resources. There has not yet been sufficient evaluation of Band member use of vegetation and other usufructuary resources in the APE, and there is no permissible basis to omit such evaluation where the USACE and other federal permitting agencies have a trust responsibility to the Band to maintain treaty resources in the 1854 Ceded Territory. The APE for the Project was not determined until August 11, 2009, after tribal cooperators insisted upon it, 144 and tribal consultation is ongoing. Historic and current tribal harvest information has not been finally determined even for the Plant or Mine Sites. Although this area is significantly disturbed and will be for the foreseeable future, the closure and reclamation plans should have a significant effect on native vegetation as it is reintroduced. The prevalence of invasive, non-native species and their ability to out-compete native plants in disturbed areas, coupled with PolyMet's plan to introduce non-native and invasive species to this area, would result in significant impacts to cultural resources that have not been discussed in the DEIS.</p>	G3,CR2,CR3,CR4
25	<p>Several wildlife species of high cultural and present-day value to the Band exist in the APE. Some of these include moose, whitetail deer, wolf, fisher, marten, and lynx, to name a few. Most notably, the Minnesota moose population is under a long-term population decline. 145 Mining operations will certainly do nothing to aid in the recovery of moose and are likely to reduce available habitat and impact travel corridors. Water, air, and noise pollution, combined with increased road density, have been shown to have negative impacts on most boreal wildlife species including wolves, moose, and lynx. Further evaluation of wildlife impacts must be done.</p>	WI3,WI5
26	<p>There are also specific defects in the lynx survey that was done at the PolyMet site so far. 146 First, it was conducted at the low point of the lynx population cycle. Therefore, the low numbers reported are not surprising. Surveys should have been done during the high point in the cycle because that is when lynx are competing for available habitat and many animals are dispersing looking for desirable areas. Impacts to the travel corridors and the removal of the mine site habitat would be particularly harmful to the lynx during these times. Second, lynx mortality is linked to the number of road and train trips through an area of suitable habitat. Lynx mortality would be a significant impact given the number of trips that are mentioned in the DEIS. Finally, data used in the DEIS for lynx mortality is out of date-tribal sources report that there are two additional lynx-train and one lynx-car collisions to add.</p>	WI1

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27	Several lakes and the Partridge River watershed are likely to be affected negatively, which will impact fish species and thus the Band's 1854 Treaty rights to harvest fish in those water bodies. The DEIS as written fails to mitigate the costs to fisheries and wildlife species that are protected under the 1854 Treaty. Treaty reserved fishing rights cannot be fully exercised when fish consumption must be restricted for health reasons to one or two meals per week. The entire DEIS must include proper analysis of the potential impacts of this Project on treaty rights. Any increase of methylmercury bioavailability in the Partridge River watershed constitutes a significant adverse impact to a critical trust resource.	G3,FM1,FM4,CR1,CR4
28	Moreover, the potential impacts to Band members of a significant increase in mercury in fish harvested in on-Reservation and Ceded Territory waters has not been adequately addressed. The State of Minnesota's mercury total maximum daily load ("TMDL") process will not adequately address the fish consumption impairment in these waterbodies, and any new discharges that would result in further degradation to waters with an existing water quality impairment would not be legally permitable under the CWA. <sup>147</sup>	WR5C,G3,FM1,FM5,CR1,C
29	B. Alternatives. Contrary to the express requirements of the CEQ rules, the DEIS does not even purport to identify a preferred alternative. <sup>24</sup> The Band has long cited this defect in PDEIS comments. <sup>25</sup> Multiple modifications have been cast as "mitigations," and the now-preferred methodologies remain as "alternatives." <sup>26</sup> For example, the use of LTV tailings for tailings berm construction and capping and the disposal of waste rock in the east mine pit are both now preferred, but they remain cast as "alternatives." <sup>27</sup> The DEIS must be revised or supplemented to reflect the actual preferred course of action for all material Project aspects. Without this, there is a high degree of uncertainty regarding the company's actual proposed course of action and effective review is unnecessarily complicated, in addition to violating CEQ rules.	ALT7,ALT9,PRO2,PD3
30	Finally, at or near the Project site, there is evidence that there were maple sugaring areas as recently as the 1950s, and the Band's THPO has specific knowledge of related artifacts and site specifics. Moreover, as part of the 1854 Ceded Territory, this is an area of importance for traditional plant and medicine harvest, and has great religious significance in connection with the Ojibwe Seventh Generation Prophecy. Again, additional consultation with the Band is imperative in order to comply with Section 106 and to preserve the sites.	FM4,CR1,CR4
31	D. Wetlands delineation. The physical environment and habitat comprises an integral part of the concept that cultural resources are natural resources for tribes, which the DEIS acimowledges. Therefore, characterization of natural features is doubly important. Many of the wetlands that have been delineated have been misidentified as "perched bogs." <sup>149</sup> They are actually cedar swamps, northern wet ash swamps, forested rich peatlands, northern alder swamps, and poor fens, all of which require groundwater inputs. <sup>150</sup> Indirect impacts to communities that require groundwater inflow have not been determined, but would likely be significantly different than expected impacts from the Project to perched bogs. The Project wetland delineation study identified over 390 acres of wetland community with a significant white cedar component. <sup>151</sup> Those cedar swamps were incorrectly named "cedar bogs" in the original wetland delineations and in later documents renamed "coniferous bogs." <sup>152</sup> The significance of this is that bogs tend to be precipitation fed, while swamps tend to be groundwater fed. Therefore, estimating impacts due to hydrologic disruption without requiring sufficient background data regarding groundwater or incorporation of the specific ecological requirements of culturally significant wetland vegetation is inadequate.	WE1,WE2
32	E. Socioeconomics. Executive Order 12898 specifically identifies Environmental Justice issues to be addressed regarding Native American Populations. <sup>153</sup> But in the DEIS Socioeconomics chapter, none of the issues identified in the Executive Order have been addressed, despite the Band repeatedly asking for further analysis. Under the heading "Environmental Justice," the DEIS summarily concludes that there will not be disproportionate impacts to Native Americans based on census reported populations alone. <sup>154</sup> It is the Band's position that any impacts to natural resources will disproportionately affect tribes due to their subsistence consumption of wild rice, fish, and other wildlife, and gathering of traditional plants and medicines within the 1854 Ceded Territory. Native Americans should be specifically evaluated as an affected population throughout this section.	SE2

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<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
33	<p>The DEIS must be substantially supplemented to have sufficient detail to ensure that environmental consequences have been fairly evaluated and to provide a full opportunity for agency and public review. The sheer volume of reasoned, major opposing positions now included in the DEIS, and the lack of any explanation for their rejection, speaks for itself. The Band and others have repeatedly asked for justification for the conclusion that underground mining is not viable. The proposed land exchange is a connected action that cannot be deferred to a separate EIS process. The type and estimated amount of financial assurance that would be sufficient for reclamation, closure, mitigation, and remediation of adverse effects from the project and pre-existing contamination, should be disclosed in the DEIS. The water quality and quantity impacts analysis in the DEIS must be supplemented to provide scientifically supported hydrologic and geochemical characterizations using all existing data before reasonable estimations of impacts to water resources, and strategies to mitigate those impacts, can be determined. A scientific assessment of the mine-related drawdown of the regional water table must be developed so that an assessment of indirect wetland impacts can occur. The DEIS must be supplemented with a comprehensive cumulative-impacts analysis that includes the 1854 Ceded Territory as a discrete area of impact. The DEIS must make a reasonable effort to assess the Project's potential for impacts on the exercise of treaty rights. These problems can only be corrected through a significant supplement to the DEIS, which can only be issued after proper analysis and full consultation.</p>	PRO3
34	<p>Since even before submitting its comments on the June 2008 PDEIS, the Band has explained the fundamental problem with the DEIS's failure to address possibly the most important alternative: underground mining.<sup>28</sup> The Band reiterates that the CEQ rules require that the EIS "present the environmental impacts of the proposal and the alternatives in comparative form, thus sharply defining the issues and providing a clear basis for choice among options by the decisionmaker and the public."<sup>29</sup> The DEIS does not contain the appropriate level of detail. The conclusion that underground mining is not viable, or preferable, remains substantially unjustified, despite repeated requests for further analysis.<sup>30</sup> This section states, without any economic analysis, that underground mining was "[n]ot economically viable. The rate of ore production of an underground mine would not support the processing rate necessary to economically process low grade ore .... Additionally, the ore deposit is shallow and broadly distributed throughout the Mine Site; [sic] which increases risk of the mine ceiling collapse unless a sizable amount of ore was left in place and not recovered."<sup>31</sup> At its heart, this is merely a cost-benefit claim, with an unsupported, one-sentence claim about the threat of mine ceiling collapse tacked on. In addition, this is not the appropriate use of a cost-benefit analysis for purposes of analyzing an EIS alternative. The CEQ regulations require that, where a cost-benefit analysis is "relevant to the choice among environmentally different alternatives," there are a variety of additional requirements, including "analysis of un-quantified environmental impacts, values, and amenities,"<sup>2</sup> in addition to other CEQ alternatives rules. As already argued in the Tribal Position,<sup>33</sup> significant additional study of the underground mining alternative is mandated, and the DEIS offers no discussion of the reasons for rejecting the alternative. The economic viability of an underground mine depends on a variety of factors including ore grade, market prices, cost of tailings, and waste rock disposal. A study of this particular deposit was performed by the prior owner of the site, U.S. Steel, that actually recommended underground mining.<sup>34</sup> PolyMet is well aware of this study, given that the company included it in a 2003 filing with the Securities and Exchange Commission.<sup>35</sup> In fact, by examining cross-sections showing the distribution of ore by depth,<sup>36</sup> it appears that there are substantial ore reserves at depths that likely could not be accessed by the proposed open-pit mine. The ecological costs of open-pit mining and above-ground disposal of tailings and waste rock are immense. This ecological cost, combined with the most current understanding of deposit ore grades and reasonably possible metals prices, must be evaluated to determine the viability of this alternative.</p>	ALT2

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35	<p>D. Proposed Land Exchange. The current ownership by the U.S. Forest Service ("USFS"), and the possibility that the Project is effectively proposed to take place on what are USFS lands, must be addressed in the DEIS.<sup>37</sup> The Band has already identified this and other problems with the proposed land exchange "solution."<sup>38</sup> The proposed land exchange is a connected action that cannot be deferred to a separate EIS process. The land exchange could have implications for Band members' usufructuary treaty rights in the 1854 Ceded Territory, and these problems are plainly unexplored at this time, as is the possibility that any comparable offset will really be available: "Potential loss of access to public lands for tribal use due to the land exchange; however PolyMet intends to propose private lands within the 1854 Ceded Territory for exchange, which could offset the loss of access."<sup>39</sup> The Band has not agreed to such an approach. Alternately, the DEIS claims such a land swap "would" be an offset, even as it acknowledges the irreversible loss of culturally important natural resources.<sup>40</sup> Acreage, distribution of wildlife corridors, and access by Band members to the lands cannot be determined at this time because PolyMet has not made an offer for specific lands to exchange for the properties they are hoping to receive. This directly implicates the federal regulatory agencies' trust responsibilities to the Band; they cannot approve permits that will have impacts to treaty resources without any evaluation and mitigation.<sup>41</sup> The details of the land exchange must be submitted for consideration as part of the DEIS.</p>	CR4,ALT7,ALT9
36	<p>E. Water quality and quantity. Acid mine drainage ("AMD") is one of the greatest environmental liabilities associated with mining, especially in pristine environments like the Project mine site, that have economically and ecologically valuable natural resources.<sup>42</sup> There are no hard rock surface mines that exist today that can demonstrate that AMD can be stopped once it occurs on a large scale.<sup>43</sup> Inaccurate pre-mining characterization and interpretation often results in a failure to recognize or predict impacts to water quality and aquatic life.<sup>44</sup> Evidence from literature and field observations suggests that permitting large scale surface mining in sulfide-hosted rock with the expectation that no degradation of surface water will result due to acid generation imparts a substantial and unquantifiable risk to water quality and fisheries. <sup>45</sup> In a report comparing predicted and actual water quality at hard rock mines, two types of characterization failures were identified that led to differences between the predicted water quality in EIS documents and the actual water quality either during or after mining began.<sup>46</sup> These included: (1) insufficient or inaccurate characterization of the hydrology; and (2) insufficient or inaccurate geochemical characterization of the proposed mine.<sup>47</sup> The authors reported primary causes of hydrologic characterization failures as overestimations of dilution, lack of hydrological characterization, overestimations of discharge volumes, and underestimations of storm size.<sup>48</sup> The primary causes of geochemical characterization failures were identified as lack of adequate geochemical characterization, in terms of sample representativeness and sample adequacy.<sup>49</sup> The primary causes of mitigation failures were that mitigation measures were not identified, were inadequate, or were not implemented; waste rock mixing and segregation was not effective; liners leaked; tailings were spilled; or embankments failed, and land application discharge was not effective. <sup>50</sup> The DEIS suffers from all of these characterization failures. Project baseline data used for both the Mine Site and the Tailings Basin are insufficient.<sup>51</sup> A comparison of hydrologic data that was collected for two other projects in the region demonstrates that the PolyMet project is data-poor in the area of basic hydrology, much less mitigation.<sup>52</sup> Moreover, given the utility of the many existing studies of area hydrology, it is perplexing that the preparers have continually refused to use them, even as tribal cooperating agencies have repeatedly requested that they be used. Just a few publicly available examples include: the state Voluntary Investigations and Clean-up ("VIC") Program;<sup>53</sup> the Minnamax Project;<sup>54</sup> the LTVSMC Dunka Pit,<sup>55</sup> and historic MNDNR fisheries documents. <sup>56</sup> All these resources should be used to supplement the hydrology analysis and fully inform the permitting agencies and the public. There is no explanation for the DEIS' failure to use, for example, pre-mining flow and sulfate data available through MNDNR fisheries reports was not used to determine potential water quality impacts, or cumulative effects to flow and water quality in the Embarrass, Partridge, or St. Louis Rivers. Surface water and groundwater quality and quantity data collected for the Minnamax Project, LTVSMC Dunka Pit, and the VIC program were largely ignored.</p>	PRO2,PD3,WI1
37	<p>The acidity in the discharges and seepages will reduce the viability of wild rice beds that are downstream and that are used by Native Americans as well as being an important source of food for waterfowl. This pollution will continue for decades, hundreds and perhaps thousands of years. This in no way allows "Ground water and other water resources to be used in a way that preserves their integrity for future generations" as stated in the DNR goal quoted above.</p>	CR1

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37	The hydrology model that was applied used outdated data collected too far from the site. <sup>57</sup> The Project XP-SWMM model included in the DEIS is based on a stream gauging station for the Partridge River that is seventeen miles from the mine site and the data from that station are twenty years old. <sup>58</sup> Therefore, the results are highly unlikely to be representative of current conditions at the mine site.	WR3J
37	In the past, we (the citizens of Minnesota) have worked together to take care of Minnesota's environment. But this sulfide mining issue has polarized us. We are now "people who live in the northern part of the state" and the "rest of us." I am concerned that this polarization will not only damage the state as a whole, but also our desire to work together for the common good. I feel the mining situation was set up as a done deal. Prior to the formal environmental review process, no one asked us if we wanted to go this route, nor were we given choices. I think the polarization created by the proposed sulfide mine is forcing us to take sides instead of creatively thinking of alternatives for job creation and unbalanced state budgets. A neutral third party mediator could help us resolve some of our differences and come up with a workable solution to the sulfide mining issue.	EOO
38	7. Summary, Section III.B.2, p. S-9; Relatively high sulfate concentrations in seepage from Tailings Basin and downstream areas represent "high risk situations for mercury methylation". This represents a significant concern for adjacent ecosystems and potentially for human health.	FM1
38	6. Summary, Section III.B.2, p. S-8; Groundwater levels downgradient of the Tailings Basin are expected to cause groundwater seepage that would result in significant seepage, upwelling and wetland impacts. If these are expected impacts, then unexpected impacts caused by storm events, flooding, etc. could be even more significant.	WR2F
39	8. Summary, Section III.B.2, p. S-9; Direct water quantity and quality impacts to wetlands are expected for 804.3 acres in the Mine Site area. This is a large expected direct impact, and unexpected or indirect wetland impacts due to flooding, acid mine drainage, etc. could affect much larger areas.	WE2
40	13. Section 3.1.2.2, page 3-4, 1 st and 2nd paragraphs; The DEIS discusses backfilling of East Pit with Category 1 and 2 waste rock, but does not explain how waste will be physically sampled and chemically analyzed to be categorized.	PD11
40	12. Section 1.1, p. 1-1, 1 st paragraph; The text refers to "low-grade disseminated sulfide mineral ore", but does not mention the localized presence of massive or semi-massive sulfides. These higher sulfide materials, which may be either ore or waste, present a much higher potential for acid mine drainage.	PD11
41	14. Section 3.1.2.10, p. 3-14 to 3-15; These two paragraphs discuss saturated and unsaturated overburden and their respective sulfide content and leachability. The text concludes that the leachate from the saturated overburden will contain higher sulfate and metals concentrations than the leachate from the unsaturated overburden. This conclusion was based on the samples tested, but there is no explanation why this would be so. In general, the average sulfide content of saturated and unsaturated overburden should be the same, and thus the leachate from these materials should contain the same average sulfate and metals concentrations.	PD2
42	15. Table 3.1-9; This table contains a summary of the proposed stockpile liners and covers. The proposed liners for the Category 3 and 4 Waste Rock Stockpiles and the Category 3 Lean Ore Stockpiles are all proposed to be constructed with one 80 mil LLDPE geomembrane on top of a compacted low permeability sub grade (e.g., clayey soil). This proposed construction is inadequate: it does not provide enough protection (a one-foot drainage layer) for the liner, and it assumes that the liner will not leak. For stockpiles of waste rock of the proposed dimensions (up to 156.8 acres, and over 200 feet high), at least 6-8 feet of drainage layer should be placed on top of the liner in order to prevent the liner from being damaged by equipment and waste rock placement. In addition, HDPE should be used instead of LLDPE. In general, the DNR should require Polymet to construct the waste rock stockpile liners in a manner consistent with MPCA rules for solid waste landfills.	PD2
42	1. What is the driving force behind this process? The state of Minnesota will receive revenues and royalties from this mine and all other sulfide mines in the pipeline. How does this money play into resolving the state's budget deficit? We are not told how much money the state is planning to make as a result of the mining initiative, but obviously the state has a big stake in its success.	G1

*Alphabetical by sender's first name*

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43	16. Section 3.1.5.2, p. 3-28; The text states that sodium hydrosulfide, a hazardous substance, will be added to the autoclave discharge slurry for copper recovery. Table 3.1-12 indicates that 847 tons per year of sodium hydro sulfide will be utilized in a 45% solution with water (w/w), and that sodium hydro sulfide will be stored in a 52,600 gallon storage tank. Could this chemical increase the sulfide-leaching potential in the hydrometallurgical wastes?	PD2
43	17. Section 3.1.8, p. 3-49, footnote 13; The Tribal cooperating agencies' comment discusses the importance of financial assurance disclosure within the DEIS. The comment also mentions that U.S. EPA Region 9, based on their experience with sulfide mines, recommends financial assurance disclosure in the DEIS. It seems clear that financial assurance should be fully disclosed in the NorthMet DEIS. The state of Minnesota should consider legislation similar to the rules passed in 2000 by the state of Wisconsin that require the mining permittee to establish an "Irrevocable Trust Agreement" before mining begins and to maintain the agreement for an indefinite time period after mining ceases.	PD3,PD4
44	18. Section 4.1.1.2, p. 4.1-4 and 5; In this section about Mine Site hydrogeology, the DEIS makes a generalization about the relationship between surface water (i.e., wetlands) and groundwater. Specifically, the DEIS states "These bogs are isolated from the underlying groundwater, receiving virtually all of their water and nutrient input from precipitation. They receive essentially no groundwater inflow and have extremely low seepage rates to the underlying aquifer." The DEIS does not provide any data to support this generalization. See also the Tribal cooperating agencies' comment (footnote #2 on p. 4.1-5).	WR1E
45	19. Section 4.1.1.2, p. 4.1-8; The groundwater quality in the surficial aquifer at the Mine Site is based on only three monitoring wells, and none of the three wells is located in a proposed mine pit area. This sampling density does not constitute an adequate characterization of the existing groundwater quality in the surficial aquifer at the Mine Site.	WR1E
46	20. Table 4.1-4, p. 4.1-9; This table lists Groundwater Evaluation Criteria Applicable to the NorthMet Project. However, the table only lists "General" parameters (including chloride, nitrate, sulfate, etc.) and metals. There are no criteria for volatile or semi-volatile compounds, such as fuels and lubricants, which could be contaminants produced by mining equipment and related storage facilities. The table assumes that there is no interaction between surface water and groundwater (see comment #18 above), and therefore only lists human health-based (drinking water) standards. This is a significant oversight, and the table should be amended to include surface water standards (Minnesota Rules Chapter 7050), many of which are ecologically-based standards or criteria.	WR2E
46	21. Section 4.1.1.2, p. 4.1-11; Groundwater quality data for the bedrock aquifers (Duluth Complex and Virginia Formation) were collected from only nine wells in the Mine Site area. Four of these wells are pumping wells, which tend to dilute contaminant concentrations. This sampling density does not constitute an adequate characterization of the existing groundwater quality in the bedrock aquifers, especially since groundwater occurs mainly in fractures in these aquifers. Please see also General comment #3 above.	WR1E
47	22. Section 4.1.1.2, p. 4.1-11; Baseline groundwater quality in the surficial aquifer at the Plant Site is based on only one monitoring well. In addition other parameters, such as VOCs, should be monitored. This approach is inadequate for baseline data purposes.	WR1B,WR1E
48	23. Section 4.1.1.2, p. 4.1-12 and 13; Existing water quality within the Tailings Basin Pond and at the toe of the Tailings Basin; The text states that "(t)he LTVSMC Tailings Basin is a disposal facility and is not part of a natural surface water body or a point of compliance pursuant to Cliffs Erie's NPDES/SDS pennit, so comparison of these data with surface or groundwater standards is not appropriate ... " This text may have attempted to clarify that the Tailings Basin is not considered by Polymet to be "waters of the state", and therefore is not subject to Minn. Rules Ch. 7050. However, the Tailings Basin is an existing pond, there is likely some degree of ecological exposure to contaminants, wastes, etc. Thus, the water quality data of the Tailings Basin should be compared to surface water (Minn. Rules, Ch. 7050) standards or criteria. In addition, Table 4.1-7 should be amended to include these standards or criteria.	WR2G



*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
49	24. Table 4.1-20; This table lists surface water quality standards that apply to the NorthMet Project, and it only lists General parameters (chloride, sulfate, etc.) and (total) metals. This table should be amended to include VOCs and other potential contaminants of concern. In addition, Toxicity Characteristic Leaching Procedure (TCLP) analyses should be completed on representative samples of Category 3 and 4 Waste Rock and Category 3 Lean Ore to determine if leachate from these materials poses a potential threat to surface water or groundwater resources.	WR1C
50	26. Section 4.1.2.2, p. 51. The DEIS reads: "Groundwater standards are U.S. EPA primary (MCL) and secondary drinking water standards and MDH HRLs ... " Since there is likely a direct connection between surface water, wetlands and groundwater (see comment # 18 above), the surface water standards and criteria (Minn. Rules, Ch. 7050) should also be applied to groundwater.	WR2G
51	27. Section 4.1.3.1, p. 4.1-66; The text states that "Polymet does not intend to sample the overburden during stripping activities, but rather would distinguish the three types based on field determinations." The DEIS should specify what field determinations will be used to distinguish the three types of overburden.	WR1A
52	28. Section 4.1.3.1, p. 4.1-66; This section states: "Polymet proposes applying a limestone treatment to the exposed Virginia Formation walls in the East pit while backfill is being placed during pit flooding to help neutralize the acidity of the rock face." The text does not provide any details for this plan. However, it seems unlikely that this method could effectively prevent oxidation and solution leaching on such a large scale (see Figure 4.1-3 in the DEIS). In addition, the oxidation and leaching processes will have already developed by the time backfilling occurs (year 20).	WR1E,WR2D
53	30. Section 4.1.3.1, p. 4.1-112; In this section, the DEIS describes the performance of constructed wetlands as part of the proposed closure plan. However, "Polymet assumed wetland removal efficiencies in the East pit passive wetland system would range from 50 to 80-90% for six parameters (Table 4.1-63)." Polymet's assumption was made in spite of the documented poor performance of the constructed wetlands at the nearby Dunka Mine. Specifically, data from the Dunka Mine showed that in some cases, constructed wetlands actually resulted in increases in nickel and zinc concentrations. The performance of the proposed constructed wetlands should be pilot-tested before implementing constructed wetlands on such a large scale as the entire East pit. If these constructed wetlands are proven to be successful, then there should be additional areas besides the East pit where they should be implemented.	WR3L
53	29. Section 4.1.3.1, p. 4.1-87; The DEIS states "Polymet does not propose to line the Tailings Basin, nor is the underlying LTVSMC Tailings basin lined." This proposal would likely lead to fairly large-scale groundwater contamination, despite the localized injection of bentonite and other small-scale response actions (e.g., seepage barriers) proposed by Polymet.	WR2D
54	32. Figure 3.1-10; This map shows the process water management for the first year of operation at the Mine Site. There is only one wastewater treatment facility, which is adjacent to the Central Pumping Station. Several wastewater treatment facilities may be needed if several pumping stations are used (see previous comment).	ALT8
54	31. Figure 3.1-1; This layout map shows that there is a "Central Pumping Station" at the Mine Site located just south of the West pit. This location hardly seems central to the Mine Site. In addition, several pumping stations may be necessary to adequately control surface drainage, due to several different directions of surface water flow in the Mine Site area.	ALT8
54	The economic benefit of this project has been over-estimated by PolyMet and its promoters because the short-term gain of 100 to 400 jobs has to be balanced against the loss of jobs and revenue for the state from recreation, tourism and related activities over a much longer period of time. As a Canadian company, PolyMet has already entered into an agreement with Glencore AG, a Swiss company, who will market 100% of production on the world market, primarily to China (See PolyMet Investor's Report, 2009). A foreign corporation will extract Minnesota's natural resource, send it overseas for production and leave Minnesota taxpayers with the pollution, waste and long-term expense of reclamation and clean-up.	SE3
55	33. Figure 3.1-13; This figure shows the existing drainage subwatersheds at the Mine Site. Note that surface water flow directions are generally away from the Mine Site, and not towards the Central Pumping Station. This could be problematic, especially during storm events or flooding.	ALT8

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
56	34. Figure 4.2-5; This map shows "20 Year Wetland Impacts" at the Mine Site. The figure shows direct and indirect impacts on-site, but no off-site areas are shown. If data are available, the figure should be amended to show the (projected) impacts to off-site areas.	WE2
57	35. Figure 4.5-2 The map shows biological sampling points for the project area. However, there is only one sampling point in the Mine Site area and one sampling point in the plant site area (with seven total sampling points overall). For an adequate study there should be more data points within the Mine Site and Plant Site areas.	FM2
58	3. Creation of jobs. We all understand the need for jobs in this state. But is it necessary to create these jobs through an industry that damages the environment? Because Minnesota's beautiful northland attracts tourists (and creates jobs as well), wouldn't it be more advantageous to create green jobs in this area of the state? For example, some of the taconite tax revenues could be used to improve existing state parks. Green jobs created by such improvements would certainly be more in harmony with the image Minnesota is trying to convey.	EOO
58	36. Figure 4.7-1; "Predicted Nighttime Noise Levels" are displayed on this figure. The map shows "noise sensitive areas": how were these eight areas selected or identified? In addition, why were only human receptors considered?	N1,N4
59	1. Impacts to groundwater and surface water should be data-driven, and not based solely on professional opinion or empirical observations (e.g., page 4.1-61). Please refer to the Tribal cooperating agencies' comment (footnote #19).	WR1E
60	3. In the various sections pertaining to existing groundwater conditions, there is no mention of high salinity groundwater that is present in some nearby portions of the Duluth Complex (e.g., Mesaba Copper-Nickel Deposit). These high salinity waters could exacerbate leaching of metals into groundwater, and could present problems during and after mining operations.	WR1E
61	4. The DEIS does not explain how waste rock will be physically/chemically evaluated and managed during mining operations in order to separate the materials into the four designated waste rock categories. This would seem to be a regular (daily?) logistical problem due to the large volumes of waste rock and lean ore (394 million tons) that will be generated during mining operations.	PD11
62	5. Summary, Section III.B.2, p. S-8; Antimony, manganese and nickel impacts to groundwater quality at the Mine Site are expected to exceed MCLs or HRLs, potentially for the long-term. Given these expected impacts, there may be other unexpected impacts from other metals or contaminants not found in nature that are utilized during the mining operations.	WR2E

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63	<p>The Minnesota NPDES General Stormwater Permit for Industrial Activity requires permit coverage for all types of mining for metal and nonmetallic minerals. The DEIS does not address this fact. The DEIS should be revised to include permitting of the Project site under the Minnesota NPDES General Stormwater Permit for Industrial Activity. This permitting would extend beyond the period of mining operations and into the Post-Closure time period. In Table 1.1-1 of the DEIS (pages 1-5, 1-6), the Government Permits and Approvals for the Project from the MPCA are listed as follows: (NOTE: SEE COMMENT LETTER FOR TABLE) This item is significant for multiple reasons: • Discharges that are permitting under an NPDES/SDS permit are, by definition, point source discharges. This means that the following statement in the DEIS is erroneous and should be revised: "The NorthMet Project would be a new facility, but PolyMet has proposed a water balance that avoids the need for any point source discharges during mine operations." (page 4.1-128) The inaccuracy of this statement has implications throughout the DEIS. All of these should be addressed in the revision of the DEIS. The stormwater discharges from the site should be clearly identified and listed as point source discharges throughout the entire DEIS. These discharges should be included in the water balance for the Project during mining operations. All text and tables should be revised to reflect this. • As a point source discharge of a BSIC (mercury), the site stormwater runoff comes under the control of MN Rules 7052. • When the mercury TMDLs in the downstream water bodies are done, the permitted stormwater discharge from the NorthMet site will be part of the Waste Load Allocation of these TMDLs. The SWPPP for the mine site will have to be modified to implement the measures considered appropriate in the TMDL study and implementation plan. These measures will then be mandatory for the mine site. o Nondegradation must be addressed in all the NPDES permitting for the site. This would include the site stormwater discharge permit as well as the process operation permit. Please see Comment #2. o The linkage between NPDES permits and the status of downstream waters (impaired and a TMDL is required but not yet completed) means that the MPCA may not permit the project (process, site stormwater, or construction) if there is any contribution from the Proposed Action to mercury levels or sulfate that would contribute to increased mercury methylation. Please see comment #4. Recommended Actions Related to Comment #1: Action 1 a: Revise the DEIS to acknowledge the requirement for the NPDES Industrial Activity Permit. Also, revise the DEIS to acknowledge that the water balance for the project includes point source discharges both during and after mine operation. Action 1b: Revise the DEIS everywhere the items in Action 1a above have implications. Action 1c: Revise the DEIS to address the nondegradation provisions under MN Rules 7050 and 7052, including a nondegradation demonstration. Please see Comments #2 and #5. Action 1 d: Revise the DEIS to acknowledge that the project will have to comply with any and all TMDLs on water bodies that the site contributes to, including o Embarrass River, o Partridge River, o unnamed waters of the state, o St. Louis River, and o Lake Superior. Include a commitment to this effect from PolyMet. Action 1e: Revise the DEIS to acknowledge that the linkage between NPDES permits and the status of downstream waters (impaired and a TMDL is required but not yet completed) means that the MPCA may not permit the project (process, site stormwater, or construction) if there is any contribution from the Proposed Action to mercury levels or sulfate that would contribute to increased mercury methylation. Revise the Impact Criteria in the DEIS, especially for mercury and sulfate, to comply with this fact. Revise the DEIS to acknowledge that meeting water quality standards is not a sufficient</p>	WR31,WR4B

*Alphabetical by sender's first name*

<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
64	<p>I have first-hand experience with water quality issues associated with mining of copper sulfide ore deposits. Up until 1996 I worked for the US Bureau of Mines, Twin Cities Mining Research Center as a groundwater hydrologist. My experience with conventional open pit mining of copper sulfide ores centers on several years of field work that I did at the Mineral Park Mine near Kingman, Arizona. The Mineral Park mine was a large conventional open pit operation that flourished from the 1950's through the 1970's. By the early 1990's when I worked there it had been mostly abandoned. The company that owned the mine at that time would not close it down entirely however because the remediation and closure costs were so high. As long as they kept the mine open they were not responsible for past mining impacts. All of the pits were flooded, and the company pumped acidic water from the pits onto old copper waste dumps. They produced some copper, but they also contributed to large volumes of acidic drainage which flowed either onto a large tailings impoundment or into a nearby creek. Acidic drainage would also flow from the base of the impoundment. Pumping to lower the pit lake level was required by the Az. DEQ, since as soon as they stopped pumping the pit lake level would rise to the natural groundwater elevation and become a point source for contamination of surrounding groundwater. Any geochemist will tell you that once exposed to air and water, sulfide waste rock produces acidic discharge that will continue for decades if not centuries. An abandoned and flooded open pit in a sulfide ore deposit becomes an acidic lake. The acidic water will also then mobilize other heavy metals. My experiences at the Bureau of Mines have made me deeply skeptical of mining company claims that they can guarantee zero contamination in perpetuity by using the "latest technology" (essentially liners or barriers of one type or another). Check out what happened in Montana with the Zortman-Landusky gold mine. They promised the latest technology tool with multiple liners and barriers. That was also a Canadian mining company. Perpetual water treatment is of course very expensive and mining companies are generally unwilling to commit to this type of mitigation long-term. They want to be able to walk away from any possible mess they make. They will try to externalize all the remediation and closure costs and stick Mn. taxpayers with the bill. Based on my 20 odd years of experience in dealing with mining companies on environmental issues I don't trust any of them to do what they say they will. Without a very very big bond, Minnesota taxpayers are being forced to take a huge risk here.</p>	G4A,G7A

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<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
65	<p>COMMENT #2: NONDEGRADATION - APPLICATION OF MN RULE 7050 On page 4.1-33, the DEIS includes the following text: "Because the Project is in the Lake Superior Basin, the Great Lakes Initiative (Lake Superior) water quality standards also apply (Minnesota Rules, chapter 7052). These Lake Superior standards can differ from the water quality standards for the same parameters in Minnesota Rules, chapter 7050. Where different, the 7052 standards supersede the 7050 standards, even if the 7052 rules are less stringent. For parameters not listed in Minnesota Rules, chapter 7052, the standards from Minnesota Rules, chapter 7050 apply. This is not accurate and should be corrected. All the elements of DEIS that are affected by this correction should be revised. MN Rule 7052.0300, subp. 1 includes the following language: "This part and parts 7050.0180 and 7050.0185 establish the non degradation standards and implementation procedures for surface waters of the state in the Lake Superior Basin. For the purposes of this part and parts 7052.0310 to 7052.0330, lowering of water quality means a new or expanded point source discharge of a BSIC to an outstanding international resource water, or a new or expanded point or nonpoint source discharge, for which there is a control document, of a BCC to a high quality water. The nondegradation standards established in this part and parts 7050.0180 and 7050.0185 for surface waters of the state in the Lake Superior Basin apply as follows:" (bold and underline added) As indicated by this language and other text from MN Rule 7052, the relationship between Rules 7052 and 7050 and the applicability of both of these Rules to this Project are not nearly as simple as stated in the text from the DEIS. MN Rule 7052.0300, subp. 1.C includes the following language: "Part 7050.0185 applies to the discharge of non-BCCs to all surface waters of the state in the Lake Superior Basin not designated as ORVWs, and to the discharge of BCCs to waters not designated as ORVWs or high quality waters. " This language applies to every chemical discharged from the NorthMet site, except mercury. It also applies to all the waters that the NorthMet site will drain to, including: • Partridge River • Embarrass River • unnamed "waters of the state" • Colby Lake • Whitewater Reservoir • Second Creek • Sabin Lake • Wynne Lake • St. Louis River • Lake Superior There are minimum requirements and protocols included under MN Rule 7050.0185. These should be followed. The DEIS should provide the information needed to make the "Determination of Significance". In particular, the data and analysis should be included to see if the discharge qualifies as a "significant discharge" under MN Rule 7050.0185, subp.2.G.3, as per MN Rule 7050.0185, subp.5. This provision must be applied to both the process discharge water and the stormwater discharge from the site (construction and site). This will require establishing the "baseline quality" consistently attained in the waters by January 1, 1988. If it is apparent that any of the discharges meet the significance test, the EIS should be revised to include sufficient information for the "Determination of reasonable control measures for significant discharges", as per MN Rule 7050.0185, subp. 8. Additionally, MN Rules 7050.0185, subp. 9 and 7050.0186 should be applied to any and all wetland impacts from the Project. Rule 7050.0185 applies to all pollutants. At a minimum, the analytic work in the revised DEIS should address all the chemicals on the GLI list of chemicals. Recommended Actions Related to Comment #2: Action 2a: Revise the DEIS to address the nondegradation provisions under MN Rules 7050.0185 and 7050.0186, including the significance test under MN Rule 7050.0185, subp. 2.G. If the new or expanded discharge from the Project meets the significance test, revise the DEIS to include reasonable control measures for significant discharges. Address all the pollutants that may be discharged from the Project. Ad</p>	WR3I

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<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
66	<p>COMMENT #3: FINANCIAL SUPPORT FOR LONG TERM MEASURES There are numerous instances in the DEIS where PolyMet proposes that long-term measures be implemented to address a problem identified in the DEIS. For everyone of these measures, there must be financial provisions proposed to assure that the measures will be funded for as long as they may be needed, even if PolyMet, or some other future owner of the Project, should go out of business. There are a variety of widely-accepted business methods to structure and implement such arrangements. The costs for such arrangements can be accurately determined in order to allow for almost every possible event or development over time. Such financial provisions are the only method of assuring that there will be the monetary support to implement the necessary and appropriate measures. Wherever a long-term measure is proposed to address a problem identified in the EIS and requires review and approval by any regulatory body, that regulatory body should require a suitable financial arrangement to assure funding support for the measure for as long as may be necessary. If such an arrangement is not provided, the proposed measure should be ignored in the context of the regulatory review and approval. For example, page 4.1-128 of the DEIS includes the following text: "As discussed previously, since neither the WWTP nor the East Pit constructed wetlands are expected to be consistently effective in mercury removal, there is some uncertainty whether mercury concentrations in the West Pit, or the ultimate discharge to the Partridge River when the West Pit begins to overflow around Year 65, would meet Great Lakes Initiative water quality standards. Mercury monitoring is recommended to determine if elevated mercury concentrations are found in the West Pit (see Section 4.1.3.5 for a discussion of recommended monitoring measures)." This text appears to be suggesting that the uncertainty about mercury concentrations in the West Pit over time (beyond Year 65) should be acceptable if mercury monitoring is implemented. Specific provisions to fund such monitoring over such a long period of time should be proposed by PolyMet, with a cost estimate and definite commitments to financial arrangements that will guarantee such funding from PolyMet. Such proposed funding arrangements must be sufficiently durable to assure implementation of the monitoring even in the event of Poly Met going out of business. Without such provisions, the monitoring proposal should be ignored and the uncertainty considered unacceptable. Many of the proposed mitigation measures included in the DEIS would require long-term funding to implement. For each of these measures, the DEIS should include proposals from PolyMet to provide funding mechanisms to support these mitigation measures. These funding mechanisms should be sufficiently robust and durable to assure long-term funding even in the event of PolyMet going out of business. Where monitoring is proposed as part of a mitigation strategy, there should be a discussion of the possible alternatives that may be required in response to the monitoring results. The estimated costs of these possible alternatives should be provided along with durable long-term funding mechanisms. Where funding mechanisms do not accompany mitigation measures, those mitigation measures should not be considered or accepted by the agencies reviewing and approving the DEIS. Recommended Actions Related to Comment #3: Action 3a: Revise the DEIS to include a cost estimate and proposed long-term funding mechanisms for every mitigation measure and proposed alternative that is proposed to be implemented beyond the duration of the mining operation. The proposed funding mechanisms must be sufficiently robust and durable to assure long-term funding even in the event of PolyMet, or some other future owner of the Project, going out of business.</p>	PD3,PD4

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66	<p><b>COMMENT #4: CONTRIBUTION TO THE VIOLATION OF WATER QUALITY STANDARDS - IMPAIRED WATERS &amp; TMDLs THAT ARE NOT COMPLETE</b> The DEIS includes the following text: 4.1.1.3 Surface Water Resources Embarrass River The Embarrass River is not on the 303(d) list of impaired waters. however several lakes downstream of the Project (referred to as the 'chain of lakes') through which the Embarrass River flows are listed for "mercury in fish tissue" impairment, including Sabin, Wynne, Embarrass, and Esquagama Lake (Figure 4.1-1). Further downstream, most of the St. Louis River is also listed for "mercury in fish tissue" impairment. These lakes and the St. Louis River are not covered by the Statewide Mercury TMDL, but are impaired waters and are still in need of a TMDL pollution reduction study. These waters are not included in Minnesota's regional mercury TMDL because the mercury concentrations in the fish are too high to be returned to Minnesota's mercury water quality standard through reductions in atmospheric mercury deposition alone. A TMDL study of these waters is needed to determine what actions are required to reduce the mercury concentration in fish. 4.5.4.2 Background Mercury contamination of fish is a widespread problem in Minnesota and elsewhere. Many of the waterbodies in the Project area are among those listed as impaired by mercury, including Wynne, Sabin, Embarrass, and Esquagama Lakes (through which the Embarrass River flows); Colby Lake and Whitewater Reservoir in the Partridge River watershed; and segments of the St. Louis River (MPCA 2006, Minnesota's Impaired Waters and Total Maximum Daily Loads) (Figure 4.5-4). These water bodies have fish consumption advisories because the mercury concentrations in fish tissue pose a hazard to human health (MDH 2007, Fish Consumption). Mercury contamination of fish also poses a toxicity risk to fish-eating wildlife (Wolfe et al. 1998; Wiener et al. 2003). The waterbodies listed above, as well as most other waterbodies in the St. Louis River basin were excluded from the statewide mercury TMDL because mercury levels in the fish were above the level considered achievable by the TMDL. These waterbodies may be subject to one or more separate TMDLs to be developed in the future. 4.5.4.3 Project-related Effects The Proposed Action would result in the release of sulfate to areas that MPCA considers "high risk"for mercury methylation within the Embarrass River watershed. The MPCA Web site map for the 2010 303(d) list of impaired waters in the Lake Superior Basin shows the following water bodies to be impaired, at least for mercury, and needing to have a TMDL (the terminology on the map is "At least one use is impaired and a TMDL is required"): • Colby Lake • Embarrass Lake • Esquagama Lake • Sabin Lake • Saint Louis River • Wynne Lake. The DEIS states that discharge from the Project reaches all these water bodies. There have been multiple State and Federal court rulings regarding discharges to waters that have been listed as impaired and for which a TMDL is required, but not yet completed. See, e.g, Friends of Pinto Creek v. United States Env'tl Prot. Agc'y, 504 F.3d 1007 (9th Cir., 2007) cert. denied sub nom Carlotta Copper Company v. Friends of Pinto Creek, et al. 129 S. Ct. 896 (2009). During the period of time that a water body is in this status, "40 C.F.R. § 122.4(i) provides that "[n]o permit may be issued" [t]o a new source or a new discharger, if the discharge from its construction or operation will cause or contribute to the violation of water quality standards. The owner or operator of a new source or new discharger proposing to discharge into a water segment which does not meet applicable water quality standards or is not expected to meet those standards even after the application of the effluent limitations required by sections 301(b)(1)(A) and 301(b)(1)(B) of CWA, and for which the State or interstate agency has performed a pollutants load allocation for the pollutant to be discharged,</p>	EOO,WR3I,FM1,FM5
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Comment ID	Comment Text	Theme Codes
67	<p>COMMENT #5: LAKE SUPERIOR BASIN WATER STANDARDS AND NONDEGRADATION The DEIS includes the following text on page 4.1-31): All Project area waters are also designated Outstanding International Resource Waters (Minnesota Rules, part 7050.0460 and 7052.0300), which prohibits any new or expanded point source discharges of bioaccumulative substances of immediate concern (e.g., mercury) unless a non degradation demonstration is completed and approved by MPCA. The DEIS includes the following text on pages 4.1-127 &amp; 4.1-128: Nondegradation Standards Minnesota Rules, parts 7050.0185 and 7052.0300, establish nondegradation standards and procedures for surface waters statewide and for waters in the Lake Superior Basin, respectively. The statewide non degradation procedures are in place to protect all waters from significant degradation from point and nonpoint sources. The Lake Superior Basin non degradation procedures apply to new or expanded point source discharges of bioaccumulative substances of immediate concern (BSIC) (Minnesota Rules, part 7052.0350). The only BSIC with applicability to the Project is mercury. The NorthMet Project would be a new facility, but PolyMet has proposed a water balance that avoids the need for any point source discharges during mine operations. During Post-Closure (approximately Year 65), the West Pit would eventually fill and overflow. As discussed previously, since neither the WWTP nor the East Pit constructed wetlands are expected to be consistently effective in mercury removal, there is some uncertainty whether mercury concentrations in the West Pit, or the ultimate discharge to the Partridge River when the West Pit begins to overflow around Year 65, would meet Great Lakes Initiative water quality standards. Mercury monitoring is recommended to determine if elevated mercury concentrations are found in the West Pit (see Section 4.1.3.5 for a discussion of recommended monitoring measures). Many of the statements in these sections are irresponsibly inaccurate, incomplete, and/or misleading. "The statewide nondegradation procedures are in place to protect all waters from significant degradation from point and nonpoint sources" This statement is accurate, but the DEIS section provides no information or provisions in response to its applicability to this project. At a minimum, the DEIS should provide enough information to determine whether the degradation caused by the new or expanded discharges from the project are "significant" under Minnesota Rule 7050. "The Lake Superior Basin non degradation procedures apply to new or expanded point source discharges of bioaccumulative substances of immediate concern (BSIC) (Minnesota Rules, part 7052.0350). " This statement in the DEIS is incorrect. In MN Rule 7050.0300, subp. 1, there is the following text (highlighting added): "For the purposes of this part and parts 7052.0310 to 7052.0330, lowering of water quality means a new or expanded point source discharge of a BSIC to an outstanding international resource water, or a new or expanded point or nonpoint source discharge, for which there is a control document, of a BCC to a high quality water." Mercury is a BCC. All the receiving and downstream waters that are not currently on the 303(d) Impaired Waters List are High Quality Waters. Thus, the Lake Superior nondegradation procedures apply to both point and nonpoint source discharges of BSICs and BCCs from this project. "The NorthMet Project would be a new facility, but PolyMet has proposed a water balance that avoids the need for any point source discharges during mine operations. " This project is required to have NPDES stormwater permits for Construction Activity and Industrial Activity. These permits will cover site discharges, above and beyond the process discharges covered by another NPDES permit. By definition, discharges covered by NPDES permits are point source discharges. Thus, the project will have point source discharges during mine operations. In this se</p>	WR31



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Comment ID	Comment Text	Theme Codes
68	<p>COMMENT #6: MERCURY SEQUESTRATION IN MINE WASTE ROCK The DEIS includes the following text on pages 4.1-122 to 4.1-124. The highlighting has been added. Mercury in Surface Waters Mercury can be released to surface or groundwaters through mobilization of mercury stored in rock, soil, peat, and vegetation. Methylmercury is the biologically active form of mercury that accumulates in fish and is toxic to humans and wildlife. Current scientific understanding of the factors and mechanisms affecting mercury methylation and bioaccumulation is limited. Mercury concentrations in fish sampled from downstream lakes presently trigger advice to limit fish consumption. An increase in mercury bioavailability would be counter to state-wide efforts to reduce mercury concentrations in fish. This section discusses mercury from only a water quality perspective; the potential effects of the Proposed Action on the bioaccumulation of methylmercury in fish are discussed in Section 4.5. Direct Release of Mercury to Waterbodies from the Mine Site The potential for mercury to be released to waterbodies by exposing rock that contain mercury and the clearing of vegetation (primarily peat) is evaluated below. The NorthMet waste rock and ore contain trace amounts of mercury. Laboratory analysis of humidity cell leachates from waste rock samples found average total mercury concentrations between 5 and 7 ng/L, with concentrations unrelated to rock type or sulfur content (RS53/42, SRK 2007). Separate 36-day batch tests using local rainfall (12 ng/L total mercury) found that contact with Duluth Complex rock actually decreased total mercury concentrations to between 1.9 and 3.2 ng/L (RS53142, SRK 2007). Therefore, the data suggest that mercury present in rainfall or released by sulfide oxidation is typically absorbed by other minerals present in the mine waste rock. For these reasons, the release of mercury from waste rock and ore at the Mine Site is not expected to be a constituent of concern in groundwater seepage. Forest foliage is a major sink for airborne mercury. Mercury accumulated in the foliage of vegetation is then added to the surface litter layer and the soil upon litterfall (Ericksen et al. 2003). Porvari et al. (2003) reported significant increases in total mercury and methylmercury concentrations and loads in streams following clear-cutting and soil treatment (e.g., harrowing, scarification, and mounding) in a boreal forest catchment. Organic matter contained in peat also constitutes a large reservoir of mercury, but this mercury is strongly bound to the organic material (Drexel et al. 2002). Disruption of peat deposits, such as proposed excavation and stockpiling of peat at the Mine Site, resulting in oxidation and decomposition of the peat may increase the mobility of the stored mercury. Mining operations at the Project would result in forest clearing and soil and wetlands disruption over an area of approximately 1,536 acres (RS73B, Barr 2008). Desiccation-induced acidification of the peat can also be expected to mobilize mercury bound to the peat (Tipping et al. 2003). Periodic rewetting of exposed peat by precipitation and water level fluctuations may then promote methylation of mercury by sulfate-reducing bacteria within the oxidizing peat material and thereby mobilize mercury that has accumulated over many years. PolyMet proposes to place the excavated peat in either the Category 1 and 2 waste rock stockpile or the Overburden Storage and Laydown Area (Barr 2009, Technical Memorandum: NorthMet Waste Management and Modeling Assumptions for Overburden Material). Drainage from these stockpiles would be considered process water, which would be collected, possibly treated at the WWTF, and either pumped to the Tailings Basin for reuse/ultimate disposal (Years 1-11) or to help in the flooding of the mine pits (Years 12-65). The WWTF is not predicted to be very effective in removing mercury, with an average non-flow adjusted reduction during mine opera</p>	WR4A,WR4B,WR4D,WR4
69	<p>The Center has numerous members in the region who would be adversely affected by the proposed project. As proposed, the NorthMet mine would violate a number of environmental laws and regulations, including but not limited to the Endangered Species Act, state water quality standards and the Clean Water Act, laws and regulations intended to protect wetlands, the National Environmental Policy Act, the Superior National Forest Plan, and the Clean Air Act, and thus cannot be approved.</p>	G5A
70	<p>Additionally, the Draft EIS cumulative effects analysis is deficient in failing to discuss or disclose the considerable and serious water pollution that would occur if a series of copper-nickel mines are approved in the state, as currently anticipated.</p>	WR5A

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Comment ID	Comment Text	Theme Codes
71	As commented by the Tribal cooperating agencies, the Draft EIS also fails to demonstrate that perpetual water treatment would not be required at the mine site. DEIS, 4.1-55. The agencies cannot simply assume that PolyMet’s estimation of 34 years for water treatment is correct. Id. If, as the Tribal cooperating agencies predict and other similar mines have shown, water treatment is likely to be necessary in perpetuity – for thousands of years (DEIS, 4.1-56 n. 15-16) – this obviously is a critically important factor for calculating financial assurance and insuring there will be no long-term legacy pollution resulting from this proposal. See DEIS, 4.1-112, n. 32 (Tribal cooperating agencies stating that a wastewater treatment facility “would need to operate for a minimum of 2000 years in order to treat leachate from the stockpiles”); DEIS, 4.1-113, n. 33 (stating that primary water treatment “would need to continue for thousands of years,” which “does not meet the Minnesota goal for maintenance free closure”).	WR3I
71	The Draft EIS is also inadequate in its analysis of potential releases of mercury, which should be a primary issue of detailed analysis due to the already high levels of mercury in surrounding waterbodies. For instance, both during and after mining, stockpile leakage containing mercury will discharge to groundwater in very close proximity to the Partridge River. There will likely be additional discharge and release of mercury from the tailings basin into groundwater and surface waters. The Draft EIS fails to provide a sufficient, quantitative, and cumulative analysis of the likely discharge of mercury to all surface waters in and downstream from the project area, both during and after the proposed mining.	WR5A
72	Regarding wetlands, in addition to the issues discussed below in the context of Section 404 of the CWA, the Draft EIS cumulative effects analysis is inadequate. The agencies cannot ignore the substantial impacts to wetlands resulting from taconite mining in this region. As explained by the Tribal cooperating agencies: At a regional scale, Iron Range taconite mining has impacted wetlands through direct wetland fill as well as indirect impacts due to air deposition of mine related contaminants, water quality degradation, and the flooding/de-watering of wetlands which lead to changes in wetland functional values. There are two additional geographic scales at which wetland cumulative impacts should be characterized: St. Louis River Watershed. The Fond du Lac band of Lake Superior Chippewa has identified this watershed as an area of concern. The cumulative impact analysis should quantitatively characterize the following: 1. The additive effect of PolyMet related air and water emissions to the Partridge and Embarrass River watershed wetlands and their impact on water quality of the St. Louis River. 2. The loss of wetlands and changes in wetland functional values in the St. Louis River watershed during the 3 timeframes, including a characterization of the potential for future mining impacts and the longterm maintenance requirements of the PolyMet mine as currently proposed. 1859 Ceded Territory. The Fond du Lac, Grand Portage, and Bios Forte tribes retains treaty guaranteed rights to harvest natural resources within the 1859 ceded territory. The cumulative impact analysis should quantitatively characterize the following: 1. The additive effect of PolyMet related air and water emissions to the wetlands of the 1859 ceded territory. 2. The loss of wetlands and changes in wetland functional values in the 1859 ceded territory during the 3 timeframes. 3. Loss of tribal access to wetlands in the 1854 ceded territory due to either the changes documented in 2. above, or due to mitigation of wetland impacts occurring outside of the ceded territory.	WE4,WE5
73	DEIS, 4.2-43, n. 38. Moreover, as with numerous other issues, the Draft EIS analysis of wetlands impacts is inadequate because much of the work and analysis is deferred until later. As commented by EPA, “the current mitigation options – two restoration sites in Aitkin and Pine Counties and on-site post-closure locations – compensate for only 68% of projected impacts.” July 31, 2009, EPA Comments, p. 1. While the Draft EIS “states that the rest of the uncompensated wetlands would be addressed as permit conditions,” EPA requested that all mitigation be included within the Draft EIS, prior to permitting. Id. This is indeed required by NEPA, both to allow an accurate assessment of wetland impacts, and to allow the public to be meaningfully involved in commenting on this significant issue of concern for the proposed action.	WE3,WE4

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- 74 IV. The DEIS Fails to Adequately Explain How the Proposed Mining Project Would Not Violate the Clean Water Act (“CWA”) The CWA is designed to “restore and maintain the chemical, physical and biological integrity of the Nation's waters.” 33 U.S.C. § 1251(a). The goal of the CWA is that the discharge of pollutants into navigable waters be eliminated, and “it is the national policy that the discharge of toxic pollutants in toxic amounts be prohibited.” Id. Section 301 of the CWA prohibits the discharge of any pollutant into waters of the United States, except as provided by specific statutory authority. Id. § 1311. The CWA and its implementing regulations define “waters of the United States” to include wetlands and riparian habitats adjacent to waters of the United States. Id. § 1362(7); 33 C.F.R. § 328.3(b). “Pollutant” is defined to include dredged or fill material. 33 U.S.C. § 1362(6). Any applicant for a federal permit to conduct any activity which may result in the discharge into the navigable waters must provide the permitting agency with a certification from the State that any such discharge will comply with the CWA and state water quality standards. Id. § 1341. In addition, the CWA requires federal agencies to comply with state water quality standards. Id. § 1323(a); *Northwest Indian Cemetary Protective Ass’n v. Peterson*, 795 F.2d 688, 697 (9th Cir. 1986). A. Section 404 of the Clean Water Act Section 404 of the CWA regulates the discharge fill material into waters of the United States. 33 U.S.C. § 1344(e). The Secretary of the Army, acting through the Corps, may issue permits for such activities. Id. The Corps has adopted regulations to implement this permitting process, known as the “public interest” factors. 33 C.F.R. §§ 320 et seq. In addition, the EPA promulgated regulations, known as the “404(b)(1) Guidelines,” to eliminate unnecessary environmental impacts. 33 U.S.C. § 1344(b)(1); 40 C.F.R. § 230. The Corps must review all proposed section 404 permits under both the Corps’ public interest factors and EPA’s 404(b)(1) guidelines. 33 C.F.R. § 320.2(f). The Corps may issue individual and general permits under section 404 of the CWA. 33 U.S.C. § 1344(a) & (e). Section 404 of the CWA prohibits the filling or dredging of wetlands without first receiving a § 404(b) permit from the U.S. Army Corps of Engineers. 33 U.S.C. § 1344 (a), (d). The CWA and its implementing regulations “express a strong preference for wetland protection.” *National Wildlife Federation v. Whistler*, 27 F.3d 1341, 1344 (8th Cir. 1994). A Section 404 permit may not be issued if (i) there is a practicable alternative which would have less adverse impact and does not have other significant adverse environmental consequences, (ii) the discharge causes or contributes to violations of any applicable state water quality standards, (iii) the discharge would result in the likely destruction or adverse modification of critical habitat, (iv) the discharge will cause or contribute to significant degradation of waters of the United States, (v) the discharge does not include all appropriate and practicable measures to minimize potential harm, or (vi) there does not exist sufficient information to make a reasonable judgment as to whether the proposed discharge will comply with the Corps’ Guidelines for permit issuance. 40 C.F.R. § 230.10-12; see *Bering Strait Citizens for Responsible Resource Dev. v. U.S. Army Corps of Engineers*, 524 F.3d 938, 946-47 (9th Cir. 2008). For the “practicable alternative” requirement, the Corps must follow a specific two step procedure. First, a correct statement of the proposed project’s “basic purpose” is necessary. See 40 C.F.R. § 230.10(a)(3). The Corps is to define the proposed project’s basic purpose. See 33 C.F.R. Part 325, App. B(9)(b)(4). Second, after the Corps defines the basic purpose of the project, it must determine whether that basic purpose is “water dependent.” See 40 C.F.R. § 230.10(a)(3). As one example, a gold mining p
- 75 DEIS, 4.2-22, n. 27. The Draft EIS fails to demonstrate that there is no practicable alternative which would have less adverse impact and does not have other significant adverse environmental consequences. The proposed mine is clearly not a “water-dependent project,” and thus the Corps must assume that practicable alternatives exist unless the applicant clearly demonstrates otherwise. *National Wildlife Federation*, 27 F.3d at 1344 (quoting 40 C.F.R. § 230.10(a)(3); see also 7050.0186(4) (prudent and feasible alternatives that do not involve wetlands are presumed to be available unless clearly demonstrated otherwise by the permit applicant). “This presumption of practicable alternatives ‘is very strong.’” *National Wildlife Federation*, 27 F.3d at 1344. The Draft EIS falls far short in demonstrating that there are no practicable alternatives that would have less severe impacts to wetlands. 40 C.F.R. § 230.10(a). As commented by the Tribal cooperating agencies, “[o]ther alternatives that were not considered in the DEIS (e.g. underground mining) would pose less harm to high quality wetlands, and may be less damaging to aquatic resources.” DEIS, 4.2-25, n. 33; see also DEIS, 4.2-25, 26 (finding that Mine Site and Tailings Basin alternatives would reduce impacts to wetlands).

FM1,FM5,WR3I

WE4

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| 76 | In addition, as stated, the permit applicant must also provide compensatory mitigation for unavoidable wetlands impacts, and if compensatory mitigation is accomplished by restoration or creation, the replacement wetland must be of the same type and in the same watershed as the impacted wetland, to the extent prudent and feasible. Minn. R. 7050.0186(6). For the proposed project, nearly all wetland compensation would occur outside of the St. Louis River watershed. DEIS, 4.2-36, 37. The applicant and agencies, however, have failed to sufficiently demonstrate that replacement wetlands of the same type and in the same watershed as the impacted wetlands is not prudent or feasible. Federal and state wetland mitigation requirements are clear that the preference for mitigation is within the same watershed where the impacts will occur, and it is not simply up to the permittee to decide whether opportunities within the watershed would be too expensive. The Corps and DNR must require that PolyMet restore wetlands within the St. Louis River watershed if an appropriate location can be found, regardless of the added cost to the mining proponent.  | WE3  |
| 76 | The proposed mine will cause and contribute to violations of state water quality standards, and therefore a Section 404 permit cannot be issued. 40 C.F.R. § 230.10(b)(1); see also, id. § 230.10(c) (not allowing permit to be issued if the proposal “will cause or contribute to significant degradation of waters of the United States”). As explained below in more detail, the Draft EIS acknowledges the following: West Pit overflow is predicted to “initially” exceed water quality standards. DEIS, S-8. Modeling predicts “that three parameters (i.e., arsenic, cobalt, and selenium) would exceed surface water quality standards when the West Pit overflows” and an “uncertainty analysis” “predicted exceedances of surface water standards for cobalt, copper, and nickel.” DEIS, 4.1-113. “The modeling results suggest that perhaps as many as five parameters (i.e., arsenic, cobalt, copper, nickel, and selenium) could exceed surface water quality standards, in addition to the relatively high sulfate concentrations.” Id. Groundwater seepage at the tailings basin would not be recovered and would eventually impact surface water quality in the Embarrass River. DEIS, 4.1-117-18. Modeling predicts that the proposed mine “would increase sulfate concentrations” to as high as 146 mg/L during low flow conditions. DEIS, 4.1-120. Wild rice grows on the lower Partridge River, and therefore the wild rice sulfate water quality standard applies; and the proposed PolyMet discharge would not meet this standard. DEIS, 4.1-187, n. 80. The proposed project, in combination with other past, present, and reasonable foreseeable future projects “have resulted in a significant increase in sulfate concentrations from baseline conditions of approximately 5 mg/L to the existing concentration of 149 mg/L . . . , which is expected to increase further as a result of the NorthMet and Mesabi Nugget Phase II projects.” DEIS, 4.1-189. Sulfate concentrations in the St. Louis River are sometimes elevated due, most likely, to mining related sulfate releases. DEIS, 4.1-194. Moreover, “[t]he activities included in this cumulative effects assessment, which include several mining projects, have the potential to increase sulfate concentrations.” Id. In addition, EPA’s comments indicate water quality standard violations for aluminum in the Embarrass River and Colby Lake. July 31, 2009 EPA comments at 3. This includes violations that could impact the drinking water supply of Hoyt Lakes. Id. See also Table 4.1-68, DEIS, 4.1-129. As explained above, the proposed mine would also directly result in the destruction and adverse modification of critical habitat for Canada lynx and gray wolves, and therefore a Section 404 permit cannot be issued. 40 C.F.R. § 230.10(b)(3). The proposed mine does not include all appropriate and practicable measures to minimize potential harm, and therefore a Section 404 permit cannot be issued. 40 C.F.R. § 230.10(d). The Draft EIS fails to provide sufficient information to make a reasonable judgment as to whether the proposed discharge will comply with the Corps’ Guidelines for permit issuance, and therefore a Section 404 permit cannot be issued. In fact, the agencies admit within the Draft EIS that “[r]elatively high sulfate concentrations in seepage from the Tailings Basin would be released to wetlands north of the Tailings Basin and lakes downstream on the Embarrass River that represent ‘high risk situations’ for mercury methylation,” and there is “uncertainty as to whether the West Pit overflow would meet the Lake Superior mercury standard.” DEIS, S-9; see also DEIS, 4.1-124 (stating “there is some uncertainty as to whether the West Pit overflow would meet the Great Lakes Initiative standard for mercury and additional analysis of this issue is recommended”); DEIS, 4.2-194 (“[i]t is unclear to what extent increased sulfate loadings may have on mercury methylation within the downgradient wetlands and downstream lakes,” and the project “may contribute to cumulative ef | WR4B |
| 77 | The Center supports and hereby incorporates by reference all comments submitted by the Tribal cooperating agencies, including those set forth in Appendix D to the Draft EIS, and within footnotes throughout Volume I of the Draft EIS.1   | G15  |

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78	Additionally, just because the amount of wetlands that would be affected by the project proposal is so large should of course not mean that the permittee can look outside of the watershed for the required mitigation. The opposite should be true – that the larger the amount of wetlands to be impacted, the more important it is for the project proponent to mitigate the loss within the same watershed.	WE3
78	Moreover, there is no assurance that the wetlands to be restored at the Aitkin and Hinckley sites are of the same quality of the wetlands that would be destroyed at the mine site, as required. Because the proposed Aitkin and Hinckley sites are located so far away and to the south, these restored wetlands would not provide the same habitat that would be lost for wildlife species such as moose, lynx, wolves and other species that are not found that far to the south.	WI6,WE3
79	In addition, the amounts of wetlands that are proposed to be created or restored falls far short of the amount necessary to compensate for the wetlands that would be directly and indirectly affected by the proposed project. The Draft EIS claim that additional compensatory mitigation would be addressed later fails to comply with NEPA. 40 C.F.R. 1500.1(b) (“NEPA procedures must insure that environmental information is available to public officials and citizens before decisions are made and before actions are taken) (emphasis added); see also DEIS, 4.2-39 n. 37 (stating that “unless the mitigation for the additional 475 wetland acres is identified in the DEIS, or there is a detailed statement of how the permit conditions would address the needed acres, the impacts must be considered unmitigated for purposes of the DEIS”).	WE3
80	It is apparent from the Draft EIS that the proposed NorthMet project would violate state water quality standards. For instance, for water quality in the Upper Partridge River, the Draft EIS states that West Pit overflow is predicted to “initially” exceed water quality standards. DEIS, S-8. According to the Tribal cooperating agencies, “the west pit is predicted to violate surface water standards for all years that predictions were made.” DEIS, 4.1-129, n. 45. And according to EPA, this overflow “clearly exceeds several water quality standards.” July 31, 2009 EPA comments at 3. Indeed, modeling predicts “that three parameters (i.e., arsenic, cobalt, and selenium) would exceed surface water quality standards when the West Pit overflows” and an “uncertainty analysis” “predicted exceedances of surface water standards for cobalt, copper, and nickel.” DEIS, 4.1-113. “The modeling results suggest that perhaps as many as five parameters (i.e., arsenic, cobalt, copper, nickel, and selenium) could exceed surface water quality standards, in addition to the relatively high sulfate concentrations.” Id; see DEIS, 4.5-16 (stating that “[t]he West Pit is expected to overflow around Year 65,” and that “[t]he initial overflow is currently predicted to exceed surface water standards for as many as four parameters (i.e., arsenic, cobalt, nickel, and selenium) . . .”). Furthermore, as noted by the Tribal cooperating agencies, “because of continued inputs from stockpiles, the tailings basins, and the pit walls, the pit lake could exceed water quality standards for thousands of years.” DEIS, 4.1-115, n. 35; see also September 2, 2009, Forest Service Comments (stating that additional “information/analysis/conclusions regarding the ability of the West Pit overflow’s to meet the Great Lakes Initiative should be included in the DEIS”).	WR3C
80	Last, as noted by the Tribal cooperating agencies, the public notice issued by the Corps for the Section 404 permit must be reissued, and MPCA afforded another opportunity to analyze and make a determination under Section 401 of the CWA, because significant changes have been made to the proposed action since the May, 2005 public notice. DEIS, 4.2-1, n. 1.	PRO3
81	Furthermore, the Draft EIS acknowledges that groundwater seepage at the tailings basin would not be recovered and would eventually impact surface water quality in the Embarrass River. DEIS, 4.1-117-18. Modeling predicts that the proposed mine “would increase sulfate concentrations” to as high as 146 mg/L during low flow conditions. DEIS, 4.1-120; see also DEIS, 4.1-64 (“[T]he total unrecovered NorthMet groundwater seepage from the Tailings Basin is expected to range from approximately 1,600 gpm in Year 1 to approximately 2,900 gpm in Year 20”). “The analysis indicates that groundwater seepage . . . would be the primary input of sulfate to the Embarrass River during low flows in all mine years.” Id. As recognized by the Tribal cooperating agencies, the limiting data indicate that surface waters already adversely impacted by past and ongoing mining activity, and “because the Embarrass River already exceeds water quality standards, it would be difficult to permit the addition of additional contamination from new or expanded sources.” DEIS, 4.1-120, n. 37-38. Modeling suggests that the proposed project would cause manganese, aluminum, and sulfate to exceed water quality standards. Id.	WR1A,WR2G

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Comment ID	Comment Text	Theme Codes
82	In addition, mercury concentrations in fish sampled from downstream lakes already triggers advice to limit fish consumption, and an increase in mercury bioavailability “would be counter to the state-wide efforts to reduce mercury concentrations in fish.” DEIS, 4.1-122. As disclosed within the Draft EIS: The groundwater seepage rate from the Tailings Basin during mine operations would greatly exceed the groundwater flux capacity of the aquifer, which would result in significant upwelling of groundwater with elevated sulfate concentrations. This upwelling would inundate portions of the wetlands found north of the Tailings Basin, introduce relatively high sulfate concentrations to the wetlands and downstream lakes on the Embarrass River that represent high risk situations for mercury methylation, and could affect sulfate concentrations in downstream waters that contain wild rice.	FM1
83	DEIS, 4.1-129. As further disclosed in the Draft EIS, “[r]elatively high sulfate concentrations in seepage from the Tailings Basin would be released to wetlands north of the Tailings Basin and lakes downstream on the Embarrass River that represent ‘high risk situations’ for mercury methylation,” and there is “uncertainty as to whether the West Pit overflow would meet the Lake Superior mercury standard.” DEIS, S-9; see also DEIS, 4.1-124 (stating “there is some uncertainty as to whether the West Pit overflow would meet the Great Lakes Initiative standard for mercury and additional analysis of this issue is recommended”); DEIS, 4.1-125 (acknowledging that the proposed mine “would result in increased sulfate loadings via groundwater to both the Partridge and Embarrass rivers”); DEIS, 4.1-126 (“increasing the sulfate load from the Tailings Basin could increase the potential for mercury methylation both in wetlands north of the Tailings Basin and at the downstream lakes”); DEIS, 4.1-127 (“seepage from the Tailings Basin would introduce elevated sulfate concentrations to a high risk situation for mercury methylation”). As recognized by the Tribal cooperating agencies, this “further analysis” must be presented within a Supplemental Draft EIS to allow this significant and directly relevant information to be reviewed by the public and other agencies. DEIS, 4.1-124, n. 39. Similarly, the “additional sampling” being conducted by PolyMet “to help better understand mercury dynamics in the Project area” is similarly directly relevant and highly significant information that must be presented to the public within a Supplemental Draft EIS. DEIS, 4.1-126.	WE2,WE4
84	Minn. R. 7050.0224 sets a standard for sulfates of 10 mg/L, which is applicable to all waters used for the production of wild rice. The Draft EIS fails to demonstrate how the proposed project would meet this standard not only in project area streams, but also downstream in the St. Louis River.	WR4F
85	The Center also incorporates by reference the Draft EIS comments submitted by Minnesota Center for Environmental Advocacy, Friends of the Boundary Waters Wilderness, Save Lake Superior Association, the Indigenous Environmental Network, the Sierra Club, and WaterLegacy.	G15
86	The Draft EIS acknowledges that the proposed NorthMet project, in combination with other past, present, and reasonable foreseeable future projects “have resulted in a significant increase in sulfate concentrations from baseline conditions of approximately 5 mg/L to the existing concentration of 149 mg/L . . . , which is expected to increase further as a result of the NorthMet and Mesabi Nugget Phase II projects.” DEIS, 4.1-189. Additionally, the NorthMet and Mesabi Nugget Phase II projects “have the greatest potential to affect sulfate, and potentially methylmercury, concentrations in the Partridge River.” Id. The Draft EIS, fails to explain, however, how the cumulative impacts of these and other past, present, and reasonably foreseeable future projects will still comply with all applicable water quality standards, including the state’s nondegradation policy.	WR5A
87	The Draft EIS further indicates additional water quality violations downstream in the St. Louis River, which discharges into Lake Superior. According to the Draft EIS, “[i]t has long been known that sulfate concentrations in the St. Louis River are sometimes elevated due, most likely, to mining related sulfate releases.” DEIS, 4.1-194. Moreover, “[t]he activities included in this cumulative effects assessment, which include several mining projects, have the potential to increase sulfate concentrations.” Id. The St. Louis River is already listed on the 303(d) list due to mercury in fish tissue, and this expected increase in sulfate is not allowed. See e.g., 40 C.F.R. § 122.4(d); 40 C.F.R. § 122.4(i).	WR4B,FM1

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Comment ID	Comment Text	Theme Codes
87	Similarly, for the Embarrass River, the Draft EIS acknowledges that seepage from the Tailings Basin “would introduce additional sulfate to several high risk situations for mercury methylation.” DEIS, 4.1-194. The agencies claim, however, that “[i]t is unclear to what extent increased sulfate loadings may have on mercury methylation within the downgradient wetlands and downstream lakes,” and that the project “may contribute to cumulative effects on methylmercury concentrations in downstream lakes that are already on the 303(d) list.” Id. Minnesota’s water quality standards and nondegradation policy are not merely aspirational goals that polluters are encouraged to obtain through trial and error as a project moves forward. Rather, there are mandatory, enforceable standards, and the agencies must not permit a project to proceed until the project proponent and the agencies can demonstrate actual compliance with these standards. See e.g., 40 C.F.R. § 122.4(d); 40 C.F.R. § 122.4(i); see also DEIS, 4.5-22, n. 11 (Tribal cooperating agencies, recognizing that “any new discharges that would result in further degradation to waters with an existing water quality impairment would not be legally permitable under the Clean Water Act (see <i>Friends of Pinto Creek v. EPA</i> (9th Cir.), known as the <i>Carlota Decision</i> ”).	G15,WE3,WI6
87	It is simply not credible for the agencies to acknowledge that numerous waterbodies in the project area are already in exceedance of mercury standards, with many not even included in the state’s regional mercury TMDL because mercury concentrations are too high, but then claim that major activities including NorthMet and Mesabi Nugget Phase II are “not expected to contribute to additional cumulative effects on mercury concentrations in water or fish tissue.” DEIS, 4.1-190. Substantially more information is required to fully explain what caused these waterbodies to be already severely impaired for mercury, as well as why the acknowledged addition of significant amounts of sulfates will somehow not result in additional mercury pollution.	WR4B
88	In addition, EPA’s comments indicate water quality standard violations for aluminum in the Embarrass River and Colby Lake. July 31, 2009 EPA comments at 3. This includes violations that could impact the drinking water supply of Hoyt Lakes. Id. As stated by EPA, to conclude that predicted levels (which significantly exceed water quality standards) ‘would not pose any human health risk’ needs verification and CENTER FOR BIOLOGICAL DIVERSITY’S DRAFT EIS COMMENTS 21 supporting documentation,” and the fact “that predicted levels could be almost three times the standard should be discussed in the DEIS.” Id.	WR3H
89	According to the Forest Service, nitrates are another constituent that is commonly exceeded for water quality at mine sites due to blasting agents utilized, and the Draft EIS must adequately explain how the proposed NorthMet mine would not result in water quality standard violations for nitrates. See September 2, 2009, Forest Service comments.	WR1E,WR3I
90	The Draft EIS also fails to disclose that Cliffs Erie currently holds NPDES permits at the NorthMet proposed site in which ongoing discharges are already violating their permit and the CWA. The Draft EIS is wholly inadequate in analyzing how the NorthMet mine can be expected to add massive amounts of waste on top of the unlined and already leaking tailings basin, in which CWA violations are already occurring, and somehow expect to maintain or exceed all applicable water quality standards. See e.g., DEIS, 4.1-63 (stating that “the Proposed Action would result in increased seepage from the Tailings Basin relative to existing legacy LTVSMC seepage, including both surface seepage through the Tailings Basin embankment and groundwater seepage through the base of the LTVSMC tailings”).	WR5A
91	The Draft EIS is also deficient in failing to adequately explain and demonstrate why no NPDES permits would apparently be required for the proposed NorthMet mine. As stated by the Tribal cooperating agencies, there will be surface water discharge to the Embarrass River, as there is a direct surface water connection between the northwest corner of cell 2W and the Embarrass River. DEIS, 4.1-107. “Aerial photos show that water discharging from the tailings basin follows a natural channel westward, through existing wetlands and intersects a channel that leads directly to the Embarrass River.” Id.	WR3C
773	The proposed PolyMet project would take over 6,700 acres of public land in the Superior National Forest. The DEIS provides no analysis of the land exchange and its impact on tribal rights, plant and animal habitat, and public assets.	PRO4

*Alphabetical by sender's first name*

<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
1152	The PolyMet project will lead to increased acidity of streams and rivers, especially the Partridge River which flows into the St. Louis River. This acidity will occur because of leaching of the exposed rock in the mine pits and the waste rock piles as they come into contact with air and water. The acidity leads to increased methylation of mercury which is known to harm fish and other aquatic forms of life. This will lead to increased fish consumption advisories and have a direct impact on fishing, recreational opportunities, tourism, treaty rights and human health. Because the area of the proposed open pit mining operation is much larger than what would be required for an underground mine, much more wildlife habitat would be destroyed for the project as proposed. Several endangered or threatened species will be impacted by this project including but not limited to the wood turtle, black sand shell mussel and the floating marsh marigold. The project is proposed to be located in habitat currently inhabited by Canada lynx and gray wolf, which are protected species. The impact of the proposed PolyMet project on wildlife is not acceptable. Endangered, threatened and protected species must be conserved.	WI2,WI3,WI5
1986	The PolyMet project will lead to increased acidity of streams and rivers, especially the Partridge River which flows into the St. Louis River. This acidity will occur because of leaching of the exposed rock in the mine pits and the waste rock piles as they come into contact with air and water. The acidity leads to increased methylation of mercury which is known to harm fish and other aquatic forms of life. This will lead to increased fish consumption advisories and have a direct impact on fishing, recreational opportunities, tourism, treaty rights and human health. Because the area of the proposed open pit mining operation is much larger than what would be required for an underground mine, much more wildlife habitat would be destroyed for the project as proposed. Several endangered or threatened species will be impacted by this project including but not limited to the wood turtle, black sand shell mussel and the floating marsh marigold. The project is proposed to be located in habitat currently inhabited by Canada lynx and gray wolf, which are protected species. The impact of the proposed PolyMet project on wildlife is not acceptable. Endangered, threatened and protected species must be conserved.	FM1
3311	The discharges from the mine pit and waste rock piles, seepages from the tailings basin and overflow from the flooded mine pit after closure are likely to pollute local ground water and water in the Partridge and Embarrass Rivers as well as downstream in the St. Louis River which empties into Lake Superior. Some of these are acknowledged in the DEIS to exceed water quality standards after closure including the Lake Superior mercury standard. It is also noted in the DEIS that the surface aquifers to the north of the tailings basin are already saturated by contaminated water from the old LTV tailings. This means that there will be little or no dilution of the polluted groundwater from additional rainwater and that more polluted water will be added to the same area by putting PolyMet's tailing slurry on top of the LTV tailings. Manganese, aluminum and sulfate discharges from the existing LTV tailings are already in serious violation of water quality standards. In the DEIS PolyMet is claiming that the discharges of these known pollutants from their tailings won't be any worse and therefore they don't have to do water treatment for their discharges. The Department of Natural Resources should not allow the mining companies to evade their pollution abatement responsibilities in this way.	EOO,WR3A,WR3I
3739	The proposed PolyMet project would take over 6,700 acres of public land in the Superior National Forest. The DEIS provides no analysis of the land exchange and its impact on tribal rights, plant and animal habitat, and public assets.	PD1



*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
3740	The DEIS does not require financial assurances from PolyMet even though the Environmental Protection Agency has advised states to require financial assurance due to the experience of expensive cleanups of contamination from many defunct or bankrupt sulfide mines in other states. PolyMet assets appear to be limited to this mine or are sheltered in foreign countries. The taxpayers of Minnesota should not be held responsible for the costs of the massive environment cleanup that is likely to result from this proposed project. The Department of Natural Resources already has the authority to force mining companies to pay for environmental cleanup but has not exercised this authority. For example, the LTV tailings basin continues to pollute groundwater after 50 years of operation and nearly ten years after closing. The addition of PolyMet tailings to this same basin will only aggravate a bad situation. Mining companies must be required to cleanup their own messes and must pay for the cost of cleanup when others have to do it for them. The Minnesota Department of Natural Resources has the responsibility to insist on design changes that would mitigate the environmental impact of the mining, ore processing and disposal of waste materials of this proposed PolyMet project. The Department's own Strategic Conservation Agenda calls for protection of all the state's natural resources and this is a case where they should exercise that responsibility.	PD4
3877	The proposed PolyMet copper-nickel mining project raises serious concerns about potential environmental contamination and deleterious effects on water quality, habitat, fish and wildlife and human health. Sulfide mining is new to Minnesota, but the experience of extensive acid mine drainage and water pollution in other states should alert public officials in Minnesota to the serious risks to the environment associated with this type of mining. In fact after considerable contamination associated with the Flambeau Mine near Ladysmith, Wisconsin placed a moratorium on sulfide mining operations until it can be demonstrated that such a mine has operated in a sulfide ore body for 10 years without polluting the groundwater and surface waters. Does Minnesota care less about the quality of its water and natural resources? The Minnesota Department of Natural Resources is charged with the protection of the state's resources for all the inhabitants of the state. The short-term financial gain of a Canadian mining company should not trump the long-term stake that all of us have in protecting our natural resources for future generations. The Minnesota Department of Natural Resources' Strategic Conservation Agenda 2009 - 2013 developed through extensive discussions lists several strategic goals. The goals listed below would be violated if this proposal is allowed to be permitted.	G2,G5,G12
3878	The area of the proposed mining project is home to several endangered or threatened animal and plant species and also provides a natural corridor for birds and other forms of wildlife from the south of Lake Superior to the areas north and beyond. The construction of the mine will destroy thousands of acres of wetlands, mainly high quality bogs that provide habitat for a number of species and also purify the water, regulate the water flow and sequester carbon which reduces climate change. The proposed replacement wetlands are not of comparable quality and are not even in the same St. Louis River watershed.	G2C,G7A
3879	Minnesota's natural resources are integral to many parts of the state's economy including mining, forestry, outdoor recreation and tourism. The lands and waters of the state must be managed so as to not exploit one of these parts at the expense of the others. The proposed PolyMet project would impact thousands of acres of forest and wetlands that will not be available for other uses for generations even with reclamation. Serious contamination of the ground and water due to acid rock and mine drainage will impact areas far removed from the mine and tailings basin sites. After closure the flooded mine pit will be a large body of water but will not be available for any recreation purpose. Contamination from there will spill into a tributary of the Partridge River and flow downstream into the St. Louis River and into Lake Superior. The ability of the Department of Natural Resources to ensure environmental integrity for significant parts of northeast Minnesota will be compromised if this proposed project is allowed to move forward.	G7A,G11
3880	As property owners in northern Pine County we have an individual responsibility to protect our wetlands and bog lake so that they will continue to provide suitable habitat for black spruce, sundews, pitcher plants, lady slippers and other flora and fauna in order that future generations will be able to enjoy the beauty that is Minnesota. We expect that public agencies will also honor their responsibility to protect our natural resources, especially on public lands, for all Minnesotans now and forever.	G7

*Alphabetical by sender's first name*

**Comment ID    Comment Text** **Theme Codes**

**Sender Last Name:**    Robertson **Submission ID:** 3630

3912 I am a resident and land owner in the Superior National Forest for the last twenty-five years. I am against any permits given for the PolyMet sulfide mining projects. This is an area pristine in water quality and needs to be protected not exploited by short term gains in company profits and jobs. Due to water contamination problems in other states from this activity (i.e. Idaho (Thompson Creek), South Dakota (Gilt Edge Mine), and Montana (Zortman-Landusky) taxpayers have been liable for clean-up not to mention the impact on the wildlife and overall environment. All mining is energy intensive and I do not support an activity that will increase the demand for this in a time when we are trying to reduce carbon emissions and oil consumption. I urge you to put a moratorium on oil sulfide mining in Minnesota.

G12

**Sender Last Name:**    Robinson **Submission ID:** 2276

2694 Please do not let short term gain bait anyone into decision that may have negative effects for generations to come. The BWCA and Birch Lake is a resource that exists now and will continue to provide for Minnesotans for years and years. All we need to do is to leave it unharmed. The risks of this project are obvious. Don't gamble away this precious Minnesotan resource. I have lived on Birch Lake for 5 years. Please spare it. The exploration drilling is already negatively affecting mine, and my Outward Bound Students experience.

G7A

**Sender Last Name:**    Rockets **Submission ID:** 3298

763 I'm writing to request that the public input period be extended to at least 180 days on the above-referenced matter, with public and interactive hearings scheduled throughout the State of Minnesota. We are very concerned about the pollution of our water and land by sulfide mining in the northern region.

PRO6

**Sender Last Name:**    Roering **Submission ID:** 170

13 \_ The EIS should be clearer; PolyMet is not in the Boundary Waters watershed.

WR3B

160 I just wanted to send you an e-mail to let you know that I support PolyMet Mining's NorthMet Project. The Project's Economic Impact is substantial. \_ PolyMet will significantly contribute to the state and local economy at a time when we really need the jobs and economic benefit. \_ PolyMet's 400 employees and the hundreds of spinoff jobs will provide a huge economic benefit to Minnesota and the Arrowhead region/my local business. \_ PolyMet will provide millions of dollars in local and state taxes to support our communities and educational system. \_ Enough is enough; let's get on with permitting this mine. We NEED jobs. Environmental Precautions \_ PolyMet can produce these metals in an environmentally sound manner and create hundreds of stable jobs that can support families. \_ PolyMet has demonstrated it can produce these critical metals while following Minnesota's strict environmental requirements to protect air, water and land. \_ The metals that PolyMet will mine are essential to green technology such as wind turbines and hybrid cars and are necessary for pollution prevention devices such as catalytic converters. \_ Based on the extensive documentation as outlined in the DEIS, I am confident that impacts to the air and water will be minimal, if any.

EOO,G5

*Alphabetical by sender's first name*

<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
161	_ As a person who lives/works/plays in Northeast Minnesota, I understand the need to balance use of resources like minerals and preservation of resources such as water and air. I feel this EIS lays the proper groundwork for developing an environmentally and economically sustainable project and I wholeheartedly support it. _ PolyMet project has been designed to minimize environmental impacts; reusing a brown field site, reusing existing infrastructure, minimizing disturbance of wetlands and utilizing multiple safeguards to protect the environment. Domestic Production _ PolyMet will be a domestic supply of critical metals needed in medical applications, electric cars, catalytic converters, cell phones, computers and other essential products. _ I understand the importance of buying locally. PolyMet will mine and produce several metals not currently mined anywhere in the United States. _ I use these metals every day. PolyMet will be a domestic source of the metals we all use every day. _ Mining these metals in one country, processing them in another and then transporting them to the U.S. creates unnecessary greenhouse gas emissions. _ Foreign suppliers of these metals don't necessarily follow sound environmental practices, creating a greater global environmental impact.	EOO,G5
<b>Sender Last Name:</b> Rohlfig		<b>Submission ID:</b> 3082
3471	Have you ever been to the Boundary Waters??? Minnesota has precious habitat and environment. This will significantly and perhaps permanently destroy the fauna and flora, dependent on clear air and water. Not to mention the disruption of the aesthetics, and harm to human health.	G2C,G8
<b>Sender Last Name:</b> Rolan		<b>Submission ID:</b> 3500
3772	I believe that what is happening is wrong due to the fact that you are obviously missing the fact that you are possibly hurting alot of people and damaging their lives. You are completely overlooking the fact that this mining business can do more damage than not having it. And as one of the citizens of the U.S. i beg that you reconsider this idea.	EOO,G3
<b>Sender Last Name:</b> Rolloff		<b>Submission ID:</b> 1756
2295	I AM UNEQUIVOCALLY OPPOSED TO SULFIDE MINING IN THIS AREA! The hydrological nature of this area and it's location immediately adjacent to the Boundary Waters Canoe Area Wilderness and several major watersheds make this project completely unacceptable. Water quality concerns alone make this project one that should not proceed. I've seen sulfide mining in the western United States and have no belief that this project will do anything but seriously damage the environment in the region. It's also a well known fact that nature-based tourism is heavily dependent on perceptions of high quality natural resources. Poisoning the waters of northern Minnesota will seriously damage our nature-based tourism economy which is much more lucrative and long term than the short-term gain and job additions that sulfide mines would contribute. I am adamantly opposed to these mining projects and ask that the DNR determine that these projects are incompatible with the wilderness, hydrological, and economic values of northern Minnesota.	EOO,G7,G11
<b>Sender Last Name:</b> Romano		<b>Submission ID:</b> 3710

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
1	<p>XI. The Agencies Have Failed to Explain Why Additional Analysis and Information Could Not Be Provided Within the Draft EIS As stated and set forth above, for a number of issues including wetlands, water quality, cultural resources and financial assurance, the Draft EIS acknowledges that the agencies are still compiling information and that additional analyses have yet to occur. Additionally, many of the potential impacts of the proposal are unknown due to a lack of the necessary data and information. The CEQ NEPA regulations include a detailed regulation regarding “incomplete and unavailable information,” which has been ignored for the NorthMet proposal. 40 C.F.R. § 1502.22. According to the NEPA regulations, where there is incomplete or unavailable information, the agency must first make clear that such information is lacking. 40 C.F.R. § 1502.22. Moreover, “[i]f the incomplete information relevant to reasonably foreseeable significant adverse impacts is essential to a reasoned choice among alternatives and the overall costs of obtaining it are not exorbitant, the agency shall include the information in the environmental impact statement.” Id., § 15022(a). The agencies have provided no information to indicate that it would have been an exorbitant cost to obtain any of the missing data or information that are relevant to the project’s environmental impacts. The agencies for the most part instead simply proclaim that such information and data will continue to be gathered during the permitting processing. Furthermore, even if the costs of obtaining the data and information are determined by the agencies to be exorbitant, the environmental impact statement must still disclose (1) a statement that such information is incomplete or unavailable; (2) a statement of the relevance of the incomplete or unavailable information to evaluating reasonably foreseeable significant adverse impacts on the human environment; (3) a summary of the existing credible scientific evidence which is relevant to evaluating the reasonably foreseeable significant adverse impacts on the environment; and (4) the agency’s evaluation of such impacts based on theoretical approaches or research methods generally accepted in the scientific community. 40 C.F.R. § 1502.22(b). The agencies have entirely failed to comply with this NEPA regulation concerning the missing data and information for the NorthMet proposal.</p>	PRO2,PRO3
2	<p>XIII. Technologies upon which PolyMet Relies to Treat Contaminated Water, Prevent Release of Contaminants and Leaching of Sulfuric Acid are Unspecified, Untested and/or Unreliable PolyMet proposes to rely on a wastewater treatment facility (“WWTF”) to treat contaminated water. The Draft EIS, however, provides no description of the proposed WWTF, or any information that would allow the public and other agencies to determine the effectiveness of the WWTF for treating the polluted waters. See e.g., July, 2009, MPCA comments (“it would be helpful to the reader to insert a paragraph that describes the proposed WWTF in moderate detail – at least in more detail than in the VERY brief description here . . . this is appropriate since use of the WWTF for treatment of various wastewaters factors in so prominently throughout the [Draft EIS] document and in the supporting modeling and prediction efforts.”); September 2, 2009, Forest Service comments (stating that “[t]here is very little information on the waste water treatment facility,” and that “[t]his is a critical facility for water quality protection and should be clearly described”). For example, information is not provided regarding the volume of water expected to be treated, the methods by which water would be treated, which constituents would be treated, the levels of chemical constituents in water which treatment would seek to attain, the way in which chemicals extracted through treatment would be disposed of or any data supporting the effectiveness of proposed treatment at the WWTF. As a result, there is no basis by which one could determine the amount or extent of potential environmental harm and pollution that will and will not be mitigated through the proposed WWTF, or whether reliance on WWTF treatment is reasonable.</p>	WR2G
2	<p>XII. The Draft EIS Fails to Provide Sufficient Information to Demonstrate that the Tailings Basin Design Will Prevent Catastrophic Failure PolyMet proposes to use the existing LTV tailings basin, which is known to already be leaking. The Draft EIS fails to demonstrate that this tailings basin will be adequately designed to prevent a catastrophic failure and severe contamination of the Embarrass River. In fact, the Draft EIS indicates that inadequate slope stability at the LTV tailings basin could result in release of the impounded tailings and process water, which could contaminate an extended reach of the Embarrass River down-gradient of the basin. The Draft EIS fails to provide disclosure and analysis regarding the severe adverse environmental consequences if such a failure occurs during or after operation of the proposed mine. The proposed project should not be allowed to proceed without a tailings basin design that is proven to be sufficient to prevent slope instability, catastrophic failure and the release of tons of impounded wastes and process water.</p>	GT2

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Comment ID	Comment Text	Theme Codes
3	III. The Draft EIS analysis of impacts to water quality, groundwater, and wetlands is inadequate under NEPA See comments submitted by the Tribal cooperating agencies, as set forth in Appendix D to the Draft EIS, and also set forth within footnotes throughout Volume I of the Draft EIS, which are incorporated herein.	WR3I,WE2
4	In addition, despite the widely recognized concern of long-term acid mine drainage from sulfide mines, PolyMet’s plan to prevent long-term acid mine drainage by covering acid-generating rock is an unproven technology that is insufficiently addressed in the Draft EIS.	WR1E
4	Waste rock stockpiles are another substantial component of the proposed mine. Over the twenty year operations of the mine, 394 million tons of waste rock and lean ore would be stockpiled, with the maximum height of waste rock stockpiles at 240 feet and a total footprint of over 750 acres. The Draft EIS fails to provide a sufficient analysis of the potential environmental consequences of this mountain of created waste rock, including the potential for large scale slope instability, the movement of waste rock off the proposed area, the potential release of contaminants, and the significant mitigation that would be necessary for the massive stockpiles post closure.	WR2D,WR3I
5	PolyMet's proposal to treat future discharges through constructed wetlands is similarly unsupported, would likely require perpetual maintenance, and must be much more significantly analyzed through the NEPA process to demonstrate its effectiveness.	WR3L
6	As currently described in the Draft EIS, critical components of the proposed mine are unspecified, untested and unproven. Before either the environmental review or permitting process moves forward, PolyMet and the agencies must demonstrate that the proposed methods of waste disposal, treatment of contaminated water and prevention of discharge and acid mine drainage after closure are thoroughly developed, assessed and validated with objective data and analysis. See <i>Idaho Sporting Congress v. Thomas</i> , 137 F.3d 1146, 1150 (9th Cir. 1998) (holding that NEPA does not allow an agency to rely on expert opinion unsupported by hard data and objective analysis); 40 C.F.R. § 1502.24.	WR2G
7	XIV. The Proposed Mine Would Significantly Increase Mercury in Local Fish, Causing and Contributing to Human Health Risks that Are Not Properly Assessed and Disclosed in the Draft EIS The proposed mining project would increase the accumulation of mercury in the food chain within streams within and downstream from the project area, in which current levels of mercury in fish are already unsafe. This increased bioavailability of mercury would violate water quality standards and the state’s antidegradation policy, and may pose a substantial health risk that has not been properly analyzed or disclosed to the public. Waterbodies within and downstream from the project area already have unsafe levels of mercury in fish, and are subject to fish consumption advisories because the mercury concentrations in fish tissue pose a hazard to human health. Mercury levels are in fact to high that many of these streams were not included in the statewide mercury TMDL, as even the actions identified in the TMDL would not be sufficient to bring mercury to safe levels. The proposed mine would further increase these mercury levels, further harming fish and further increasing the health risk to those eating fish from these streams. More specifically, the proposed mine would result in the increased discharge of sulfates, which would increase the methylation of mercury. Mining operations are predicted to stimulate methylmercury production and thereby enhance the bioaccumulation of mercury both onsite and offsite as a result of increased sulfate or mercury concentrations in water draining from the site. In addition, the hydrologic changes and water level fluctuations from the proposed mine would likely further increase mercury methylation and mercury concentrations in the food chain. Similarly, the flooding of wetlands can also result in a significant increase in mercury mercury concentrations in fish. And the destruction of peat bogs and wetlands by the project would release stored mercury. Individually and collectively these factors may significantly increase the potential for the bioaccumulation of mercury in fish by increasing the production and bioavailability of methylmercury. The Draft EIS violates NEPA by failing to meaningfully analyze the environmental consequences to fish and human health risks to humans caused by this increase of mercury in fish tissue. And these undisclosed environmental and health risks may be severe, as methylmercury is recognized as a highly toxic substance that may cause a number of health risks to humans and other species. See EPA, Integrated Risk Information System, Methylmercury, CASRN 22967- 92-6; EPA, Mercury Health Effects, <a href="http://www.epa.gov/mercury/effects.htm">http://www.epa.gov/mercury/effects.htm</a> .	WR4A,WR4B,FM1,FM5

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
8	XV. The Draft EIS Fails To Adequately Analyze and Disclose Impact to Domestic Wells The Draft EIS is also inadequate by failing to adequately analyze and disclose the likely environmental consequences from the proposed mine on drinking water wells located near the project area. The agencies must supplement or revise the Draft EIS to much more thoroughly assess and disclose the location of domestic wells, the contamination to these wells already being caused by the LTV tailings basin, the current water quality of these well sites, and a detailed analysis of the potential additional contamination of these wells resulting from the proposed mining project.	WR1E
9	XVI. The Draft EIS Fails to Demonstrate Compliance with the Superior Forest Plan and All Applicable Forest Service Regulations The Draft EIS acknowledges that the mine site is on the Superior National Forest, and yet there is no mention of the applicable Forest Plan standards and guidelines, or Forest Service regulations. The agencies must demonstrate compliance and consistency with the Forest Plan standards and applicable regulations before this project could proceed. See e.g., 16 U.S.C. § 1604(i). The Draft EIS states that according to the Forest Service, the mineral rights leased to PolyMet “do not include the right to open pit mine the National Forest System land.” Draft EIS, p. S-1. The proposed mine therefore would also violate PolyMet’s mineral lease and related laws and regulations.	PD3
<b>Sender Last Name:</b> Rose		<b>Submission ID:</b> 2240
2647	Please take the time to add supplements to the draft EIS and give people in Minnesota a fair chance to know what impact the PolyMet project would have on our State the Lake Superior basin. Please help us top save one of the most pristine natural areas in the lower 48. The economy of Minnesota will disintegrate if the natural areas are harmed. Just listening to the test drilling is very unpleasant. When we were out birding near the test drilling sites, there were no birds to be seen. Actual mining would be even noisier. Because of mechanization, very few jobs will be created for these types of mines.	G7A,G8
<b>Sender Last Name:</b> Rosenthal		<b>Submission ID:</b> 2334
2797	Please accept these comments on the PolyMet Mining Corp. NorthMet mining project Draft Environmental Impact Statement. In a strict business sense, the eco-tourism industry in this part of Minnesota will undoubtedly outlive any economic burp caused by adding few mining jobs in the area. We run a children’s summer camp at the cusp of the Boundary Waters Canoe Area Wilderness, and see lives changed summer after summer. Children come to our camp from all over the US and the world for that matter. ANY chance of even a scintilla of sulfuric acid, or other contaminants entering even a puddle is enough to end this discussion. We met a representative from the DNR (Gunflint Trail area) last year, who proudly announced the introduction of 4 million walleye fry into Lake Saganaga. The hope is that 25,000 will survive and multiply by the end of he next 5 years. We are truly grateful that such an expense was made to restore the Walleye population to an area that still holds the 1979 record for the state’s largest Walleye. We hope that the DNR and Army Corps of Engineers will remember values such as the sustainability of our pristine natural habitat when considering approving this project. If such a value is clouded by something else, then consider the notion of wasting the money that was expended on 4 million walleye fry when the waters in the BWCAW are lifeless. The PolyMet DEIS describes significant environmental issues associated with this proposed mine. These issues should be resolved before this mine is approved by the Minnesota Department of Natural Resources and the U.S. Army Corps of Engineers.	G2C,G6,G7A,G11
<b>Sender Last Name:</b> Ross		<b>Submission ID:</b> 3726
1	A more complete evaluation of sulfate removal alternatives including the expected efficacy of enhanced nanofiltration as a mitigation alternative is needed. Other possible methodologies, such as enhanced sulfide precipitation in flooded mine pits, should be considered.	WR2G

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
2686	WHEREAS, PolyMet Mining Co. proposes developing a copper, nickel, platinum, palladium, gold and cobalt mine and an ore processing plant at the former LTV Steel Mining Company plant near Hoyt Lakes; and, WHEREAS, It is projected that PolyMet will create 400 fulltime jobs with a payroll of \$40 million and more than 500 spin-off jobs with a \$242 million payroll in St. Louis County alone; and, WHEREAS, Construction of the \$600 million NorthMet Project will require about 1.5 million construction hours over two years; and, WHEREAS, PolyMet worked with federal and state regulatory agencies in drafting an Environmental Impact Statement (EIS) exploring potential impacts and ways to address them; the draft EIS demonstrates PolyMet can mine these metals AND protect air, water and natural resources; and, WHEREAS, PolyMet will provide millions of dollars in local and state taxes to provide much needed support to our communities and educational system; and, WHEREAS, PolyMet will have a positive economic impact on the City of Hibbing just as LTV Steel Mining Company had when it was operating. NOW, THEREFORE, BE IT RESOLVED, That the Board of Commissioners of the Hibbing Economic Development Authority hereby go on record in full support of the Poly Met Mining NorthMet Project. The motion to adopt the foregoing Resolution was duly supported by Member Larry Furlong, and upon being put to a vote, carried as follows:	EOO,G6
3651	Minnesota is loosing enough forests and lake land due to people already. Houses, buildings etc are ruining the beauty of our state. Mining this area for these resources would be stupid.	EOO
<b>Sender Last Name:</b> Rossi		<b>Submission ID:</b> 2954
3309	My husband and I are not residents of Minnesota yet but we have property in Ely, Minnesota and plan to move there in a couple of years. We are greatly concerned about the future of the area. Please accept these comments on the PolyMet Mining Corp. NorthMet mining project Draft Environmental Impact Statement. I have serious concerns about the safety of this project and its potential impacts on Minnesota's natural resources	G2
3310	The PolyMet DEIS describes significant environmental issues associated with this proposed mine. These issues should be resolved before this mine is approved by the Minnesota Department of Natural Resources and the U.S. Army Corps of Engineers. I am also concerned about the existing businesses in tourism in the area and the impact this will have on them.	G2,G11
<b>Sender Last Name:</b> Rothe		<b>Submission ID:</b> 283
297	I am writing today to request your consideration of my comments regarding this project. I am a life-long resident of Northeast Minnesota and part-owner of a construction company based in Superior, WI. I am fully supportive of PolyMet's NorthMet project for many reasons. 1. This project is within and adjacent to, abandoned mine property operated for decades by Erie / LTV Mining Company. Doing nothing is a worse option for these properties. 2. PolyMet will re-use much of the infrastructure already in place and left behind when LTV shut down in 2001. This closure was devastating especially to the cities of Hoyt Lakes and Aurora. 3. This will give a positive impact to these mining communities that desperately need jobs. Residents of NE Minnesota are hard-working and appreciate PolyMet for their fortitude in restoring a sense of hope for the eastern iron range. 4. I am confident that PolyMet will minimize the environmental impacts of the mining operation. ALL Minnesotans care about protecting our waters, wetlands, and air. Not just outsiders who have no concern about our people or economy. Mining is a way of life here. It's nothing new. 5. The DEIS is extensive, required years of diligence, and confirms my opinions that PolyMet will do it right and will follow through with the necessary environmental safeguards. 6. The demand for the precious metals PolyMet proposes to mine is increasing, and production by foreign nations comes at a much higher cost to the global environment. 7. Projects such as this have tremendous economic impacts to our region, and nation, at a time when it is needed the most. It is needed right here, right now. In summary, the DE IS proves that PolyMet can operate the mine while protecting our treasured environment. Please help ensure the project moves forward accordingly.	EOO,G6

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
<b>Sender Last Name:</b> Roy		<b>Submission ID:</b> 2698
3172	This is a reckless plan that will endanger an area that is a natural treasure!	EOO
<b>Sender Last Name:</b> Royseth		<b>Submission ID:</b> 8
8	For, what is it now, five years, Polymet has spent its own money to meet the strict environmental guidelines that Minnesota follows, as well they should. In that time any doubt I had that they would not be responsible stewards to my great land has disappeared. I'm not in a job that is tied in any way to the success or failure of PolyMet. I want to welcome PolyMet to our area and thank them for proving that they will be my responsible backyard neighbor.	EOO
<b>Sender Last Name:</b> Rubin		<b>Submission ID:</b> 3470
45	We will focus on additional deficiencies that make the DEIS unacceptable. Socioeconomic Impact When we are not in our Ely home, we rely on the income it provides when we rent it for short-term vacation rentals. Our customers rent our cabin because of the peace, the clean environment, the recreational opportunities, and the non-industrial character of the area. The NorthMet project threatens these values, and therefore our ability to rent the property and to sustain our income. The recreational values that NorthMet threatens include viewing lakes and rivers with wild rice, catching fish that can be eaten, and enjoying natural, unpolluted air and water. Some of the nearby lakes already have warnings about mercury in fish, so even a small incremental impact from Polymet could eliminate recreational fishing for edible fish. Degrading these scenic and recreational resources threatens our income. The Ely area and many of its businesses, such as our cabin rental, have invested and worked hard for many years to create a reputation and an image of a clean, unpolluted, non-industrial, relatively noise-free recreation area. Degrading even the "Ely image" or the "Ely brand" threatens those investments and their economic benefits. The DEIS addresses only the purported positive benefits that the mine would bring, namely jobs during the mine's operational period. The DEIS is deficient in ignoring mining's well-documented history of long-term, negative impacts on communities.	SE4
3675	Cumulative Impacts The DEIS is deficient in addressing cumulative impacts of the NorthMet project and other exploration and mining. The United States Forest Service (USFS) is currently considering applications for dozens of additional exploration and mining projects, as described in the Federal Hardrock Minerals Prospecting Permits Project (FHMPPP) <a href="http://www.fs.fed.us/r9/forests/superior/projects/prospecting.php">http://www.fs.fed.us/r9/forests/superior/projects/prospecting.php</a> ). The NorthMet project must identify, analyze, and discuss mitigations for the cumulative impacts of NorthMet in the context of these other proposed activities. The impacts include, but are not limited to, air and water quality (e.g., sulfate and mercury impacts on plants and animals, acid drainage, etc.), traffic and noise, and socioeconomic impacts..	CR1
3746	The DEIS is incomplete and unacceptable due to errors, misleading and unsubstantiated assertions, and omissions. The problems with the DEIS are not limited to the proposed NorthMet project; the project and DEIS will set a number of precedents for mining in northern Minnesota, so the DEIS must be evaluated in that context. The project should not move forward with permitting or any other activities until Polymet resolves the DEIS's deficiencies. The Tribal findings have already addressed many of the errors, unsubstantiated assertions, and omissions in the DEIS. We generally support the Tribal conclusions, and will not repeat those findings.	G8C,G15
19249	DEIS 4.1.3.4 Tailings Basin Alternative concludes that there would be no effect on flows or water quality in the Upper Partridge River. Fond du Lac strongly disagrees with this conclusion, and believes that discharging untreated tailings basin water to the Partridge River will have significant adverse water quality impacts.	WR3A



*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
19249	DEIS 4.1.3.5 Mitigation and Monitoring Measures It is the tribal cooperating agencies' position that treatment of the tailings basin effluent that is captured by the vertical wells must be an integral part of the tailings basin alternative. This treatment could occur in the WWTF already proposed for this project or in a second facility closer to the discharge point. However, treatment of the tailings basin effluent prior to discharge to the Partridge River is not included in the potential mitigation measures listed below. Tribal cooperating agencies strongly oppose an untreated discharge of tailings basin water to the Partridge River. In addition, there are other existing facilities and mine proposals (Laskin Energy, Mesabi Nugget Phase II) that discharge, or are proposing to discharge water at this same location. Finally, water quality of the discharge would exceed the wild rice sulfate standard that applies to the lower Partridge River.	EOO,WR4F
19250	DEIS 4.1.4 Cumulative Effects on Water Resources Tribal cooperating agencies note that the USACE has not completed its National Historic Preservation Act §106 consultation with the potentially affected tribes. In addition, a survey for wild rice presence in the waters potentially affected by the proposed mine has only recently begun. Tribal staff have already found extensive stands in the Lower Partridge River, and non-tribal harvesters have reported to the state on the presence of wild rice in the Partridge River and in the St. Louis River downstream of its confluence with the Partridge. Tribal cooperating agencies believe that the consultation process and wild rice surveys should be completed and the results included in the DEIS. This data can then be used to evaluate the cumulative impact analysis to this important tribal resource.	WR1E,WR5C,CR2
19251	As previously stated, it is Fond du Lac's position that the public notice for the §404 permit should be re-issued and that the MPCA should be afforded the opportunity to analyze and make a certification determination under §401 of the Clean Water Act. Significant changes in the design of the Proposed Action have occurred, and other important information needed to determine the nature and magnitude of the Project's impacts has been developed since the public notice was provided by the USACE in May of 2005. Adverse water quality impacts and exceedances of groundwater quality standards are predicted as a result of the proposed Project. Additionally, the Project would lead to significant degradation of aquatic resources, including water quality standards violations in both the Partridge and Embarrass Rivers (see Table 4.1-68 for a summary of water quality impacts). MPCA should be afforded the opportunity to certify or deny certification to the Proposed Action.	WE4
19252	It is Fond du Lac's position that it is not possible to differentiate between rich forested peatlands, poor fens, and bogs using canopy cover alone. Identification of the low shrub, forb and graminoid layers are required. It is the position of the tribal cooperating agencies that the current wetland delineation does not encompass all wetlands that may be affected by the Project. Because no initial determination of the Project's area of influence (AOI) on wetlands was made, the site field surveys of wetland and other vegetation were limited to little more than the area within the Project fence. The existing characterization of wetland and other vegetation does not cover even one-half the area that might reasonably be expected to be impacted by disruption of the existing hydrology. Around the tailings basin virtually no wetland delineation has taken place although wetland impacts from inundation are likely to occur. The Army Corps is developing a workplan to assess impacts to these additional wetlands but this workplan has not been finalized or implemented. Given the importance of this work in assessing potentially significant impacts to wetlands, it is the position of the tribal cooperating agencies that this work should be included in the DEIS to allow for a full public review.	WE1

*Alphabetical by sender's first name*

<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
19253	Tribal cooperating agencies strongly object to the characterization of the hydrology at the mine site presented in the first paragraph. It is the Tribal cooperating agencies' position that the methodology used in the Adams 2009 email is not adequate for characterization of pit dewatering impacts to wetlands (GLIFWC 2009, Memorandum to Jon Ahlness and Stuart Arkley: Photographic evidence for pit impacts to wetland hydrology. April 24, 2009). Problems with the methodology used in the email include: 1. Lack of recognition that aerial photos are a very imprecise measure of surface water level. 2. Photographs presented in the paper show that the Peter Mitchell pits are mostly flooded. Therefore there is little or no stress on surrounding wetlands at the time. 3. Lack of consideration of the topographic relationship of the landscape features including the depth of the Peter Mitchell Pits (P-M Pits approximately 80 feet deep, PolyMet pits approximately 800 feet deep). 4. Lack of recognition that some changes in groundwater hydrology would not be evidenced by the large changes in surface water level that could be detected by aerial photography. 5. Dependence on wetland soil conductivity values that are extremely low and for which supporting source citation in the professional literature cannot be found. The PDEIS appears to rely on "best professional judgment" for estimating impacts due to hydrologic disruption without incorporating specific knowledge of the ecological requirements of culturally significant wetland vegetation such as cedar, and without requiring sufficient background data regarding groundwater. A "best professional judgment" approach is being used as a replacement for data-based scientific analysis of potential impacts. Quantitative methods for estimating the impacts of drawdown and inundation on wetland hydrology exist, have been used at other mine sites, and can be used in addition to professional judgment. Tribal cooperating agencies take the position that subsurface flow through upland soils likely provides the micro nutrients necessary for rich forested peatlands, cedar swamps and poor fens found in the mine site area. Many of the wetlands that have been identified during delineation as "perched bogs" are actually cedar swamps, northern wet ash swamps, forested rich peatlands, northern alder swamps, and poor fens, all of which require groundwater inputs. Indirect impacts to communities that require groundwater inflow have not been determined, but would likely be significantly different than expected impacts from the Project to perched bogs.	WE1,WE2
19254	Tribal cooperating agencies take the position that a stable water table in NE MN is typically the result of groundwater inputs in periods of low precipitation.	WE2
19254	Tribal cooperating agencies take the position that northern alder swamps (FPn73) "occur in settings that receive mineral rich surface or subsurface flow, which is maintains surface water with nearly neutral pH." (MnDNR Field Guide to the Native Plant Communities of Minnesota, the Laurentian Mixed Forest Province, pg 205.) Tribal cooperating agencies take the position that "Surface water in Northern Wet Meadow/Carrs is derived from runoff, stream flow, and groundwater sources, it has a circumneutral pH (6.0 - 8.0) and high mineral and nutrient content." (MnDNR Field Guide to the Native Plant Communities of Minnesota, the Laurentian Mixed Forest Province, pg 292.) Tribal cooperating agencies take the position that Northern mixed cattail marshes "develop in areas occupied by fens or wet meadows following fires-usually during severe droughts-that remove accumulated peat from the fen or meadow". (MnDNR Field Guide to the Native Plant Communities of Minnesota, the Laurentian Mixed Forest Province, pg 298.) Tribal cooperating agencies take the position that this canopy cover depicts a northern rich spruce swamp (FPn62) which requires groundwater. Balsam fir and white cedar are both rich forest indicator species. Tribal cooperating agencies take the position that bunchberry and blue bead lily are both indicator species in the forb layer of mineral rich peatlands (MnDNR Field Guide to the Native Plant Communities of Minnesota, the Laurentian Mixed Forest Province, pg 317).	WE1
<b>Sender Last Name:</b> Rudnicki		<b>Submission ID:</b> 3465

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
11	Comments on the proposed PolyMet Mining Project The Draft EIS is deficient on at least three points. First, the cumulative effects analysis is limited to the segmented project effects on discrete environmental elements such as the air, water and vegetation proximate to the proposed mining operations. The limited analysis assumes the effects of the actual mining operation are somehow separate from the effects of the processing, tailings basin and other aspects of the proposed project. While this incomplete analysis may be an attempt to satisfy the letter of the law, the analysis fails to fully satisfy the intent of the law; that is, to actually identify the cumulative effects of a proposed project. The analysis is limited and incomplete because it only considers some effects of isolated project components on segmented environmental media rather than the totality of the proposed project and its overall effects on the local as well as contiguous ecosystems. Further, with respect to the cumulative effects and GHG emissions, the analysis fails to do more than state there will be increased emissions. The cumulative effects analysis is deficient since it does not fully analyze the implications of current levels of GHG emissions nor does the statement of cumulative effects consider the additive effect of the GHG emissions from the proposed project and the complete array of adverse consequences associated with the GHG levels	WR5A,AQ3,AQ4B
17	The analysis fails to explicitly identify those adverse effects on the environmental systems that sustain human and other life and it does not identify, nor address, the broad range of consequences associated with the increase in GHG emissions from the proposed project. A second deficiency with the Draft EIS rests with the No Action Alternative. The analysis fails to consider the broad range of alternatives to supplying virgin raw materials required for manufacturing processes. The Project Purpose and Need assumes the only way to supply raw materials for the production of products by manufacturers is to use virgin raw materials as found in the various ores proposed to be extracted by the proposed project. An alternative to using highly subsidized (considering the full range of environmental and other externalities associated with this proposed project and the grossly undervalued state natural resources proposed to be sold to the project proposer) virgin raw materials, is to use Clean Production Technology. This jobs creating technology is a well established industry that reclaims materials and produces products using systems and processes with few adverse environmental impacts. Virgin raw materials should be the last source of materials to supply manufacturing processes.	ALT8
43	The No Action Alternative does not adequately examine the actual alternatives and the job creation options from those alternatives to the proposed project. The third deficiency is found in the analysis of the Socioeconomics. While the emphasis is on the increase in employment associated with this particular project, rather than jobs that can be created through some Clean Production Technology alternative, the analysis fails to consider the full set of adverse socioeconomic effects. Where is, for example, the analysis regarding the negative values associated with viewscapes filled with mountains of tailings and other mining debris, the perpetuation of a societal dependency on virgin raw materials rather than on greater use of reclamation and closed loop production systems or the long-term alteration of the landscape that could be caused by the proposed project? Where is the socioeconomic analysis of the local, short-term benefits as well as the long term adverse socioeconomic effects? This analysis requires a broader perspective when considering the benefits and burdens of the proposed project	SE3
<b>Sender Last Name:</b> Rudzinski		<b>Submission ID:</b> 2559
706	1. There is no specific reclamation plan after the site's closure. 2. Inadequate sampling of ground water movement may imperil the Boundary Waters watershed. 3. Disruption of wildlife movement may threaten endangered species such as the Canadian lynx. 4. Potential for other mines adding to the impact of the Polymet Mine for multiplicative damage. 5. Lack of governmental monitoring of the mining operation. 6. Potential sulfates in surface water are not addressed.	WI1,WI4,WI5
2196	1. There is no specific reclamation plan after the site's closure. 2. Inadequate sampling of ground water movement may imperil the Boundary Waters watershed. 3. Disruption of wildlife movement may threaten endangered species such as the Canadian lynx. 4. Potential for other mines adding to the impact of the Polymet Mine for multiplicative damage. 5. Lack of governmental monitoring of the mining operation. 6. Potential sulfates in surface water are not addressed.	WR1A,WR1E,WR3I

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
2197	1. There is no specific reclamation plan after the site's closure. 2. Inadequate sampling of ground water movement may imperil the Boundary Waters watershed. 3. Disruption of wildlife movement may threaten endangered species such as the Canadian lynx. 4. Potential for other mines adding to the impact of the Polymet Mine for multiplicative damage. 5. Lack of governmental monitoring of the mining operation. 6. Potential sulfates in surface water are not addressed.	WR1A,WR1E,WR3I
2393	1. There is no specific reclamation plan after the site's closure. 2. Inadequate sampling of ground water movement may imperil the Boundary Waters watershed. 3. Disruption of wildlife movement may threaten endangered species such as the Canadian lynx. 4. Potential for other mines adding to the impact of the Polymet Mine for multiplicative damage. 5. Lack of governmental monitoring of the mining operation. 6. Potential sulfates in surface water are not addressed.	PD3
2394	1. There is no specific reclamation plan after the site's closure. 2. Inadequate sampling of ground water movement may imperil the Boundary Waters watershed. 3. Disruption of wildlife movement may threaten endangered species such as the Canadian lynx. 4. Potential for other mines adding to the impact of the Polymet Mine for multiplicative damage. 5. Lack of governmental monitoring of the mining operation. 6. Potential sulfates in surface water are not addressed.	PD3
2395	1. There is no specific reclamation plan after the site's closure. 2. Inadequate sampling of ground water movement may imperil the Boundary Waters watershed. 3. Disruption of wildlife movement may threaten endangered species such as the Canadian lynx. 4. Potential for other mines adding to the impact of the Polymet Mine for multiplicative damage. 5. Lack of governmental monitoring of the mining operation. 6. Potential sulfates in surface water are not addressed.	PD3
<b>Sender Last Name: Rue</b> <b>Submission ID: 1518</b>		
1838	I understand the argument that this would create jobs and revitalize the area. For a short period this may be true. If however, the region is contaminated, many more jobs will be lost. The number of jobs that rely on hunting and fishing, skiing, sight -seeing, camping and other areas related to tourism, will be lost. The quality and safety of living in this area will be diminished. We could end up with a greater problem than what exists today.	EOO,G11
<b>Sender Last Name: Rule</b> <b>Submission ID: 2729</b>		
3179	Minnesota's greatest asset is our lakes, rivers, wetlands and wildlife. We should do nothing to put them at risk, especially allowing PolyMet Mining to open a mine in Minnesota.	G7
<b>Sender Last Name: Runck</b> <b>Submission ID: 142</b>		
11	their devastation. I ask the DNR and the Army Corps of Engineers to extend the public comment period and arrange for more public hearings. This is our health, let our voices be heard.	PRO6
133	My name is Taryn Runck and I'm a resident of Minnesota, I'm here testifying as a concerned citizen and one of millions of owners of our collective natural resources. It is in this role that I feel compelled to speak against the PolyMet project and in support of the no-action alternative. While some claim that with this project Minnesotans can have both jobs and the environment, a 2006 study of sulphide mining environmental impact statement shows that 100 percent of mines predicted no water pollution, 76 percent did in fact pollute, because of this and because of PolyMet draft environmental impact statement predicts ground water pollution at the mine site, we have every reason to believe that this project will harm our collective natural resources and the delicate ecosystems they sustain. This will harm our food and water, our health and well-being. I believe these natural resources are for the benefit of us all, not the relatively few who will profit short-term from	EOO,G7

*Alphabetical by sender's first name*

**Comment ID    Comment Text** **Theme Codes**

**Sender Last Name:**    Running **Submission ID:** 146

137 My statement would be that I think there's enough environmental protections that we should allow this project to go ahead, and I don't see any minuses in it. And I think there's a lot of people that -- well, there's a certain amount of people don't want this to go ahead because this is their playground and they don't care if anybody works. And being a working person all my life, I think that this is a wonderful thing for northern Minnesota, keep our children in northern Minnesota yet. That's all I have to say. Okay? EOO

**Sender Last Name:**    Ruppert **Submission ID:** 1392

1625 Please take the time to add supplements to the draft EIS and give people in Minnesota a fair chance to know what impact the PolyMet project would have on our State the Lake Superior basin. The eco-systems there deserve your protection! Our health and welfare depend upon protecting the natural environment and wildlife from contamination. We need to be proper stewards of the land and wild life not only for ourselves but for the future of our families. We are connected to the land and to the eco-systems presently living there. Please also read "Neither Wolf Nor Dog" by Keny Nerburn, aan author from Bemidji, MN who writes about this very topic of how to preserve our land and thus protect ourselves. G8A

**Sender Last Name:**    Russell **Submission ID:** 350

387 We have a family cabin on water feeding into the BWCA & that would be affected by PolyMet / mine contamination. Present y possible problems before issuing approval of the project!!!! EOO

2235 Please accept these comments on the PolyMet Mining Corp. NorthMet mining project Draft Environmental Impact Statement. I have serious concerns about the safety of this project and its potential impacts on Minnesota's natural resources. We need to protect these resources and I am worried that the impact of the project is overlooking these issues. G10

2236 The PolyMet DEIS describes significant environmental issues associated with this proposed mine. These issues should be resolved before this mine is approved by the Minnesota Department of Natural Resources and the U.S. Army Corps of Engineers. Please consider these comments and be conservative in your actions as they relate to water quality G7B,G10

2477 Please accept these comments on the PolyMet Mining Corp. NorthMet mining project Draft Environmental Impact Statement. I have grave concerns about this project's potential impacts on Minnesota's natural resources and public health. Given the already impaired state of many of MN's waters (40% of the waters we test don't meet basic health standards and less that 20% of our lakes and rivers are even tested at all!) the last thing we need is another project that is almost certain to put a high quality water body at risk. This project is irresponsible, relies on proven-to-fail technology and doesn't address vital economic viability, habitat protection and long-term clean up & resource protection issues. We can do better than this! G7B

**Sender Last Name:**    Russelle **Submission ID:** 3468

530 Finally, although we do not know the trajectory of all components that will be affected by global climate change, two signatures that have been evident in Minnesota are increased intensity of precipitation in convective storms and higher minimum air temperatures in winter. There is a need to consider the resilience of the proposed mining (with perhaps a 20-year time horizon) and closure (with a 'permanent' time horizon) activities in light of changes that are forecast for the region by one or more simulation models. Again, I appreciate the care with which the DEIS was constructed, and hope these criticisms result in equally thoughtful responses. AQ3

*Alphabetical by sender's first name*

<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
1317	The mitigation strategies to prevent offsite movement of the leachate (caps, liners, subsurface drainage collection) likely are inadequate in the short term and certainly will be in the long term. For example, compacted 'clay' liners in manure storage pits nearly always leak. A cap that provides only 1.5 feet of rooting depth (Table 3.1-9 Cat 2, 3, and 4 waste rock) will result in vegetation that is regularly stressed by severe drought, leaving the soil surface exposed to erosion by convective storms and snowmelt runoff. These runoff events likely will involve gully erosion, because the soil cover will have little cohesion that develops in undisturbed soils. Although a bentonite layer will slow the exposure of the waste rock to infiltrating water, I do not believe that it would prevent exposure due to erosion. I expect that the geotextile membrane will be exposed after many of these erosion events, subjecting it to biotic and abiotic degradation.	EOO,WR2D
1945	As we know from the acid rain research done during the 1970s and 1980s, surface waters in northeastern Minnesota are very poorly buffered with regard to pH. Declines in pH will affect aquatic invertebrates and vertebrates. Furthermore, as the DEIS recognizes, the acidic leachate will contain high concentrations of some toxic metals, like antimony, and the high sulfate concentration will promote methylation of mercury. After decades of work to reduce the presence of contaminants in Minnesota waters, we recognize that contamination of fish by mercury is a persistent, serious problem, especially for those who depend on fish for a major source of protein. We know how readily mercury is transformed from compounds that have little biotic effect to those that cause severe nervous system damage at low concentrations. The mining operation and proposed closure greatly increase the risk of higher methylmercury concentrations in northeastern Minnesota ecosystems. It is critical to establish the flow paths of both shallow and deep ground water in the area. Does it follow surface flow paths or does it flow north? The pits will provide a large cross sectional area for water to move into ground water. The DEIS recognizes that inflows from the site will cause upwelling, which will result in increased horizontal flow away from the site. The DEIS does not forecast the extent or direction of movement of ground water that is impacted by material in the pits. To what extent do surface water and ground water mix? For example, if the Partridge River were severely impacted by mining activities or residual effects, will that affect ground water quality?	WR1E,WR4B,FM2
<b>Sender Last Name:</b> Rust		<b>Submission ID:</b> 2484
3008	Please accept these comments on the PolyMet Mining Corp. NorthMet mining project Draft Environmental Impact Statement. I have serious concerns about the safety of this project and its potential impacts on Minnesota's natural resources as well as economic burdens & possible health issues for the people of Minnesota.	G2,G9

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
3881	<p>The Minnesota DNR and the Army Corps of Engineers are creating an Environmental Impact Statement on a new type of mine being proposed for Northern Minnesota near the Boundary Waters Canoe Area Wilderness, and 50 miles from Voyager National Park. This mine is different from long established iron ore mines that Minnesota has had over the years. These proposed mines, contain among the copper, nickel, platinum, and silver, significant deposits of sulfide. The sulfur in the resultant mine tailings could leach off into the surface and ground water, creating yellow and red steams and creeks with toxic heavy metals and sulfur. Water that contains heavy metals and sulfuric acid kills fish, birds, and other aquatic life. The watershed for these proposed sulfide mines includes that Kawishiwi River, which flows into the Boundary Waters Wilderness, and includes that St. Louis River, which flows into Lake Superior. Contaminated water flowing from abandoned mines is one of the most significant contributors to water pollution in the United States. A toxic form of pollution caused by sulfide mines is called Acid Mine Drainage (AMD). AMD can have severe impacts on aquatic resources, killing microorganisms, insects, fish, and other aquatic life. It stunts terrestrial plant growth, harms wetlands, contaminates groundwater, raises water treatment costs, and damages concrete and metal structures. There are several thousands miles of streams impacted by AMD within the United States. The economic losses on fisheries and recreational use mounts to hundreds of millions of dollars' annually. See appendices C and D. AMD causes elevated levels of dissolved metals and sulfates, which render the stream unsuitable as a source of drinking water for humans, livestock or for use as aquatic habitat for wildlife. Because of the potential for Acid Mine Drainage, sulfide mines require treatment systems to ensure that acidic water is not discharged. these systems must be in place for the life of the mine, and continue in perpetuity to treat acidic waters after the mine is closed. Due to the ongoing treatment process, the risk of discharging acidic water increases over time. Water treatment systems at reclaimed mining sites is complicated by changing levels of ground water and fluctuating rain fall levels over decades and centuries. If movement of the acidic water is not contained within an impermeable barrier (e.g. pipe, plastic, glass, etc.) the acidic water flows into the underlying groundwater system. Once the acidic water enters the groundwater system, the detrimental affects on flora and fauna becomes widespread. Containment and treatment of the affected groundwater system is difficult, if not impossible. Generation of acidic waters is a long-term situation that requires perpetual chemical treatment. Therefore, funding for long-term treatment of acidic waters and long-term responsibility and liability for environmental protection is on going. Mining companies and sulfide handling operators may not be perpetual and often go bankrupt. As a result, there are many examples of operators abandoning properties that discharge acidic water and requiring public money to clean up the site. See Appendix B. Unlike many dry Western states, Minnesota is rich in water resources that are especially vulnerable and are a great part of Minnesota's outdoor heritage for anglers, canoeists, duck hunters and of course wildlife. Our neighbors in Wisconsin have a moratorium on mining metallic sulfide ores written into law. In effect, the Wisconsin law says: "Industry can mine metallic sulfide ores in Wisconsin when it can show one mine in the United States or Canada that has operated and been closed for ten years without significant damage to its watershed." See Appendix A. The Izaak Walton League of America and the Minnesota Izaak Walton League, in particular, have a long history of fighting for, protecting, and preserving Minnesota's North Woods and the wildlife it contains. It was instrumental in</p>	G2C,G7A,G11,G12
<b>Sender Last Name:</b>	Rutchasky	<b>Submission ID:</b> 1094
1198	<p>I support the NorthMet project, it will be good for the economy up here and I don't see any environmental issues. I process seems less intrusive than most of the processes that are currently going on.</p>	EOO
<b>Sender Last Name:</b>	Ruud	<b>Submission ID:</b> 264

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
277	I am writing to tell you that I personally and the company the employs me fully support Polymet Mining's Northmet Project. This project will have a huge positive impact on the local Northern Minnesota economy, plus it will provide approximately 400 new permanent jobs along with hundreds of spin-off jobs for local businesses like RMS. I am an avid outdoorsmen and I love to fish and hunt in our great north woods. The Polymet Project has been designed to minimize environmental impacts and will utilize multiple safeguards to protect the environment. Polymet will be a domestic supplier of many different metals, which we all use in someday almost every day. Polymet will also supply some critical metals that are currently not being mined anywhere in the USA. The bottom line is that this project makes sense and we need to move forward with the permitting process. Please call me if you want to discuss my opinions further.	EOO
<b>Sender Last Name:</b> Ruzynski		<b>Submission ID:</b> 153
144	All my relations are up in the Range. I'm originally from Floodwood, Minnesota and I'm a business agent for Local 49. I represent 13,000 men and women in the construction industry. And I am in full support of PolyMet and whatever we need to do to move this project along and to create jobs for men and women. I'm in support of it. And that's all I'd like to say. All my relatives are still up in the Range from Floodwood to International Falls on both side of my family. There's probably about a hundred of them and they are in 100 percent support also of this project. It's a good project and I don't see any concerns whatsoever of the environment or anything. I know it's a clean, green job. And it should go good. And you know that the main thing is we protect everything and I think they are doing a good job so far and will continue to do so. So I'm in support of that.	EOO
<b>Sender Last Name:</b> Ryan		<b>Submission ID:</b> 199
196	THERE IS ABSOLTELY NO WAY THE PROPOSED MINING SHOULD EVER GO FORWARD. I am a resident of Michigan and have visited the of proposed mining area and I believe that any activity that could possibly affect the area should be squelched IMMEDIATELY. There is no financial reason great enough that the State of Minnesota should ever take such a chance. Please accept these comments on the PolyMet Mining Corp. NorthMet mining project Draft Environmental Impact Statement. I have serious concerns about the safety of this project and its potential impacts on Minnesota's natural resources.	EOO
837	It is not acceptable to permanently disturb the wetland ecosystem of this area and to pollute any of the waters of Minnesota or the Great Lakes. If there will be groundwater pollution exceeding existing standards and unproven methods of water treatment, this project should not proceed as currently planned.	EOO
1697	Please accept these comments on the PolyMet Mining Corp. NorthMet mining project Draft Environmental Impact Statement. I have serious concerns about the safety of this project and its potential impacts on Minnesota's natural resources.	EOO
1915	Can you really trust the mine companies? Have you seen the Berkeley Pit in Butte Montana? Is that what we want for a reputation in Minnesota? <a href="http://en.wikipedia.org/wiki/Berkeley_Pit">http://en.wikipedia.org/wiki/Berkeley_Pit</a>	EOO
2638	I'm an electrician in Local 292 of the International Brotherhood of Electrical Workers, and I'm here at this meeting to listen to both sides -- all sides of this issue. It's my wish that a compromise between environment, the First Nations, the mining company and Labor compromise so that this project will start. I know that it won't be perfect, but the impact on the economy will be very significant. There's not that many products and businesses that can't be outsourced, but mining cannot be because we have the product in the state of Minnesota, so that is one thing we should take advantage of and not let this slip away. Thank you.	EOO



*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
3882	We are writing to show our support for the draft Environmental Impact Statement for PolyMet Mining Co. We look at the PolyMet Mining Co. project as a great opportunity for Northern Minnesota, as well as the entire State. What a great green project when PolyMet will use the majority of an existing facility. We all talk about green but what a better way then to use an existing plant. PolyMet will produce copper, nickel, cobalt, platinum, palladium and gold. These metals are essential to green technology such as wind turbines, hybrid cars, computers, joint replacements and are necessary for pollution prevention devices such as catalytic converters. To mine these nonferrous metals with the regulation of environmental controls in our Nation rather than importing them from other countries who have little or no environmental regulation is really something one should consider when determining the adequacy of the draft EIS. This construction project will cost over \$600 million, and provide 1.5 million construction man hours and close to 400 stable jobs when fully operational. We need this on the Iron Range to help to diversify our manufacturing and provide a future for all of our families. We ask that you approve the adequacy of the draft EIS.	EOO
<b>Sender Last Name:</b> Ryks		<b>Submission ID:</b> 1021
1121	On behalf of the Duluth Airport Authority I appreciate your consideration of my comments regarding the draft environmental impact statement for PolyMet -Mining Company's proposed NorthMet mining project. This project is incredibly important to the economy of Northeastern Minnesota. PolyMet Mining will support 300 skilled tradespeople over the next three years and, when fully operational, the project will employ over 400 individuals with an annual payroll of \$40 million. There will be over 500 additional spin-off jobs in St. Louis County resulting in an economic impact of hundreds of millions of dollars annually. PolyMet will also generate tens of millions in local, state and federal taxes. Clearly, PolyMet will create jobs and build wealth in a region of the state that desperately needs both. As a frequent user of area lakes streams and forests, I would not be supporting PolyMet if this project and associated jobs would come at the expense of the environment. PolyMet has been rigorous in developing an environmentally sound project, as the draft environmental impact statement clearly points out. While nonferrous mining poses challenges far different from iron mining. PolyMet's proposal addresses these challenges. In particular, I am impressed with the multiple safeguards the company proposes to use to manage waste rock generated during mining. There will be liners, foundations, drainage collection and waste water treatment during mining, plus special covers and vegetation placed on the waste rock after mining to prevent water from contacting the rock. This foresight in planning will minimize the potential for any contaminated water to leave the site. I also appreciate that PolyMet will consume sulfur in the ore as a fuel during processing. Not only does this reduce reliance on other fuels, it also makes good use of the ore extracted. PolyMet has developed an excellent proposal and invested the time (nearly five years) and resources (more than \$20 million) to demonstrate the proposal can move forward without harming our environment. I urge you to deem the draft environmental impact statement to be adequate and to move forward with permitting as quickly as possible. Thank you for the opportunity to present my views on this critical project for northeastern Minnesota.	EOO
<b>Sender Last Name:</b> Sagen		<b>Submission ID:</b> 3607
774	The process for securing public comments, including the hearings of December 9 and 10, is fundamentally flawed. 1a. The comment period should be extended to at least 120 days, as recommended by EPA among others. The DEIS is 700+ pages and supporting documents run to several thousand additional pages. The intent of public comments is to secure widespread citizen input. Citizen groups such as NMW are unfairly limited in submitting comments by the enormous burden on volunteers required to respond to thousands of pages of technical presentation. 1b. The process for obtaining public comments at the hearings is contrary to EPA intentions. Comments are intended to be public. Citizens should have the opportunity to hear and to learn from the comments made by others in a public forum, and to have their own views challenged by others. The process adopted by DNR/USACE precludes these opportunities. Additional hearings should be scheduled and should include the opportunity to present views in a public forum and to challenge the views of others as part of the process.	PRO6

*Alphabetical by sender's first name*

<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
775	The DEIS is premature. The DEIS should not have been released until the required land exchange between U.S. Forest Service and PolyMet has been completed. The DEIS is required to examine all potential environmental impacts associated with the Project. The land exchange may well introduce substantial impacts and these may in turn interact with other aspects of the Project which should be examined in the DEIS.	PRO4
1339	3c. The DEIS fails to adequately address a number of potential environmental impacts. These include the likelihood of structural failure at the tailings facility, the lack of structural integrity information for the proposed stockpiles, and the need for perpetual water treatment to avoid contamination to surface and groundwater resources. Structural stability of the tailings basin has been a serious concern since the Polymet project was first proposed. Three different tailings basin designs that have been presented in various draft documents. Reviews of these designs have expressed serious concerns with both the short-term and the long-term stability of the facility. A comprehensive analysis of the structural integrity of the latest tailings basin design must be included in the DEIS.	GT1
3312	3c. The DEIS fails to adequately address a number of potential environmental impacts. These include the likelihood of structural failure at the tailings facility, the lack of structural integrity information for the proposed stockpiles, and the need for perpetual water treatment to avoid contamination to surface and groundwater resources. Structural stability of the tailings basin has been a serious concern since the Polymet project was first proposed. Three different tailings basin designs that have been presented in various draft documents. Reviews of these designs have expressed serious concerns with both the short-term and the long-term stability of the facility. A comprehensive analysis of the structural integrity of the latest tailings basin design must be included in the DEIS.	WR2D,WR3I
3313	4) Data for analysis are often insufficient or absent. Analytic techniques are used inappropriately. Models are used inappropriately in the Project and rely on invalid data and assumptions. The MODFLOW model was developed to assess rates of mine pit inflow. Reported results are invalid for areas outside the mine pit footprint. The XP-SWMM model is based on stream gage data that is 17 miles from the proposed project and is 20 years old. DEIS modeling forecasts that the more PolyMet seepage released from the tailings basins, the better the water quality will be for Al, Mn and Fe in the Embarrass River. This incongruous result occurs probably because modeling at the basins does not appropriately account for leaching from the LTVSMC tailings when predicting future seepage quality.	WR1E
3741	The DEIS is incomplete. 3a. The DEIS does not address the need for financial assurance or identify the project components for which financial assurance is necessary. Inadequate financial assurance can have profound environmental impacts, extending over centuries. Financial assurance should be addressed in the DEIS rather than postponed to permitting decisions for which different regulations may apply. As quoted by the tribal cooperating agencies, "New national rules for financial assurance are under development by EPA, because 'Given the history of adverse environmental effects resulting from some hard rock mines, and the expenditure of public funds used in some cases to address environmental problems caused by mining, EPA believes it is necessary to analyze these factors in the DEIS.' (from InsideEPA.com, Tuesday, August 25, 2009)." The DEIS fails to identify that post closure treatments such as waste water at the mine site may have to continue for centuries. Financial assurance for such eventualities must be addressed in the DEIS.	PD4
3742	3b. The alternative of an underground mine was not examined in sufficient detail. The alternative is economically feasible. Profit margin should not be a consideration in examining the alternative in detail.	ALT8
3743	3d. The DEIS fails to address existing environmental problems at the mine and processing sites. Problems at the LTVSMC Tailings Basin must be adequately addressed through PolyMet's assumption of remedial liabilities under the VIC program, and mitigation measures should be included and discussed in the DEIS.	G9

**Sender Last Name:** Salo

**Submission ID:** 1028

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
1128	On behalf of the Aurora Housing and Redevelopment Authority (HRA) for the City of Aurora, the Aurora HRA supports economic benefits for revitalization of businesses and housing in the Aurora area. The proposal by Polymet, as stated in the EIS, seems to fit the economic and environmental strategy for the Aurora area. There have not been any environmental issues that would adversely affect Aurora or the people in the area. As a result, the commissioners of the HRA would strongly suggest that the DNR support this project in a favorable manner.	EOO
<b>Sender Last Name:</b> Sand		<b>Submission ID:</b> 2747
3185	This absolutely cannot be allowed. We have already had many many issues stemming from the taconite plants and then on top of that the railroad has dumped creosote all over the state from the early 1900's thru 1986. Out water simply cannot take any more abuse!! PLEASE STOP THIS!!!	EOO,G7,G8C
<b>Sender Last Name:</b> Sandberg		<b>Submission ID:</b> 3445
3728	I DO NOT want the mine that is proposed. It is an environmental and financial hazard to our state	EOO,G2,G4A
3729	I DO NOT want the mine that is proposed. It is an environmental and financial hazard to our state	EOO,G2,G4A
<b>Sender Last Name:</b> Sanders		<b>Submission ID:</b> 3750
1	What's going to happen in 20 years when this is all over? What's the next THING? What's going to happen when there isn't any more to mine? Then what?	G1
1	Metal prices are projected to fall early next year – Kiplinger Letter Nov 25th, 2009 Vol 86, No 48. If there were a shortage – prices would not be projected to fall.	G1
1	If this mine is permitted to go through - along with those that will come after - we will regret it. The facts point to this being the case. It cannot be good for our beautiful state in the long term. It's unfortunate that the citizens of Minnesota do not have a say in this matter. If it were put to a vote, with all of the facts put forth prior to - it would never be allowed. You know, I know it, the politicians know it, and the mining companies know it.	G10
1	<a href="http://diss-epsilon.slu.se:8080/archive/00001874/01/Kappan_Avhandling_nr_08.88.pdf">http://diss-epsilon.slu.se:8080/archive/00001874/01/Kappan_Avhandling_nr_08.88.pdf</a> We want mining to take place in Minnesota, so that we can call upon our long tradition of mining excellence. Are you for real? How much pollution has already been proven from mining – and you call that excellence? and show the world how nonferrous mining can be done the right way. Finally, we want it done in Minnesota, so our country has its own supply of precious metals. How many cell phones are made in America? How many computers are made in America? And what about PolyMet's deal with Glencore? and will not have to rely on foreign dictators or polluting countries to make the products our green economy will need to be successful. You mean relying on Canada, Australia, the US, and Sweden for example? Yep, those tyrannical bastards. Boy, do these politicians actually believe their own BS?	G1
2	This sulfide mining project and district will add to global warming and climate change.	AQ3
3	We need more time for people in Minnesota to learn more about the dangers of sulfide mining in Minnesota. Please extend the time period for study and comments by citizens.	PRO6
4	• extend the deadline for public comments a minimum of 30 days beyond the current Feb. 3, 2010 deadline	PRO6
4	• locate additional public meetings in accessible sites: Duluth, St. Paul, and Rochester;	PRO6

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
5	All this info is to say that my observation is that the people of MN are hard working, active, and productive. Having the Polymet mine in Northern MN will be a boost to the MN economy. It will provide families financial security, investments for their future and health insurance opportunities. Polymet jobs will help build self respect and self esteem through honest hard work. It will have a positive impact in MN on multiple levels. One of those levels is the environment. The USA is a leader in global environmental initiatives and policies. MN is a model for others to follow. Therefore it makes sense that having Polymet in Northern Minnesota will allow the world to see the importance of treating the environment with care and dignity. If we reject this project another location who are not as concerned about environmental safeguards may end up with this project. In such a case we have assisted, by omission, in hurting the very environment we want to protect. Please bring Polymet to Northern MN.	EOO
6	Mine site alternative. Submerging tailings is not a convincing mitigation strategy. Water tables may fill, there may be seepage to groundwater. This option needs a more vigorous analysis.	ALT2
6	Low margins of safety for tailings and embankments are a significant concern as it increases the risk of catastrophic failure.	GT2
7	On behalf of the Painters & Allied Trades Local 106, I am pleased to provide these comments that support an adequacy determination for the draft Environmental Impact Statement for PolyMet Mining Co. PolyMet is proposing to develop a mine for nickel, copper, gold, platinum, cobalt and palladium-metals that my members use daily and that are critical for our domestic economy. PolyMet also will transform the shuttered LTV Steel Mining Company facility into a processing facility for these important metals. Development of the mine and processing plant will require 1.5 million man hours of construction over a two-year period. When fully operational, PolyMet will create 400 full-time jobs with an annual payroll of about \$40 million. At least 500 spin-off jobs with an economic impact of more than \$242 million in St. Louis County alone will be created, as well. And PolyMet will help contribute to the local tax base. While all of those figures are important, the Painters & Allied Trades Local 106 would not be supporting PolyMet unless it was able to protect our air, water and natural resources. Based on the evidence found in the draft Environmental Impact Statement, it's clear that PolyMet will provide critical metals and create hundreds of jobs-all the while keeping our environment clean. The project won't discharge process water. It will be a minor source of air emissions and use sulfides in the ore as a fuel. It will re-use a brownfield site and have a minimal impact on our wetlands. Finally, PolyMet will set aside financial resources to pay for closure costs before the first shovel of dirt is moved. PolyMet is a win-win-win for our region, our state and our country. Please move quickly to determine that the draft Environmental Impact Statement adequately addresses potential environmental concerns and begin working on the permits so that this exciting project can begin operations as soon as possible.	EOO

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
7	We realize the proposed PolyMet project for a copper/nickel mine is different than the mines that are presently in operation, and we are encouraged with the new technology that will be used to protect our environment and lake waters. We have confidence in our state environmental agencies - the Minnesota Department of Natural Resources and Minnesota Pollution Control Agency. They have kept a strong eye on the taconite industry and fined them for any infractions. We feel they will be even more vigilant in watching what PolyMet does, to assure that our lakes are not in danger of pollution from acid runoff. We all care about our environment and do not want to see our tourist industry destroyed, but there is no buffer zone to the Boundary Waters. All the proposed mining projects are outside of the wilderness area. Tourism jobs are important to our economy, but they are seasonal and not the jobs that provide a livable wage to sustain a family. They are not the jobs that bring young families to our towns and help sustain a healthy community. Our communities are dying. Our schools and hospitals are in dire trouble without the population to support them. PolyMet NorthMet Project is not in the Boundary Waters Watershed. We need to balance the need for livable wage jobs with care for our environment. These mining jobs will help stimulate the economy of northeastern Minnesota. As people return to the Iron Range for these mining jobs, spinoff jobs will be created and people will be able to shop in their communities again. These jobs are essential to the year round health of our communities. There is a need for copper, nickel and other precious metals, and if it isn't mined here safely, it will be mined elsewhere (Russia) very badly. And that's the acid rain that will affect our beautiful Boundary Waters. We should be thinking globally and acting locally. That's conservation with common sense! The needs of local communities and all users can and must be balanced with the conservation of sensitive natural environments. We are fortunate copper/nickel mining didn't take place in the 1970s, and that there is safer technology today. We are proud that Minnesota has some of the country's strictest pollution regulations to protect our precious waters	EOO
8	The environmental standard should be comparison of impacts of this project to other existing mining and refining projects; not the best attainable or least objectionable environmental impact because the cost of minimizing environmental impacts is prohibitive and contrary to any perception of equity; a cornerstone of the US system of government. This environmental review has dragged on way to long without any other direct comparative measurements to other mining and refining projects; which would have ended this EIS review long ago.	EOO,G8C
9	I urge immediate acceptance of the environmental impact statement for this project noting the minimizing environmental impact goals are impractical and unlawful. There is an above average chance the US NSA may intervene in any event to stop this obstructionist activity of this critical supply metal to the US economy.	EOO
10	PolyMet talks about funds that will be set aside in case something happens. How much and in what form will the monies set aside for future clean up be? When will they be set aside? I sure hope prior to anything being started.	PD4
11	PLEASE READ THIS!!! <a href="http://dissepsilon.slu.se:8080/archive/00001874/01/Kappan_Avhandling_nr_08.88.pdf">http://dissepsilon.slu.se:8080/archive/00001874/01/Kappan_Avhandling_nr_08.88.pdf</a> Sulphide oxidation is catalyzed by a bacteria, named Thiobacillus ferrooxidans. Without that bacteria the oxidation would be much, much slower (it's in the above thesis, the reactions are described in the appendix). In nature, that bacteria is present everywhere. If you take fresh tailings, however, directly from the flotation processes, and bring them to the laboratory for leaching studies, the bacteria may not be present in the tailings. That may be the explanation for the difference in oxidation rate between field studies and laboratory studies. Has there been long term field studies with the tailings? It's very important, because that's the natural conditions, the real scenario for the tailings, with the bacterias present. I searched the DEIS and found nothing on field studies concerning the tailings - only wild rice. Why?	WR1E
12	Would the subaqueous tailing pond(s), over time, evaporate? If so, then what?	WR3A
12	What effects does winter have on the tailings ponds, etc?	WR3A
13	"The west pit would eventually fill with ground water and over flow. This initially would not meet surface water standards. For how long? There would be a reduction in the flow of the Partridge River. How much of a reduction, and what will the	WR3C
14	"When the west pit overflows, add water treatment during the flooding, or treat the Partridge River." How will this treatment happen? Will it not be too late to act once it overflows? I believe so...	WR3C

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
15	“The seepage of sulfates through the tailings would produce methylmercury.” How much? What’s the impact? What about the groundwater?	WR4A
16	“There would be an increase in the flow of the Embarrass River.” What effect will this have?	WR3E
16	“There is a potential for sulfates flowing north to impact wild rice.” How far north? How big of an area? What is the “potential” damage? What will be the damage to the aquifer(s)? And for how long?	RFI
17	“Minimal effects on the watershed of the St. Louis River.” Define minimal please?	WR5A
17	Problem: Tailings basin current alternatives: Use of the existing tailings basin for discharge of flotation effluent even with the dike/well alternative to capture leakage is unacceptable. Discussion: The tailings basin has leaked in the past and it will leak again. The current alternatives will not capture all leakage. The chemical make-up of the effluent is not completely known at this time and is likely to vary considerable over time of PolyMet’s operation. Proposed alternative: Rebuilding of the tailings basin with clay and impermeable liner at the outset of the project will minimize change of leakages, eliminate leakage discharge to Partridge River and be much easier to do before basin is used. (i.e. future mitigation)	GT1
17	Problem: Concentrated acids Discussion: The storage of HCL & H2SO4 seems safe enough in the indoor fully contained storage tanks. However, the E.I.S. did not make it clear to me that the safety of the rail cards and the unloading area was all it could be. The transfer of responsibility between the RR carriers and PolyMet requires definition. The RR Siding where these tank cars will await unloading requires containment provisions for spills and leakage. The unloading area also requires containment safeguards.	PD7
18	Problem: Discharges exceeding current state/federal concentrations. Discussion: Adoption of and insisting on the most stringent safeguards to prevent ground water and waterway contamination may or may not become reality on this project. My concern is the regulatory reality of PolyMet’s operation. A. Will the standards be relaxed for the project, thus giving the green light for the now stated concentrations of sulfate, antimony, nickel, & manganese to be discharged? B. If not will the water treatment facilities be upgraded to meet the standards?and C. Will adequate mine/mill test wells be set-up to enforce compliance?	RFI,WR3I
18	Problem: Mine put reclamation/backfill Proposed plan: The exposed ore body will have its ore faces covered upon completion of mining. The eat pit will be backfilled. Water accumulation in the spent pits will occur, overflow is likely. Discussion: The ground fracturing that will occur during drilling and blasting over the life of the mine will be extensive. Leaching and water migration into surrounding structure will occur. Covering exposed ore faces & subaqueous containment of waste rock will not alleviate these problems. Safeguards: Long term put pumping and water treatment will be necessary. Perimeter monitor wells will also be required.	EOO
18	Problem: Stockpiled material Proposed plan: Waste rock will be deposited on lined acreage and covered with weather proof membrane. Additional safeguards: Lean ore stockpiles may or may not be consumed over the life of the project and also need to be deposited in the same manner as waste rock. Economics may dictate long term storage of loan ore, as proven in nearly every mine nation wise, loan ore stockpiles still exist from mining activities 50 years ago. Proposed alternative: Treat all stockpiled material in same protected manner to avoid rehandling and later construction of safe long term storage pads.	PD11
19	I watch loons and bald eagles catch fish. I want them to live.	G2C
19	I am concerned about water, air & noise pollution in the Kawishiwi River area with this project. Who will guarantee that this area remains pristine?	RFI,G2B,G7A
19	The proposed mining district will severely impact by my habitat moose habitat for this declining species should be protected.	WI5
19	Birch lake is a treasure and we can’t allow it to be contaminated.	G7A
20	I am especially concerned about protecting clean air and clean water.	G2B,G7A

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
21	Future citizens and tax payers should not have to pay for clean up.	G4A
22	I am also very concerned about the dangerous and harmful impacts to the natural resources, natural areas, forests, wetlands, and lakes, ground water, forests, wildlife, fisheries in northern MN. I am worried about establishing a sulfide ore mining district in northern MN.	G2A,G2C,G7A,G7C
23	I am also worried about the impacts to natural resource based tourism economic development. The BWCAW will be harmed by water and air pollution, and haze.	SE4
33	and so near to the core of the nations most visited and vulnerable wilderness areas, the boundary water cave area wilderness. Clean water is the key to protecting this valuable wilderness.	WR3B
34	Also nearby and threatened by water and air pollution is Lake Superior. Our states low part reserve of clean water should be protected. Zero discharge of air and water pollution into Lake Superior must be overarching goal for all Minnesotans.	WR3D
35	Mercury pollution and the harmful impacts to people are a big problem in MN. This sulfide mining district will add to this problem.	EOO,WR4B
36	I support the PolyMet project. I work in this area, and I want this project to bring new jobs, both at the mine and the spinoff jobs in the area.	EOO
37	• the timing of the public meetings is too soon after the release of the massive and complicated draft EIS, making it difficult / impossible for most individuals to familiarize themselves with the details of the DEIS;	PRO6
37	• the paucity of public meetings (2) to provide members of the community an opportunity to learn about this precedent-setting project and express their opinions;	PRO6
38	• the difficulties some citizens have experienced in submitting their public comments (I.e. bounce back and institution of a new Survey Monkey-based form);	PRO6
39	• there is no information on where citizen participants can obtain written records of submitted comments and answers.	PRO6
39	• schedule more public meetings in early January, 2010, permitting individuals to read the DEIS, submit informed public comments, and participate in holiday events;	PRO6
40	publicly acknowledge difficulty in submission of comments and repair by institution of the Survey Monkey site;	PRO6
41	monitor the site(s) to insure that additional shut downs do not occur;	PRO6
42	insure that multiple hard copies of the DEIS are available at all sites listed by MDNR;	PRO6
43	extend the deadline in acknowledgement of all the issues listed above;	PRO6
44	5. The PolyMet project would take over 6,700 acres of public land in the Superior National Forest. Yet, the DEIS has done no analysis of a land exchange to protect the environment, tribal rights and public taxpayer assets.	CPLU4
44	• provide clear information detailing where citizens may obtain a written (or web-based) record of submitted comments and answers, preferably as a daily-updated link to the DNR site detailing this proposal.	PRO6
45	3. The Tailings Basin design does not meet minimum safety standards to prevent catastrophic failure and uncontrolled release of tailings to the Embarrass River. Waste rock piles, mine pits and liners will leak and seep pollution into groundwater.	EOO
46	2. The PolyMet Project would significantly increase mercury levels in local fish, creating human health and ecological risks. Sulfates would impair wild rice. The DEIS studies are inadequate to prevent degradation of water quality.	WR1E,WR4B,WR4F,FM1

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
46	1. Discharge and seeps from the mine, pit lake, tailings and waste rock piles of the PolyMet project are likely to pollute water for decades, even thousands of years. Yet there is no showing that the PolyMet corporation can or will provide financial assurance to protect taxpayers from long-term pollution,.	PD4
47	4. Technologies upon which PolyMet relies to treat contaminated water, prevent release of contaminants, including sulfuric acid compounds, are untested or unreliable.	WR3D
48	(1.) My name is Darrell Godbout I am a Ironworker Business agent I represent over 1800 Union Ironworkers And we are in support of the polymet project. (2.)This is an existing mine site already. The property can't be developed for anything else. (3.)We all have families, friends and relatives living in the Arora, Hoyt Lake area who enjoy clean water and air. Poly met has taken the steps to ashore this area stays that way. (4.)We in port 80% of are copper this country uses from over sees companies that work with no environmental restrictions. Poly met has addressed all the environmental concerns to make sure they are a good community member and a company to have in are community. (S.)A lot of the people in charge of poly met are from the area. You will see them in the super market, kids ballgames, around town. They won't to walk with their heads hi knowing they are good for the community not destroying it. (6.) Polymet will create about 400 full time jobs and hundreds of spin off job and 1.5 million construction hours over 2 years. It is very clear Polymet is very good for northern M N. (7.)The things to remember are. (8.) Polymet has addressed all the environmental concerns. (9.) Polymet will provide millions of dollars in local and state tax to support the community and are schools. (10.) And last of all the jobs it will create in this area wich we are in need of.	EOO
49	I presently live in the Twin Cities, but grew up in Hoyt Lakes, MN, the site of the proposed PolyMet project. I am very happy to see the PolyMet Mining Project moving forward. It is long over due. It's time we finally start getting some job growth in Northern Minnesota once again, so that people like myself do not have to move away from the area to find employment. The towns we grew up in are now half the population they were when we lived there. It's frustrating, seeing how much control these lobbyist groups have, in delaying something which will be good for our state. I keep hearing about how this new project is being built on pristine wilderness land and how it will interfere with the wildlife habitat. PolyMet is being built on existing Mining Land which has been used for over half a century. With the improved technology being used today, this mine will be far more environmentally friendly compared to what was there before. With the tough economic times our country is facing, these are the type of projects we need. Projects that will bring jobs back to areas that have been hit hard with unemployment. It's time to move forward with the construction of PolyMet. We've jumped through enough hoops that keep. delaying the project. It's time our government let this project go through, and move on. It's a wonder anything can get done in this country anymore with the control the lobbyist groups have on everything. It's about time our country address the lobbyist problem we have in this country as well, so that job growth proposals like this don't keep getting shut down and stalled.	EOO



*Alphabetical by sender's first name*

<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
51	<p>The AGC supports PolyMet's NorthMet project. We support this project for the following reasons. We believe the project will create badly needed jobs at a time when unemployment is 20% and higher. The existing labor pool is highly qualified for these jobs, allowing employers to hire quality Minnesota workers who need stable jobs to sustain their families. The State of Minnesota and the Iron Range will benefit immensely by providing millions of dollars in local and state taxes to support our communities and educational system. The construction industry is environmentally responsible. We believe in clean air and water, recycling, and sustainable design, construction, and development practices. We believe in taking care of the land and in conservation of resources. To this end, we believe PolyMet can produce these metals in an environmentally sound manner and create hundreds of stable jobs that can support families and the Minnesota communities in which we live. The metals that Polymet will mine are essential to green technology such as wind turbines and hybrid cars and are necessary for pollution prevention devices such as catalytic converters. PolyMet will be a domestic supplier of critical metals needed in medical applications, cell phones, computers and other essential products used in daily living. PolyMet will mine and produce several metals not currently mined anywhere in the United States. This is extremely important at a time when Minnesota is striving to differentiate itself in the global and domestic economy. Metals from the mine are necessary for modern society. Mining these metals in one country, processing them in another and then transporting them to the U.S. is highly inefficient and creates unnecessary greenhouse gas emissions. Foreign suppliers of these metals don't necessarily follow sound environmental practices, creating a greater global environmental impact.</p>	EOO
52	<p>Thank you for the opportunity to comment on the draft Environmental Impact Statement (EIS) for PolyMet Mining. On behalf of the Board of Directors and members of the Hibbing Area Chamber of Commerce, I am pleased to offer my support and to encourage a finding that the draft EIS is adequate so permitting for the project can begin. The Hibbing Area Chamber of Commerce supports the proposed PolyMet Mining project because it will provide critical metals used in our daily lives, it will create new jobs and economic development and it will operate in an environmentally sound manner, as documented in the comprehensive draft EIS. Part of the mission of the Hibbing Area Chamber of Commerce is to support local economic development and to highlight how local businesses can contribute to the sustainability of our economy. The PolyMet project is a perfect example-a local business providing critical metals used by my members every day and doing so in an environmentally sound manner. In particular, the Hibbing Area Chamber of Commerce notes that: PolyMet will re-use an existing brownfield site, which will minimize the destruction of wetlands. PolyMet will manage waste rock based on its potential to generate acid. Engineered liners, foundation drains to collect seepage for treatment and, in the end, covers for each stockpile will ensure that the minimal amount of water that contacts the rock will be treated, PolyMet will not discharge process water. PolyMet will use the sulfur found with the metals to process the ore-saving on greenhouse gas emissions and making the best use of the ore itself. PolyMet will have very few air emissions because it will use the sulfur as a fuel to process ore. PolyMet's residue will not be hazardous and will be stored in specially designed cells. PolyMet will set aside money to cover all closure costs-before the first spade of dirt is turned. PolyMet will achieve many of these environmental milestones with the help of many of my members - businesses that have developed globally recognized expertise in mining that will be put to good use in the PolyMet project. The United States imports as much as 90 percent of the metals that PolyMet will mine, making us reliant on foreign supplies of minerals we use every day. Many, if not most, of those foreign supplies are not produced with the same eye toward environmental protection that PolyMet has demonstrated throughout the draft EIS. The draft EIS does an excellent job of documenting the steps PolyMet will take to protect our environment, identifying impacts and providing mitigation alternatives. As such, the draft EIS should be found to be adequate and permit development based on the information contained in the draft EIS should begin immediately.</p>	EOO

*Alphabetical by sender's first name*

<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
53	The Minnesota Pipe Trades Association believes that the Polymet Project will be operated in a responsible and professional manner and in accordance with Minnesota's existing stringent environmental regulations as well as for the following reasons: The state of Minnesota has the finest environmental regulations in the country in regards to the mining industry. There are over forty pages of Minnesota Rules on record that were formulated with the input of Environmentalists, Area Citizens, Mine Owners, Labor and the Department of Natural Resources (DNR) in the 1990's. If these rules are enforced today and with the Cooperation of all parties, the mines have operated and the environment has been protected. I was very pleased to see the comprehensive DEIS and that the Army Corp of Engineers, the Department of Natural Resources as well as the American Indian Tribes all had input in the draft. The Minnesota Pipe Trades Association supports the Polymet Project.	EOO
54	I am writing this letter to express my support for approval of Polymet Mining's Northmet project. I work for Road Machinery and Supplies Co, an 80 plus year old Dealer in the equipment distribution and support industry. This project and the people and businesses of the Iron Range are vital to our state and economy. I believe Polymet, the DNR, MPCA and Corp of Engineers have required a level of scrutiny and detail in preparing the Draft EIS that sets a very high standard for understanding the impacts to our northern Minnesota natural resources. My family has enjoyed the beauty of the area near Tower for over 30 years and I have a strong personal stake in protecting this resource. The Polymet Project plan has been designed with safeguards to protect the environment. It comes at a time when Minnesota needs to show that we can balance economic opportunity, growth of our Mining heritage, along with responsible stewardship of our states natural resources. This project is well planned, has the safeguards needed and makes clear economic sense. Please move forward and issue the permits for this project.	EOO
55	I'd like to start off, I support the PolyMet mining project. I believe it will bring good-paying jobs to the area. It's one thing this area really needs. You know, instead of importing a lot of the jobs overseas, buying metals and the state of the economy that we are in right now, and there's no other way to do it, except for maybe have some jobs in Minnesota here. I believe they can do it safely. I believe the EPA should have strict regulations on them so if they don't do it safely, they pay the cons -- consequences before we do. I'm an average fisherman, hunter, and I've lived up in northern Minnesota my whole life, and I believe there are clean lakes up here, and there always should be. I'm a big -- I am big on domestic production. I believe we wouldn't be in this state of the mess if people wouldn't buy foreign vehicles, foreign -- everything comes from foreign. More or less, we need jobs. Jobs means taxes, dollars that stay in the United States, stay here. They don't go overseas. I know it's a world economy these days. Well, then the EPA should be a world thing also. You know, if we can't do it here, why should China, why should these foreign countries get away with things that we can't. It's just we need jobs. I'm a resident of Tower-Soudan. Last night, we had a vote on schools, because the state -- state is not providing money, taxes are not enough, so they tax us more. Well, how are we supposed to pay taxes when we don't have jobs? Everyone wants to live in the Cities and point fingers, but I believe we need jobs. I just believe that with all the -- with all the technology through these years, I believe we can do it safely, environmentally friendly, and provide families with not going to bed on worrying how to buy food, shelter, and how to provide future for their families. Thank you very much.	EOO

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
56	I have a Bachelor of Science Degree in Biology from the University of Minnesota with a Chemistry Minor. I (thankfully) reside year-round with my family on Wynne Lake, a few miles from the proposed Polymet site. After reading both the long- and short-form of the DEIS on the Northmet (polymet) Project and finding that the proposed methods of abatement and the procuring of metals within the limits of accountable environmental industry, I lend my support to this project. As my family's health and Wynne Lake's health are directly tied to this project being environmentally responsible, I am concerned that the project stays within set parameters. After reviewing the proposed plans set forth in the DEIS, I have confidence the project will be carried out in the most responsible way. This is where the ore is at, this is where it must be mined. The proposed project area has been a mine for years and with the abatement proposal, could be bettered (from the condition it is now in) once the project is finished. In an economy riddled with job loss, this project comes here at the right time. Our national security will benefit from this project. Those cell-phone parts and Hybrid car parts are made of the metals this project will produce and represent just a small example of products the raw materials from this project will become. Other countries have less stringent regulations and our dependency upon foreign imports of raw materials is detrimental to our economy and our national security. There is a global need for this project and we can do it in an environmentally sound manner here, or others concerned only with massive profit will carry out the same project without regulation and we will still pay environmentally as well as socially and financially. Because of the aforementioned mentioned reasons and many others, I support the Polymet project.	EOO
57	Do let the public know that just because this mine will move forward with the permitting process that you will continue to work with Polymet throughout the life of the mine to ensure the quality of the environment.	PRO3
57	Within this statement is my support of the Polymet Mining project. The mine that is proposed is one that has thoroughly been written by an independent third party, reviewed by federal, state, and tribal agencies along the way to shape the full development of the Draft Environmental Impact Statement. Polymet has been designed to exceed expectations, minimize environmental foot print, and reuse a good portion of existing infrastructure at a Brownfield site. The thousands of supporting documents written by professional world class engineers and geologists support this mine and should be moved to the permitting process as soon as possible. The Minnesota Department of Natural Resources, The Minnesota Pollution Control Agency, and the United States Army Corps of Engineers should be proud of their accomplishments in contributing to this complex document that is at hand. Polymet has demonstrated that it can produce these critical metals while following Minnesota's strict environmental requirements. My faith in the system we have put in place, here in Minnesota is high; it is upon you to continue your work as the convening authorities to allow the process to move forward.	EOO
57	The tax base for this state will be a positive seen many places. The economic benefits will help stabilize the area. Additional companies! corporations will follow to the area to be closer to these metals, spurring even more growth for our great state.	EOO
57	Do establish financial assurances for any issues that may arise in the future.	PD4
58	Further, the effects of long term environmental and climate change are not included in the uncertainty analysis.	AQ3
59	While a net loss of 1-3% of wetlands doesn't sound terrible, Northern Minnesota's peat lands are an invaluable and essentially irreplaceable resource. I have not seen any evidence that our-of-area mitigation replacement is adequate to compensate for peat land loss.	WE3
60	In view of the controversial nature of the proposed project and the extraordinarily poor record of similar mines implemented in the past, it would be a useful exercise, that would help place this in context, to look at any environmental reviews or predictions that were made for other sulfide mines and the subsequent condition of those projects.	PD8
61	Although the proposed alternative evaluation acknowledges a high likelihood of water quality problems as a direct and indirect result of mining activity, proposed mitigation measures are not adequately evaluated.	WR1E
62	It would also be useful to provide the public with a disinterested 3rd-party evaluation of proposed mitigation measures, and references to projects or locations where those measures have been successfully implemented.	PD8

*Alphabetical by sender's first name*

<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
63	Pumping water. Colby Lake, Barge #1, Booster Pump House #1, Tails Pond pumps, loading pockets, and many things all over the plant. Need relief valves on GIW pumps-suc. And disch. Of each pump if you are using such a pump.	EOO
64	First, I believe the Northmet project serves as an excellent example of advancing my research group's mission which is" to foster the economic development of Minnesota's natural resources in an environmentally sound manner to promote private sector employment. Our economic geology group, for example, has studied northeastern Minnesota's copper/nickel IPGM mineral resources for the past 24 years and now we finally have a technically and environmentally sound process to extract the low concentrations of metals they have studied which are needed to meet many of the United State's strategic uses for copper, nickel, cobalt, and platinum group metals. Just as our research institute has continually supported the taconite mining industry in the areas of geology, mine engineering, mineral processing, product metallurgy, and environmental engineering, we greatly look forward to supporting the advancement of copper/ nickel/ PGM mining in Northeastern Minnesota. We therefore plan to build, operate, and staff a new hydrometallurgical research laboratory on our Coleraine Minerals Research Laboratory campus to advance technical developments in the area of copper nickel mining and processing focusing on the use of our extensive mineral resources in Northeastern Minnesota. From a sustainability viewpoint, I feel the project offers an outstanding route to return the economic viability of this region in the State which previously existed and was lost due to the 2001 closure of the LTV Steel Mining Company and the loss of its 1400 permanent high paying jobs for the Hoyt Lakes area as well as for greater Minnesota. In addition, by operating with a philosophy of sustainability through maintaining high level safety, health, and environmental standards, this mining operation has great potential to make continuing and lasting contributions to the local, regional, and national economy. From a sustainability viewpoint, the project also wisely reuses the previous LTV Steel Mining company's iron ore crushing and concentrating facilities and equipment, as well as other infrastructure including LTV's previous rail lines, power lines, and tailings basin. It is important to recognize that the Northmet property and associated mine and processing plants have no surface water discharges and will institute groundwater monitoring stations to actually measure the results of its extensive environmental control efforts. I therefore believe that the parties involved have diligently prepared a very solid Environment Impact Statement which well informs the permitting agencies of the proposed actions required to conduct surface mining of the Northmet deposit and mineral processing of the Copper-Nickel-Platinum Group Elements contained in the ore. I also believe the EIS adequately assesses the potential environmental impacts of this new mining project and provides operating methods to control the level of these potential impacts. Additionally, the agency recommended mitigation measures identified provide an excellent set of operating procedures to further reduce environmental impacts potentially encountered during operation of the mine, mineral processing, and hydrometallurgical plants. I believe the proposed Northmet Project has well balanced the economic capture of strategic metals from the Duluth complex with a set of operating practices designed to maintain high level environmental standards to safeguard our valuable air, water, and land resources.	EOO

*Alphabetical by sender's first name*

<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
65	We, in northeastern Minnesota realize that, by its very nature, a mining operation will affect our environment. The landscape of the region bears evidence of over a century of iron ore mining. However, through the oversight of the Minnesota Department of Resources, and the insistence of the people who live here, the scenic beauty of the region completely overshadows the traces left by mining operations. The thousands of tourists who flock to this region to enjoy sparkling blue lakes and thriving forestlands attest to that fact. Now, as we usher in a new kind of mining in northeastern Minnesota, some people are concerned that the same careful consideration for the environment that we have experienced for over 100 years will somehow cease to be important. Nothing could be further from the truth. Those folks who live and work in northeastern Minnesota are perhaps even more concerned about our environment than those who come use this area as their playground. After all, we appreciate the beauty of the region year after year, twelve months a year, and are careful custodians of the natural resources that make the region where we live and work so special. Through this EIS process, the Minnesota Department of Natural Resources has conducted an exhaustive study to ensure that copper/nickel and precious metal mining can occur in the region with a minimum effect on the natural environment. We believe and trust that those intense studies have considered and answered any questions concerning the potential effects of Northmet's operations and that the DNR will continue to partner with the residents of the area to ensure strict adherence to all of Minnesota's rules and guidelines concerning our environment. It is important to note that although most public discussion highlights concerns about the possible effects of copper/nickel mining on the natural landscape, the EIS process demands equal consideration of the socio-economic implications for the region. It has been found that that the Northmet operation will greatly benefit the region economically by creating approximately 400 new jobs and at least three times that number in support jobs. This, in turn, will generate additional revenue for the state's ailing budget, help strengthen our school districts statewide, and encourage additional retail activity in our region which will result in the development of stronger and wealthier communities on the Iron Range. Although the protecting the beauty of northeastern Minnesota remains of paramount importance it is also imperative that the people who live in the region can continue to work at productive jobs, raise healthy, well-educated families, live in thriving communities and enjoy all that northeastern Minnesota has to offer in recreational opportunities. It has been proven through the EIS process that the Northmet project can reliably adhere to the stringent environmental rules set forth by the state of Minnesota and, just as importantly, can help to ensure the quality of life desired by the people of northeastern Minnesota.	EOO
<b>Sender Last Name:</b>	Sandnas	<b>Submission ID:</b> 346
374	As a lifelong resident of Northern Minnesota, I have first hand knowledge of what these much needed jobs can do for our area. As much as we need these jobs, I am unwilling to compromise our drinking water and air quality. However, based on the documentation outlined in the DEIS, I am satisfied that PolyMet can extract these resources in an environmentally sound manner with minimal effects. I am in full support of Poly Met Mining's North Met project. As an American, I am greatly concerned about our growing dependence on foreign countries to meet our needs. This is a trend we urgently need to reverse and this project is a good start in the right direction. Let's move forward with a project that will enhance the Iron Range and reduce our dependence on others.	EOO,G2
<b>Sender Last Name:</b>	Sandri	<b>Submission ID:</b> 3681
19255	Tribal cooperating agencies take the position that the canopy cover and herbaceous layer noted above indicate significant groundwater inputs to the wetland communities.	WE2
<b>Sender Last Name:</b>	Saphner	<b>Submission ID:</b> 1484

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
1769	I have enjoyed the Lake Superior Watershed for many years at my cabin in Michigan. Pit mining was just approved there and I can see only short term gains. A watershed is not an isolated place; pollution originating in Minnesota migrates throughout the area. Please do not contaminate such a beautiful place.	G11
<b>Sender Last Name:</b> Satrom		<b>Submission ID:</b> 182
14	The EIS should be clearer; PolyMet is not in the Boundary Waters watershed.	WR3B
173	PolyMet will significantly contribute to the state and local economy at a time when we really need the jobs and economic benefit. PolyMet's 400 employees and the hundreds of spinoff jobs will provide a huge economic benefit to Minnesota and the Arrowhead region/my local business. PolyMet will provide millions of dollars in local and state taxes to support our communities and educational system. We should move forward with permitting this mine. We need and want jobs. PolyMet can produce these metals in an environmentally sound manner and create hundreds of stable jobs that can support families. PolyMet has demonstrated it can produce these critical metals while following Minnesota's strict environmental requirements to protect air, water and land. The metals that Polymet will mine are essential to green technology such as wind turbines and hybrid cars and are necessary for pollution prevention devices such as catalytic converters. Based on the extensive documentation as outlined in the DEIS, I am confident that impacts to the air and water will be minimal, if any.	EOO,G5
174	I understand the need to balance use of resources like minerals and preservation of resources such as water and air. I feel this EIS lays the proper groundwork for developing an environmentally and economically sustainable project and I wholeheartedly support it. PolyMet project has been designed to minimize environmental impacts; reusing a brown field site, reusing existing infrastructure, minimizing disturbance of wetlands and utilizing multiple safeguards to protect the environment. PolyMet will be a domestic supply of critical metals needed in medical applications, electric cars, catalytic converters, cell phones, computers and other essential products. I understand the importance of buying locally. PolyMet will mine and produce several metals not currently mined anywhere in the United States. I use these metals every day. PolyMet will be a domestic source of the metals we all use every day. Mining these metals in one country, processing them in another and then transporting them to the U.S. creates unnecessary greenhouse gas emissions. Foreign suppliers of these metals don't necessarily follow sound environmental practices, creating a greater global environmental impact. Thank you for considering my concerns and comments.	EOO,G5
<b>Sender Last Name:</b> Savage		<b>Submission ID:</b> 220
222	I would like to comment in support of the Polymet project in Hoyt Lakes. In this day and age, it is important to use common sense when it comes to developing our US resources and jobs and this project can be an essential part of our countries strategy. Everyone is concerned we protect our countries ability to compete, be self sufficient, and protects the environment as much as current technology allows. This project does all of that. It has been improperly labeled as a Boundary Waters project so as to evoke emotions and resistance. In reality, the site has been an existing mining site, Polybrite can meet the most stringent requirements and still generate job, taxes and protect the US interests. I work in the electronics industry and watch as millions of jobs are moved overseas, taxes are lost and America becomes indebted to other countries. We are losing our position in the world and no one seems to see the long term problem. Other countries are buying up natural resources in the world thus controlling the prices, all of which does not bode well for us in the future. Please let's not "cut off our nose to spite our face" as they say.	EOO
<b>Sender Last Name:</b> Schaaf		<b>Submission ID:</b> 1953
2473	This is insane. We need to save our environment, fish and wildlife now & not give in to money hungry companies that will destroy all of this. After it's gone, it will be too late to repair the damage.	EOO

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
<b>Sender Last Name:</b> Schaedig <span style="float: right;"><b>Submission ID:</b> 3186</span>		
727	I would like to see a time extension of 45 days to review the EIS - especially warranted for a project with the potential for so much environmental degradation. Meetings should definitely be open for citizen statements and discussion. What kind of a legitimate process is it without it? Additional meetings should be scheduled to reach a broader segment of the public.	PRO6
3634	It will be the height of irresponsibility if you allow this project to proceed. If you do you will be a player in a new version of an old story. Long term environmental loss for short term financial gain. And that gain will be mostly to the company, not the labor force. It is your responsibility and mandate to protect our natural resources. It is time for you to do so.	EOO
<b>Sender Last Name:</b> Schaefer <span style="float: right;"><b>Submission ID:</b> 1171</span>		
1286	Open-pit sulfite mining is simply not the same as taconite iron mining. The long term risk is not worth the short-term profit. I have no interest in visiting the Boundary Waters if there is open-pit mining on its edges. I will spend my money elsewhere and encourage my friends to do the same.	EOO,G11
19256	Fond du Lac does not agree with the DEIS statement that beavers cause artificial impoundments; the hydrological modifications that beavers create is natural.	EOO,WI2
<b>Sender Last Name:</b> Schatz <span style="float: right;"><b>Submission ID:</b> 1304</span>		
1513	The consideration of this action is deplorable and absurd. The BWCAW is a pristine area with a fragile ecosystem. You cannot overfish or bring in anything non organic, and this report claims that mining near it is A.O.K.? Please Please get your minds out of the short term and realize that a fleeting buisness venture is only around for a few years while an area such as the BWCAW can and will be around for hundreds.	EOO,G2C
<b>Sender Last Name:</b> Scheibe <span style="float: right;"><b>Submission ID:</b> 3711</span>		
1	The cumulative effects analysis is also significantly inadequate for a number of resources, including greenhouse gas emissions; water quality, including mercury and sulfate levels; wild rice impacts; wildlife; aquatic resources; and wetlands. See e.g., DEIS, 4.14-2, n. 2. For example, as set forth above, despite the large number of ongoing and future projects within this region, including Minnesota Steel, the Keetac Expansion Project and other expansion of taconite mines, the Essar Steel Expansion project, Mesabi Nugget, the Excelsior coal gasification plant, Franconia Minerals Birch Lake proposal, Duluth Metals Nokomis proposal, the Teck Cominco Mesaba mine proposal, the widespread mineral exploration, there is no quantifiable, detailed, or objective assessment of the overall amount of greenhouse gas emissions that will be caused by these projects, nor an assessment as to how this will impact the State's ability to meet goals and standards that it has committed to achieve. There is also a lack of a cumulative effects analysis regarding the amount and importance of the peat that would be destroyed, which serves an important carbon sink and also sequesters mercury; and the importance of the destroyed wetlands both as important carbon sinks and areas where wildlife will seek refuge during this era of unprecedented climate change. Id.	WR5A,WI5,FM3,AQ3,AQ4

*Alphabetical by sender's first name*

**Comment ID    Comment Text**

**Theme Codes**

1 Similarly, even though most project area waterbodies are already water quality impaired due to mercury pollution, with a TMDL already in place for some waterbodies and others too impaired for the TMDL to even be applied (see e.g., DEIS, 4.5-19, 20), the Draft EIS fails to include an adequate cumulative effects assessment regarding the amount of increased sulfates, mercury and other pollutants that will be produced cumulatively by these numerous projects and how these significant increases will somehow meet all applicable water quality standards and requirements. As explained, in order to consider cumulative effects, some quantified or detailed information is required, and general narrative statements about “possible effects” and “some risk” are insufficient. *Neighbors of Cuddy Mountain*, 137 F.3d at 1379-80. The proposed mine “would result in the release of sulfate to a high risk situation for mercury methylation” (DEIS, 4.5-21), and this “high risk situation” of one proposal must be considered cumulatively along with all other past, present, and reasonably foreseeable proposals to determine and disclose the overall risks to water quality, fish, wildlife species that prey on aquatic species, and human fish consumption. Significantly, this cumulative impacts analysis for sulfates and mercury cannot be limited to only project area streams, but must include downstream areas including the St. Louis River, the St. Louis River estuary, and Lake Superior; and must include an analysis of the potential impacts to the aquatic species present in these downstream rivers, streams and Lake Superior.

WR5A,FM3

1 XVII. The Draft EIS Cumulative Effects Analysis is Inadequate In accord with NEPA, the Forest Service must "consider" cumulative impacts. 40 C.F.R. § 1508.25(c); *Neighbors of Cuddy Mountain v. U.S. Forest Service*, 137 F.3d 1372, 1379 (9th Cir. 1998). “To ‘consider’ cumulative effects, some quantified or detailed information is required.” *Neighbors of Cuddy Mountain*, 137 F.3d at 1379. “Without such information, neither the courts nor the public, in reviewing the [agency’s] decisions, can be assured that the [agency] provided the hard look that it is required to provide.” *Id.* “General statements about ‘possible’ effects and ‘some risk’ do not constitute a ‘hard look’ absent a justification regarding why more definitive information could not be provided.” *Id.* at 1380. “Nor is it appropriate to defer consideration of cumulative impacts to a future date,” *id.*, as NEPA requires consideration of the potential impact of an action before the action takes place. 40 C.F.R. § 1500.1(b). The Draft EIS provides a very general, mostly non-quantified analysis for some resources, which falls short of the detailed analysis required by NEPA. In fact, in a major mining and NEPA decision, the United States Court of Appeals for the Ninth Circuit has rejected a similar cumulative effects analysis. In *Great Basin Mine Watch v. Hankins*, 456 F.3d 955, 971-974 (9th Cir. 2006), the court struck down the agency’s reliance on the same sort of acreage listing and brief, generalized descriptions of mining impacts in the region. The court required the agency to include “mine-specific ... cumulative data.” *Id.* at 973. Relying on prior cases, the court highlighted the need for a “quantified assessment of [other projects] combined environmental impacts” and “objective quantification of the impacts.” *Id.* at 972. Here, the Draft EIS fails to provide this necessary analysis. More specifically, there are a number of additional deficiencies with the cumulative effects analysis for various resources within the Draft EIS. First, the Draft EIS fails to include in its analysis a number of reasonably foreseeable proposals in the region. As stated by the Forest Service, “[a] list of reasonably foreseeable (including existing) projects should be included,” including the expansion of the Peter Mitchell pit, the Forest Service “Tracks” project, a Pellet Transfer Facility, Mesabi Nugget Phase II, and a proposed highway connection. September 2, 2009, Forest Service Comments. The Draft EIS also fails to explain that PolyMet fully intends for the Plant Site to be utilized for future copper-nickel mining projects in this region, as it would only be operating at approximately one-third capacity through the NorthMet project. The additional use of this Plant Site for additional mining proposals would presumably significantly increase the amount of waste that would be deposited into the LTV tailings basin, which again is already leaking from past mining. This would also greatly increase the amount of vehicle traffic and other disturbances in the immediate project area, as well as downstream.

PRO3,GT2,WR2G



*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
2	In addition to the comments submitted by the Tribal cooperating agencies regarding impacts to water quality, groundwater, and wetlands, the Draft EIS is also significantly deficient in addressing the cumulative effects of past mining in the Iron Range on these resources. Before permitting an entirely new form of mining in the state, the agencies must take a hard look at the past and ongoing legacy of water quality and wetlands impacts from the iron ore and taconite mining in northeastern Minnesota. The Draft EIS neglects to discuss the current and past pollution and wetlands impacts extending from Grand Rapids to Ely resulting from extensive mining, even though the proposed NorthMet mine would be located within this same, already polluted region. More specifically, the Draft EIS is inadequate in its discussion, analysis, and disclosure of the ongoing pollution that is already occurring at the LTV site where the NorthMet mine is proposed. As acknowledged in the Draft EIS, surface seeps have been identified on the south, west, and north sides of the LTV tailings basin, which is proposed to again be used by NorthMet. DEIS, 4.1-7. "In addition to these visible surface seeps, groundwater flows out from beneath the Tailings Basin into the surrounding unconsolidated deposits to the south, west, and north." Id. The current groundwater seepage from the LTV tailings basin north towards the Embarrass River already exceeds the aquifer flux capacity, which has inundated wetlands immediately downgradient of the tailings basin. Id; see also DEIS, 4.1-29 (stating that the "existing Tailings Basin is unlined and the perimeter embankments to not have a clay core or cutoff, which allowed for both surface seepage through the embankment and groundwater seepage under the embankment"). As explained by the Tribal cooperating agencies, the existing LTV tailings are already contributing substantially to the level of pollutants observed in the groundwater, and it is simply illogical for the agencies to assume that additional seepage of water created by the NorthMet mine would somehow be cleaner than the existing seepage that is currently passing through the LTV tailings. DEIS, 4.1-14 n. 5. The Center agrees with the Tribal cooperating agencies that it is "unclear how the addition of mine waste to the basins would cause seepage water quality to improve." Id. Wishful thinking is no substitute to the hard look required by NEPA. Similarly, EPA "remains concerned" about information gaps regarding the possible impacts to groundwater from portions of the former LTV Mine, particularly (but not exclusively) the tailings basin." July 31, 2009 EPA comments at 4. EPA is concerned that the proposal "would perpetuate seepage from the tailings basin, which could introduce contaminated or high sulfate groundwater into the receiving surface water bodies. Id. EPA thus recommends "that the DEIS thoroughly evaluate the benefits of a geomembrane cover to the tailings basin, insofar as the applicant's analysis has not established that it is infeasible, only that it would have higher costs." Id. In light of the ongoing pollution and high likelihood of additional pollution at this site, this issue needs far more detailed discussion within the EIS.	WR5A
4	The cumulative effects analysis for wildlife must also include and address the impacts being caused by ongoing climate change, and how this will likely affect wildlife and plants during the 20 year period of this proposed mine. Lynx are already threatened with extinction in the lower 48 states, the state's moose population is already in decline, and vegetation patterns are predicted to be altered, but there is no assessment of this significant impact in the Draft EIS.	WI5,AQ3
<p><b>Sender Last Name:</b> Scherber <span style="float: right;"><b>Submission ID:</b> 2553</span></p>		
3119	I am against the Polymet mine proposal I believe it will have a severe negative impact on the water quality in the northern watershed. Sincerely, Dennis Scherber	EOO,G7
<p><b>Sender Last Name:</b> Scherer <span style="float: right;"><b>Submission ID:</b> 1634</span></p>		
2055	The boundary waters are a staple in our ecosystem as well as a trademark to Minnesota culture and history. A sulfide mine would severely deplete and damage our ecosystem. Please do not allow this. Please accept these comments on the PolyMet Mining Corp. NorthMet mining project Draft Environmental Impact Statement. I have serious concerns about the safety of this project and its potential impacts on Minnesota's natural resources.	EOO,G2C,G7B,G10

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
2462	All of these issues must be thoroughly studied by experts in each area, not just by PolyMet personnel. Please don't endanger Northeast Minnesota for short term profit.	G6
<b>Sender Last Name:</b>	Schieber	<b>Submission ID:</b> 2351
2830	The PolyMet DEIS describes significant environmental issues associated with this proposed mine. These issues should be resolved before this mine is approved by the Minnesota Department of Natural Resources and the U.S. Army Corps of Engineers. This is too big of a risk. At most, a short term gain with far reaching and long lasting economic and health consequences I am not willing to deal with.	G2
<b>Sender Last Name:</b>	Schlimgen	<b>Submission ID:</b> 2696
3171	In addition to the "canned" message below, I just have to say that what I love about MN, is our natural areas. We need to preserve these spaces and our wildlie. Short term economic gain does not warrant long term damage to our environment. Please make the environment one of your top priorities.	G2C
<b>Sender Last Name:</b>	Schmelzer	<b>Submission ID:</b> 177
168	Polymet should be given the permit to start operations. With our economy in the state it is in, this project should go forward. We need the jobs and the money to stay in Northern Minnesota. Please push this forward.	EOO
<b>Sender Last Name:</b>	Schmidt	<b>Submission ID:</b> 375
418	I am a boilermake apprentice with Boilermakers Local 647, Ramsey, MN. I wholeheartedly support this project. While being environmentally conscious, NorthMet is producing hundreds of jobs in an area that desprately needs employment; in a State that desperately needs employment. I do not see a down side!	EOO
418	The State should receive a higher percent of revenue in taxes. The local economy benefits from jobs, but the rest of the State does not benefit proportionately – and the resources belong to all the people.	EOO
<b>Sender Last Name:</b>	Schmitt	<b>Submission ID:</b> 1855
2464	I am greatly concerned that Wisconsin has banned this type of mining until it can be proven safe for the environment. Why would MN want to adopt standards lower than our neighbor state? What could be more precious to MN than the water quality of our lakes, rivers, and ground water?	G7,G14
<b>Sender Last Name:</b>	Schochet	<b>Submission ID:</b> 1771
17	d) Economic impacts: There would be substantial loss of tourism, both transient and seasonal. No one will come for recreation to an area devoid of solitude, scenery or serenity. For some jobs for 20 years, one would lose residents forever. Short-term gain would come at a price. Additionally, the clean-up costs of the mine discharges would be astronomical, and surely (as everywhere else) borne by the taxpayers. Cleanup would have to be carried out for an unlimited time (in perpetuity) and the mining company would surely not be prepared to do this.	SE3,SE4
299	c) Wetland destruction: There is much wetland, including peatland, a rare habitat, in the mining area; it is essential for many plants and animals, especially water bird. Destruction of peatlands also contributes to an increase in greenhouse gases; the effect will be substantial.	AQ3

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
305	b) Wildlife habitat: The mining operations (road construction, deforestation, stripping) would fragment and destroy wildlife habitat; noise and activity would seriously disturb wildlife. Recovering and rare species such as lynx and wolves would be affected.	WI2
1143	a) Water quality: Water quality would almost certainly be degraded by discharge from waste rock (full of toxic heavy metals and sulfides), by overflow from the containment pit (similar issues) and discharges from tailings basins into the wetlands and waterways around the mining site. Contaminated water would flow through rivers into Lake Superior, damaging its purity. Sulfate released from mining operations and rock would increase available mercury levels in waters, allowing accumulation in fish and aquatic wildlife. Mercury is already a concern in Minnesota's fish. A constructed wetland would hardly be sufficient to purify the discharged and leaked water of its toxic elements.	WR1E,WR3L,WE6,WE8
2324	Please accept these comments on the PolyMet Mining Corp. NorthMet mining project Draft Environmental Impact Statement. As homeowners in northern Minnesota (Ely area), we are most concerned about the potential impacts of this project upon the quality of life and continuing economic prospects of northern Minnesota. The DEIS provided by the mining company itself indicates some of these impacts. And sulfide mining is well known from other parts of the world, where it has contributed enormous pollution problems and cost vast sums of money for cleanup (potentially forever).	G1
<b>Sender Last Name:</b> Scholtz <span style="float:right"><b>Submission ID:</b> 1570</span>		
952	The DEIS says nothing about what the effect of the mine will be on groundwater. This failure to consider the potential impact of groundwater contamination is an arbitrary and capricious oversight that renders the DEIS legally insufficient.	WR2C
<b>Sender Last Name:</b> Schonfeld-Hicks <span style="float:right"><b>Submission ID:</b> 1810</span>		
2397	I am a lifelong Minnesota resident. I have been visiting the Boundary Waters since I was young when my father took me on trips there with several of our friends. I have traveled to many places in the world, but the Boundary Waters is still one of my all-time favorites. I try to visit for skiing or canoeing at least once a year. I am very concerned about the news of the proposed PolyMet mine. I know that Wisconsin has a policy in which mining companies such as PolyMet must prove long-term sustainability and environmental benefit or neutral impact. There have been no instances anywhere in the world where they can show that this mining process is safe in the short or long terms. In fact, wetlands such as those at the proposed site on the edge of the Boundary Waters are one of the most dangerous places to locate a mine like this because it is so easy for the pollutants to leach into our groundwater and travel quickly to pollute many lakes and rivers far from the source area. I know that opening a new mine such as the one PolyMet has proposed seems like an easy short-term solution to the region's economic needs, but our state needs to look forward. There are very real economic concerns on the range. People need employment. However, destroying the lifeblood of Minnesota, which I would argue that our northwoods are, is not the answer. Our waters and woods are too unique and precious to put at risk in this way. I feel that this is an "old" solution. We need to look to the future and explore options that are cleaner and greener. They exist and may be less familiar, but our world is moving that way anyway. Lets put Minnesota at the forefront. We can be leaders in the green technology movement that is gaining steam around the world. Nations like the Netherlands, Denmark and Germany, among many others, have proven that developing environmentally sustainable technologies can be a lucrative pursuit. Please think about our children and their future. I have always planned to someday take my own children to the Boundary Waters as my father did with me. This proposal scares me because it makes me realize that we may not be able to swim and play and drink in the waters of the wilderness as I once did. Please don't let this essential part of our state's heritage and identity disappear.	EOO,G7C,G11
<b>Sender Last Name:</b> Schow <span style="float:right"><b>Submission ID:</b> 216</span>		

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
218	Compudyne, Inc. has been conducting business in Northeastern Minnesota for over 20 years. We would like to go on the record as a strong supporter of PolyMet Mining’s NorthMet Project. We have closely followed the efforts of PolyMet Mining during the permitting process. We believe they have done their due diligence and more to ensure the environmental impact of this operation is minimal and well within acceptable limits. We live here and understand and appreciate the value of our natural surroundings. If there was any chance of losing this resource, we would certainly object. But the Draft EIS clearly shows that this is not the case. It is evident that the demand for the metals to be produced at the PolyMet Mining NorthMet Project is only going to increase as we move into the 21st Century. This means not only short term relief to our economic situation, but a viable, sustainable contribution to our region. As a locally owned and operated business, we have witnessed and been impacted by the turbulent economy of our region. The Polymet project will have many positive economic impacts for our region and state. At a time when the entire world is struggling to recover from a deep recession, here is an opportunity to create hundreds of jobs with good wages and benefits plus the resulting millions of dollars in local and state tax revenue. The process of permit approval has gone on long enough – let’s get this great project underway!	EOO
<b>Sender Last Name:</b> Schrage		<b>Submission ID:</b> 3476
1112	Therefore, as a taxpayer and resident of northern Minnesota, I don't care to get stuck with the cleanup bill. The Iron Range already presents a 100 mile long industrial scar running west to east across northern Minnesota. The size of this industrial landscape represents a significant barrier to wildlife. There are only a few remaining intact corridors across this landscape.	WI5
3232	While the EIS identifies significant impacts to some of the remaining corridors, it fails to adequately mitigate these impacts. In addition to wildlife corridors, the EIS recognizes significant impacts to water quality, wild rice, mercury levels in fish, and visibility and air quality; however, sufficient mitigation for these impacts are not identified. The risks for spills and residue from the hydrometalurgical process are not well analyzed. Experience with other mining activities suggests it can cause significant groundwater contamination. The EIS needs to better identify how groundwater contamination will be avoided, and how it will be cleaned up if it's not.	EOO,WI5,FM1,FM4,AQ5,A
3679	I am concerned the proposed EIS does not adequately identify the environmental impacts of the PolyMet mine nor does it identify adequate mitigation for those impacts. The EIS needs to describe in greater detail the financial assurances to clean up the mess if the mine closes or goes bankrupt. The mining industry has a long history of leaving behind poisonous wastes that degrade the environment for generations after the mine closes. I'm unlikely to ever see much personal benefit from this mine.	PD3,PD4
<b>Sender Last Name:</b> Schubbe		<b>Submission ID:</b> 1100
210	Although there will be a loss of grey wolf and Canadian Lynx habitat, and fragmentation of lynx habitat; the DEIS indicates that neither loss nor fragmentation of habitat or vehicle strikes are expected to have a significant impact on grey wolf or Canadian Lynx populations. In addition, from section 4.4-10 of the DEIS, the United States Forest Service (USFS) indicated that no USFS management standards of guidelines would be violated.	WI5
211	The DEIS (section 4.6-32) indicates that the Project would increase the CO2 emissions in the atmosphere. NorthMet Project metals such as copper, nickel, platinum, palladium, etc. are vital for our current way of life (e.g., cell phones, computers, etc) and are necessary for green technologies to be implemented such as windmills for power generation, electric cars, etc. If NorthMet metals are not mined and processed under Minnesota's stringent environmental rules and regulations, the metals will be mined and processed somewhere else where environmental rules and regulations are less stringent or none existent. If our mining jobs are sent to another country, the overall global environmental impact would be negative and the potential for global warming would be greater.	EOO

*Alphabetical by sender's first name*

<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
214	Wetland mitigation planning is a required part of obtaining a permit to mine in Minnesota. As part of wetlands mitigation, a greater amount of wetland acres is typically required to replace wetland acres that have been impacted. No net loss of wetlands is allowed in Minnesota.	WE3
271	Stability of the Tailings Basin has been addressed in the DEIS. If additional mitigation (Tailings Basin Alternative) is necessary, the DEIS indicates that "Geotechnical stability would be enhanced by increasing the size of the rock buttress along the northern toe of the Tailings Basin".	GT1
524	Conservative modeling results have been interpreted in the DEIS to indicate that ground water standards for the Proposed Action will be exceeded for antimony, manganese, nickel, and sulfate for a long period of time (DEIS Table 4.1-45). Conservative ground-water model predictions can be addressed by installation of a ground-water monitoring system that can be used to detect ground-water quality problems if they arise and will allow them to be addressed before they reach the established compliance (property) boundary as defined by permit. Mitigation has been proposed in the DEIS as the Mine Site Alternative. Based on interpretation of conservative modeling the Mine Site Alternative eliminates all predicted exceedences except for antimony. As indicated in the DEIS, the predicted antimony exceedence most likely results from antimony lab testing that was compromised by leaching of antimony from lab apparatus which in turn falsely increased the amount present in rock and therefore modeling results. In addition, per the DEIS, sorption of antimony was not accounted for during the modeling and contributes to the model results being over conservative. The result is an overestimate of antimony concentration which results in model prediction of an antimony exceedence. The predicted antimony exceedence can be addressed during finalization of the Environmental Impact Statement or during permitting by refining the conservative modeling.	WR1E
525	In the DEIS the Proposed Action water quality standards have been predicted by conservative modeling to be exceeded at year 65 when the West Pit will begin discharging. In the DEIS it is indicated that the exceedence of water quality standards is expected to be a relatively short term effect. However, mitigation (Mine Site Alternative) proposed in the DEIS will lower concentrations for those parameters predicted to exceed standards. For either the Proposed Action or the Mine Site Alternative, pit water quality can be monitored as the pit is filling to detect water quality problems (if they occur) and allow adequate time for action to be taken (if necessary) to prevent water quality standards from being exceeded.	WR1F
526	According to the DEIS the Proposed Action will allow relatively high sulfate concentrations to be discharged in seepage from the Tailings Basin that could promote mercury methylation downstream and may cause sulfate standards for the production of wild rice to be exceeded. The MPCA addresses sulfate with respect to mercury methylation in their: "Strategy to Address Indirect Effects of Elevated Sulfate on Methylmercury Production and Phosphorus Availability" (MPCA, 2006). Additional field studies currently being done by PolyMet will allow the state to make a determination with respect to exceedence of the wild rice standard and to determine if an increase in sulfate concentration will lead to an increase in methyl mercury. If necessary, mitigation (Tailings Basin Alternative) presented in the DEIS can be implemented to address sulfate concentrations with respect to wild rice and/or mercury methylation.	WR1E,WR3I,WR4B,WR4F
1204	Thank you for the opportunity to comment on the Draft Environmental Impact Statement (DEIS) for the PolyMet's NorthMet Project. I personally believe that the DEIS is a comprehensive document that adequately addresses state and federal requirements, including adequate evaluation of alternatives. Please accept this letter as my formal request that the DEIS be finalized and that the final document declared to be adequate. Based on a review of the DEIS and information provided during the Public Hearings (e.g. Aurora and Blaine, Minnesota), I have compiled issues that others may bring up with regard to the DEIS and attempted to provide a DEIS response as follows:	EOO
1205	Please accept this letter as my formal request that PolyMet's NorthMet Project Environmental Impact Statement be finalized and that the Final Environmental Impact Statement be declared to be "adequate".	EOO

**Sender Last Name:** Schue

**Submission ID:** 3359

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
3650	I don't believe its worth the risk by letting the mines work even with their new technologies. I have worked in logging most of my life and with that I know that even though we as loggers say we aren't hurting the environment, it is inevitable that the environment will be affected because of brown hydraulics or accident or accidents where fuel gets spilled, and also the destruction of the natural lay of the land. There are too many factors involved that it can't possibly fully contained. It affects not only the land and water but animals and humans. It will be a huge ripple effect.	G2C,G7A
<b>Sender Last Name:</b> Schuldt		<b>Submission ID:</b> 3683
19257	Tribal cooperating agencies take the position that the approximately 5,700 (RS13B) gallons per minute of tailings water released by past mine waste disposal activity has likely had a far greater influence on the hydrology of the area than beaver dams or transportation features.	WR3A
19258	DEIS 4.2.2 Impact Criteria states that "The most likely types of indirect impact on the functions and values of remaining wetlands at the Mine Site include fragmentation from haul road construction and indirect hydrological impacts that may result in a conversion of one wetland type to another or the conversion of a wetland to an upland." This is NOT an indirect impact but a direct impact.	WE2
19259	Tribal cooperators note that the work needed to properly assess indirect wetland impacts at the mine site and at the plant site has not been completed. It is the position of the tribal cooperating agencies that the wetlands work group should finalize the indirect wetland impact workplan and that the results of that investigation be included in the DEIS to allow a full public review.	WE1,WE2
19259	DEIS 4.2.3.1 Environmental Consequences/Proposed Action/Mine Site Direct Wetland Impacts states "The most common wetland types are coniferous bog (510 acres) and open bog communities (76 acres). These two communities comprise 73% of the direct wetland impacts at the Mine Site (Table 4.2-4)." Tribal cooperating agencies disagree. The wetland delineation study (RS14, Appendix A) identified over 390 acres of wetland community with a significant white cedar component. For example, wetland ID-48 (Table 4.2-3) was identified in delineation reports as dominated by white cedar. White cedar is an indicator of mineral rich waters. Renaming wetland ID-48 as a coniferous bog, as was done in Table 4.2-3, does not make that community a bog. Cedar dominated wetlands are cedar swamps, not bogs. The significance of this is that, bogs tend to be precipitation fed while swamps tend to be groundwater fed. Data from the wetland delineations (RS14) suggest that bogs are not the most prevalent wetland type. In fact, it appears that wetlands that require groundwater inputs: forested rich peatlands and poor fens are the most prevalent. Table 4.2-3 is not useful as it is presented. Whether deliberately or not, the total number of acres for each wetland is not provided on the table. This makes it impossible to determine to what real extent the wetland will be impacted. As an example, a given wetland of 100 acres may be able to survive an impact of 40 acres, but not an impact of 80 acres. If only the acres of impact are provided and not also the total wetland acres, then this determination is impossible.	WE1,WE2

*Alphabetical by sender's first name*

<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
19261	<p>Tribal cooperating agencies note that there is no reliable groundwater model for groundwater drawdown impacts of the proposed project. The estimates of groundwater drawdown are currently based on anecdotal observations and analysis of historical aerial photography. Therefore, there is no quantitative assessment of mine related drawdown of the regional water table. This serious data gap has prevented an adequate indirect impact assessment for wetlands from being conducted. Tribal cooperating agencies strongly disagree with the conclusion that “no indirect wetland impacts are anticipated at the Mine Site resulting from groundwater quality.” As previously indicated, there is no data based evidence or analysis on which to conclude that wetlands would not be affected by mine related water quality changes. Existing exceedances do not predict plant community changes that may occur due to additional disturbance. The Project’s discharges to groundwater and surface waters will have to comply with Minnesota water quality standards. Tribal cooperating agencies take the position that indirect impact acreages would be greater than 318.6 if data and quantitative analysis of mine induced drawdown had been conducted. As previously discussed, tribal cooperating agencies have reviewed the information in the above referenced email (Adams 2009) and it is the Tribal cooperating agencies’ position that the methods used are insufficient for prediction of indirect impacts to wetlands. For example, the projects referenced are located in upland areas of the range and are not proper reference sites for potential impacts at the PolyMet mine site. The Peter Mitchell Mine, although in close proximity, is very shallow compared to the proposed mine pits (Peter Mitchell pit is approximately 80 feet deep, PolyMet pit is approximately 800 feet deep). Tribal cooperating agencies take the position that the conclusion (“additional indirect impacts to wetlands associated with drawdown from pit dewatering is anticipated to be minimal, with little to no dewatering of wetlands expected outside the Mine Site”) is faulty. Based on the vegetation data collected from wetland delineations it appears that groundwater supported wetlands are common in the Project area. Indirect impacts to communities that require groundwater inflow have not been determined, but would likely be significantly different than the expected impacts from the Project to perched bogs. The discussion on 4.2-19 makes too many assumptions regarding the potential of nickel and antimony in groundwater. It is not clear why the presence of nickel and antimony in the waste rock would only affect ground water and not surface water runoff. It is also assumed here that all affected wetlands are not ground water influenced. This is not necessarily the case if Thuja occidentalis (Northern White Cedar) is present in any of these wetlands. This tree species is circum-neutral to slightly alkaline in regards to its hydrologic requirements, and therefore would not necessarily survive in an acidic precipitation-influenced bog. The DEIS concludes this discussion with the statement “Compensatory wetland mitigation would be required for any indirect wetland impacts determined through (this) monitoring”. Tribal cooperating agencies disagree with this approach. Monitoring would only identify impacts after they have become apparent in the wetland. Tribal cooperating agencies take the position that the DEIS should provide a detailed description of reasonably foreseeable impacts to wetlands so that decision makers and the public can have a complete picture of the environmental consequences of this project.</p>	WR1E,WR3N,WE1,WE2,W
19262	<p>The DEIS concludes that any indirect impacts along the transportation corridor from spillage would be minor. Tribal cooperating agencies disagree with this conclusion. As indicated in section 3.1.3 it is likely that ore dust would spill from rail cars and be deposited in wetlands adjacent to the rail line. No analysis of any type has been conducted to determine if such impacts would be significant.</p>	WE2,PD3

*Alphabetical by sender's first name*

<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
19263	<p>PolyMet “proposes a surface seepage collection system that would capture essentially all of the surface seepage and return it to the Tailings Basin until the seeps dry out”. Tribal cooperating agencies take the position, based on the existing available contaminant modeling, that seepage capture would be needed for hundreds or thousands of years to avoid water quality and quantity impacts to wetlands. Tribal cooperating agencies take the position that the method referenced in the DEIS (from Barr 2008, Lined Tailings Basin Alternative – EIS Data Request) is inadequate to assess indirect wetland impacts. This method ignores the fact that there is an area of uplands north of cell 2W which has constrained the movement and direction of tailings basin seepage. Therefore, using the northern extent of wetland impacts of 2W for 2E, north of which there are no uplands, is unjustified. Ignoring the presence of the upland area north of cell 2W creates an underestimation in the extent of wetland impacts due to seepage. Tribal cooperating agencies have suggested a more conventional method for indirect wetland impact estimation to the lead agencies (Methods for evaluating indirect hydrologic impacts to wetlands, March 26, 2009). This method could be applied at both the mine site and the plant site. The method proposed by tribal cooperating agencies was developed by a consultant for the Army Corps for use in another sulfide mine project EIS (Crandon Mine Project Environmental Impact Statement: Wetlands Technical Memorandum, 2003). In addition to having been developed by the Army Corps, this method has been presented by tribal technical staff at professional conferences (Society of Wetland Scientists Conference, 2009 and 55th Annual Meeting of the Institute of Lake Superior Geology, 2009). Tribal cooperating agencies do not agree that the unconventional method described in the DEIS can produce defensible results for indirect hydrologic impacts to wetlands. A more robust method should be used and the analysis presented in the DEIS so the public can review a science-based assessment of potential impacts. Tribal cooperating agencies note that there is a serious inconsistency between this section and information presented in Section 4.1.3.1 of the DEIS. Section 4.1.3.1 states: “Therefore, future impacts to the hydrology of the aquifer and wetlands downgradient of the Tailings Basin were estimated by comparing predicted seepage rates for the Proposed Action (Hinck 2009) with the estimated groundwater flux capacity of the aquifer (155 gpm)(Technical Memorandum: TB-2 and TB-14: Tailings Basin Seepage Groundwater Quality Impacts Modeling Methodology). The current seepage rate toward the Embarrass River from the Tailings Basin (Cells 1E/2E and 2W) is estimated at 1,795 gpm, which continues to result in the upwelling of seepage water into the wetlands as the seepage rate exceeds the aquifer flux capacity by over 1,600 gpm. Under the Proposed Action, the unrecovered seepage rate is predicted to increase to a maximum of approximately 3,800 gpm in Year 20, over 2,900 gpm of which would be attributable to PolyMet (Hinck 2009). Therefore, under the Proposed Action, a significant increase (&gt;100%) in groundwater upwelling relative to existing conditions would be expected. Some of this seepage water would drain to existing streams, but because of the generally flat topography and extensive wetlands, much of this water would be expected to form ponds and inundate wetlands.” Tribal cooperating agencies take the position that the latest relevant information developed for the water resources section has not been incorporated into the wetland impact section. The presentation of two different methods is confusing and does not provide an adequate assessment of wetland impacts. A thorough hydrologic impact analysis that incorporates actual seepage rates from the tailings facility should be conducted. In addition, these seepage rates should be used, in conjunction with t</p>	WR1A,WR3N,WE1,WE2
19264	<p>Tribal cooperating agencies take the position that data from the wetland delineations indicate that bogs are not the most prevalent wetland type. In fact, it appears that wetlands that require groundwater inputs: forested rich peatlands and poor fens are the most prevalent.</p>	WE1
19265	<p>Tribal cooperating agencies note that potentially impacted wetlands that are part of the 100 Mile Swamp were identified by the forest biologist in 1997 as “lacking ecosystem representation in protected areas.” (SNF 1997, January) Interest in protecting the unique character of these wetlands was based on their “watershed integrity, the presence of riverine ecosystems, and large amount of interior forest present.” This information was further substantiated in a report by the MnDNR titled “Evaluation of Selected Potential Candidate Research and Natural Resource Areas.” (SNF 1997, December) This document describes the 100 Mile Swamp wetlands as “these sites represent the highest quality remaining examples of characteristic ecosystems in each ecological Landtype Association on the Superior National Forest.” Tribal cooperating agencies take the position that this information must be included in the functional assessment for this project and included in the development of mitigation requirements for this project.</p>	WE2,WE3



*Alphabetical by sender's first name*

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19266	It is the position of the tribal cooperators that the proposed action and the preferred alternative would likely not comply with the requirements of §404(b)(1) guidelines, which do not allow a permit when there are practicable alternatives that would have less adverse effects, when the Project would lead to a violation of state water quality standards or when it would cause or contribute to significant degradation of waters of the United States. Other alternatives that were not considered in the DEIS (e.g. underground mining) would pose less harm to high quality wetlands, and may be less damaging to aquatic resources. As documented in Table 4.1-68, the Project would result in water quality standards violations.	ALT8,WR31,WE4,PD7
19267	DEIS 4.2.3.4 Tailings Basin Alternative states “It is recommended that existing wetland acreages and impacts be delineated prior to issuance of the Final EIS.” Tribal cooperating agencies take the position that this delineation should occur prior to the issuance of the DEIS so that the public can review a complete set of potential impacts from the project. Should it receive permits for its project, PolyMet will assume responsibility for all legacy contamination caused by the tailings basin to surface water, groundwater and wetlands. Therefore, tribal cooperating agencies take the position that the current exceedances, which are the result of decades of untreated discharges from the tailings basin, must be addressed by PolyMet as part of its closure plan.	WE1,WE2
19268	DEIS 4.2.4.2 Wetland Mitigation/Offsite Mitigation states that mitigation site analysis criteria were limited to sites of 100 acres or more. Fond du Lac has provided comments on several previous drafts of the EIS that the analysis should also have considered “clusters” of smaller potential sites. This recommendation has not been addressed.	WE3
19269	"Watersheds Neighboring Adjacent Watersheds" is an artificial construct that only serves to highlight the significant and permanent loss of wetlands within the St. Louis River watershed and the 1854 Ceded Territories. The significance of this permanent loss of resources within the Ceded Territories cannot be overstated.	WE2,CR1
19270	Mitigation Summary Tribal cooperating agencies take the position that unless the mitigation for the additional 475 wetland acres is identified in the DEIS, or there is a detailed statement of how the permit conditions would address the needed acres, the impacts must be considered unmitigated for purposes of the DEIS. The entire 4.2.4.4 Mitigation Summary section is inadequate. Any wetland restored after mine closure should not be included as any true mitigation because it cannot and will not ever compensate for the loss of wetlands during the 20+ years of mine operation. Mitigation ratios should be set higher for any “difficult to mitigate” wetland type such as forested, bog, and shrub wetlands. Furthermore, mitigation ratios should be fully discussed and finalized in the EIS and not in permitting.	WE3,WE4

*Alphabetical by sender's first name*

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19271	<p>DEIS 4.2.5.2 Cumulative Wetland Impacts – Partridge River Watershed states that the analysis was restricted to the Partridge and Embarrass River watersheds because “several of the primary functions performed by wetlands are directly related to watershed processes”. Fond du Lac notes that not all wetland functions are related to watershed processes, therefore, the cumulative effects analysis should not be limited by it. Fond du Lac disagrees with the statement that “no fens are known to occur in the Project area.” Tribal cooperating agencies take the position that, based on the data from the wetland delineations, there are fens in the project area. Tribal cooperating agencies disagree that limiting the analysis of cumulative wetland impacts to the Partridge River is appropriate. Tribal cooperating agencies take the position that wetland impacts related to regional mining operations throughout the area as well as large wetland impacts of the proposed PolyMet project to the Embarrass River watershed must be included. In addition, the analysis must include impacts related to changes in wetland functional values, only impacts related to direct fill. At a local scale, PolyMet is likely to impact wetlands in the Embarrass River watershed as water that percolates through the bottom of the tailings facility enters that shallow aquifer. This water, which is likely to have degraded quality, will re-emerge at the surface within wetlands of the Embarrass River watershed. The high chemical load of this water will affect wetlands by degrading water quality and altering the wetland functional values. In addition, PolyMet air emissions may deposit contaminants in the watershed of the Embarrass River and further degrade wetland quality. The full extent of wetland impact resulting from 20 years of emissions from the proposed PolyMet project via air and water must be quantitatively characterized. This quantitative analysis should be done using model output (air, surface and groundwater). A quantitative assessment of changes to functional values should include an analysis of the effects of 20 years of surface and groundwater emissions along with the additive effects of air emissions for Embarrass River Wetlands. Finally, the PolyMet project as proposed includes a possibility of post-closure contamination of surface and groundwater. The wetland cumulative impact analysis must include a quantitative analysis of the long-term effects of mine effluent on wetlands of the Embarrass River. If mine related effluent is to be perpetual, this section must discuss the effects of perpetual mine discharge on wetlands. In regards to the Partridge River watershed, the analysis correctly focuses on 3 timeframes of analysis; Pre Settlement Resources, Existing Resources, and Future Resources. However, the cumulative impact discussion includes only wetland loss due to direct fill. There is no attempt in the document to assess cumulative impacts that result in changes to functional values. The issue of changes to wetland functional value has been highlighted to the USACE and the MnDNR during technical meetings. The DEIS should provide a quantitative analysis of the cumulative changes in wetland functional values for the Partridge River. This analysis must include the functional value changes related to maintenance of features of the closed mine (e.g. changes in water quality of mine site wetlands, changes in water flow through mine site wetlands, etc.).</p>	WE1,WE5
19272	<p>At a regional scale, Iron Range taconite mining has impacted wetlands through direct wetland fill as well as indirect impacts due to air deposition of mine related contaminants, water quality degradation, and the flooding/dewatering of wetlands which lead to changes in wetland functional values. There are two additional geographic scales at which wetland cumulative impacts should be characterized: St. Louis River Watershed. Fond du Lac has identified this watershed as an area of concern. The cumulative impact analysis should quantitatively characterize the following: 1. The additive effect of PolyMet related air and water emissions to the Partridge and Embarrass River watershed wetlands and their impact on water quality of the St. Louis River. 2. The loss of wetlands and changes in wetland functional values in the St. Louis River watershed during the 3 timeframes, including a characterization of the potential for future mining impacts and the long-term maintenance requirements of the PolyMet mine as currently proposed. 1854 Ceded Territory. The Fond du Lac, Grand Portage, and Bois Forte Bands retain treaty guaranteed rights to harvest natural resources within the 1854 Ceded Territory. The cumulative impact analysis should quantitatively characterize the following: 1. The additive effect of PolyMet related air and water emissions to the wetlands of the 1854 Ceded Territory. 2. The loss of wetlands and changes in wetland functional values in the 1854 Ceded Territory during the 3 timeframes. 3. Loss of tribal access to wetlands in the 1854 Ceded Territory due to either the changes documented in 2. above, or due to mitigation of wetland impacts occurring outside of the Ceded Territory.</p>	WE5,G3,CR1

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
19273	It is the tribal cooperating agencies' position that while there is no current documented tribal use of said resources, most band members do not report their harvest sites. Therefore, it should not be assumed that there is no use of resources in these areas. Additionally, tribal cooperating agencies note that the Area of Potential Effect for the Project was not determined until August 11th, 2009, and tribal consultation under §106 NHPA is ongoing. Therefore, historic and current Tribal harvest has not been determined for either the Plant or Mine Sites.	CR2
19274	Tribal cooperating agencies note that the Area of Potential Effect for the Project was not determined until August 11th, 2009, and consultation under §106 of the NHPA is still ongoing between the USACE and the Tribes. Therefore, historic and current Tribal harvest has not been determined for either the Plant or Mine Sites yet. The tribal cooperators' position is that while there is no current documented tribal use of said resources, most band members don't formally report their harvest sites at the scale that would allow identification of proximity to the mine site. If species of tribal concern 'relocated' to other lands and these other lands were private lands, there would be a loss of opportunity to harvest. Recent studies from the MnDNR, the Natural Resources Research Institute at University of Minnesota-Duluth and Tribal natural resource management staff indicate that preservation of wetlands may be one of most important factors in maintaining the moose population in northeastern Minnesota.	WI3,CR1,CR2
19275	Tribal cooperating agencies disagree with the conclusion that the effect on statewide lynx populations would be insignificant; this analysis does not consider the possibility that the Mine Site might include critical components of lynx habitat present, such as den sites. The DEIS concludes that "Therefore, the Project would be likely to adversely affect, but not significantly affect the Canada Lynx because of the direct loss of designated critical habitat, fragmentation of additional habitat within the critical habitat boundaries, and the increased potential (albeit low) for incidental take resulting from vehicular collisions." Fond du Lac notes that there is no scientific basis for this conclusion, and in fact, consultation with the US Fish & Wildlife Service on the potential impacts of the Project to Canada lynx or any other ESA species has not been concluded. This is another critical deficiency of this EIS process, and must be addressed before the Project can proceed.	WI1
19276	Fond du Lac disagrees with the conclusion that "Therefore, the Project is not likely to adversely affect Bald Eagles because the Mine and Plant Sites are more than two miles from any known nesting sites and do not provide optimal habitat for nesting and foraging bald eagles." Impacts to bald eagles could result from eagle feeding sites within or adjacent to the project area. Contaminants from the mine site, specifically mercury and heavy metals, could affect prey species thus having secondary impacts on eagle reproduction.	WI1
19277	Tribal cooperating agencies have noted concerns in previous drafts of the EIS that the project may create attractive nesting sites where mining or heavy vehicle activity takes place. This could result in increased adult or nest mortality. The tribal cooperators do not see any new evidence or clear analysis to support the claim that the Project is not likely to adversely affect Wood turtles.	WI2
19278	Tribal cooperating agencies reiterate previous DEIS review statements that single species conifer plantations have little wildlife value.	WI4
19279	Tribal cooperating agencies strongly disagree with the conclusions presented in the wetlands section. The methodology used to predict the acres of wetlands indirectly impacted by the project pit dewatering are not adequate to assess indirect wetland impacts.	WE2
19280	Tribal cooperating agencies consider the loss of mature forest a significant impact, and note that the activities on the mine site will prevent more forest acreage from reaching this mature community state, representing a nearly permanent loss of habitat.	WI2
19280	Tribal cooperating agencies' position is that Corridor 11 (Emmons & Oliver 2006) is currently a poor and obstructed corridor (pending the long term success of a proposed revegetation corridor), and Corridor 12 will likely be degraded as a corridor by the Project; these impacts should be considered significant.	WI5

*Alphabetical by sender's first name*

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19281	The tribal cooperating agencies' position is that lake sturgeon were once prevalent in many tributaries to the Great Lakes, and that prior to the extensive dam construction on the lower St. Louis River, the upper St. Louis River was likely part of the historical range of the species. Tribal conservation officers have verified angler success in catching lake sturgeon upstream of the Minnesota Power hydropower dams in the past few years. The Fond du Lac Resource Management Division based its attempted restocking program on historical accounts of lake sturgeon abundance during the early logging period in Minnesota's history.	FM2
19281	The tribal cooperating agencies' position is that per Emmons & Oliver (2006), any new impacts to the existing wildlife migration corridors is by definition significant, and should require mitigation. No mitigation has been proposed for this impact. For the entire time period (decades) of mine development and operation, Corridor 12 would experience a significant direct loss or fragmentation of wildlife habitat, and impact the ability of many wildlife species to migrate throughout their ranges. Also, until the §106 consultation process between the USACE and the tribes is complete, it is not possible to determine the potential impacts to treaty-protected wildlife.	WI3,WI5,CR1,CR2
19282	The tribal cooperating agencies' position is that no conclusions about the presence of northern brook lamprey can be made in this analysis without specific surveys in the Project Area. Tribal fisheries biologists have definitively identified this species in the Dark River, just a few miles to the west of the St. Louis River.	FM2
19283	The tribal cooperating agencies' position is that there was not an adequate sampling effort to determine the presence of the creek heelsplitter ( <i>Lasmigona compressa</i> ) in the Project Area, particularly for a species that is already known to be limited in numbers or distribution. While the detection probability is low for each site, tribal fisheries biologists have sampled this species in the headwaters region of the St. Louis River, approximately a mile downstream of Seven Beavers Lake (B. Borkholder, pers. comm.) in 2008.	FM2
19284	DEIS 4.5.1.3 Habitat Conditions and Biotic Assemblages in Colby Lake and Whitewater Reservoir concludes that, in the absence of state-established biocriteria for fish communities, the fish assemblages/composition appear to be similar to what might be expected based upon physical and water quality conditions. The tribal cooperating agencies' position is that if there is data to support this statement, it should be cited in the EIS. The tribal cooperating agencies' position is that the benthic invertebrate data described in this section does not support a conclusion of good water quality. In the first place, the data is nearly 30 years old, and secondly, the presence of <i>Chaoborus</i> and the two other midge taxa is not indicative of good water quality; these species are not on the sensitive end of the pollution tolerance index.	FM2
19284	The tribal cooperating agencies' position is that the conclusions regarding potential anthropogenic impacts are in some cases inconsistent, and in other cases simply not defensible. The writers conclude that macroinvertebrate species richness (low EPT taxa) at one site may be of anthropogenic origin given its location downstream of the LTVSMC tailings basin, but dismiss that possibility with regards to the fish community. We would agree that most of these sampling sites represent headwaters habitat conditions (particularly B3), which alone can account for less-than-expected species richness. But there is no evidence to support a conclusion that low species richness in either the macroinvertebrate or fish communities is solely a manifestation of poor habitat, and not also potentially a result of previous mining impacts in the watershed. The QHEI scores are of little use in this analysis, as this index is notoriously poor in its power to distinguish the quality of habitat in headwaters streams; hard substrate is a key variable leading to a high QHEI score. In the technical report (Breneman 2005), the author expressed a disclaimer on the data interpretation from site B3, because of its habitat characteristics. It is critical to recognize that the six sampling sites in this survey represent 3-4 distinct habitat conditions, which is useful as background data but makes any comparisons problematic.	FM1,FM2
19285	The aquatic biota present in these streams have adapted over millennia to normal seasonal fluctuations in streamflow. But a reduction in summer baseflow would be expected to adversely affect the biota. The tribal cooperating agencies' position is that there is insufficient flow data and hydrologic modeling to support the conclusion that reductions in high end flows above Colby Lake would not have a significant effect on physical habitat for aquatic biota. Comments submitted on previous drafts of the EIS have expressed tribal technical staff concerns that any alteration of flow at the magnitude predicted will definitely result in a decrease of stream power, with a subsequent decrease in the size of particle able to be transported. Thus, increased sedimentation is likely to result.	FM2

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19286	The DEIS acknowledges “local factors related to Project Construction and operation have the potential to affect mercury bioaccumulation either through mobilization of mercury stored in rock, soil, peat and vegetation on site, or through factors that may enhance the methylation of mercury....The primary concern related to mercury for the NorthMet Project is the potential for releasing increased sulfate loads, which could promote mercury methylation.” Additionally, “...the Proposed Action would result in the release of sulfate to a high risk situation for mercury methylation” as defined under the MPCA’s mercury strategy. Monitoring, however, has only focused on sulfate and methylmercury concentrations downstream of the Project area, and has not included sampling fish tissue to determine actual bioaccumulation. It is not sufficient to simply monitor in-stream concentrations; the true biological endpoint that Fond du Lac is concerned about is fish tissue mercury concentrations. This section reveals one of the most likely, and most environmentally significant adverse effects of the Project: a worsening of the existing mercury in fish impairment in waters downstream of the Project area. Fond du Lac’s position is that increasing methylmercury bioavailability in these watersheds is unacceptable, as access to fish that can be safely consumed is an essential component of treaty resource harvest rights. Consultation with tribes on cultural resource impacts is ongoing, and the potential impacts to tribal members of a significant increase in mercury in fish harvested in on-Reservation and 1854 Ceded Territory waters has not been adequately addressed. The tribal cooperating agencies’ position is that any increase of methylmercury bioavailability in the Partridge River watershed constitutes a significant adverse impact to a critical trust resource. The State of Minnesota’s mercury TMDL process will not adequately address the fish consumption impairment in these waterbodies, and any new discharges that would result in further degradation to waters with an existing water quality impairment would not be legally permissible under the Clean Water Act (see <i>Friends of Pinto Creek v. EPA</i> (9th Cir.), known as the Carlota Decision).	WR4B,WR5C,FM1,FM2,F
19286	The DEIS assumes that PolyMet will be a “new”, rather than “existing”, source of air emissions and, as such, that it does not exceed major source thresholds, making it a minor source. As a minor source, PolyMet would not be subject to BACT or modeling requirements. Although PolyMet has agreed to perform modeling anyway, no BACT analysis was performed. However, it is Fond du Lac’s understanding, after conversations with the MPCA and the EPA, that the status of PolyMet as a new source is not a certainty. If it is determined that the PolyMet project is a modification to an existing source, the project would be major. This is because the thresholds are different for new sources and modifications to existing sources. As a major source, BACT would become applicable. Our concern is that if PolyMet is ultimately found to be a modification to an existing source, the FEIS will be incomplete if it does not include a BACT analysis. In Table 4.6-5, please also include minor source permitting thresholds, as these could turn out to be applicable. It is FdL’s belief that the DEIS should address this issue in the most conservative way, i.e. by assuming it is an existing source requesting a major modification. By assuming the more favorable scenario, the impression is given that this decision has been made and is final, when that is not the case.	AQ2,AQ4A
19286	Despite several comments from tribes on previous versions of the DEIS, it appears that the release of fugitive emissions of reactive waste rock have not been addressed. The Band continues to be concerned about this issue, and believes that this analysis needs to be completed.	AQ1
19286	Tribal cooperating agencies’ position is that existing contamination seeping from the LTVSMC Tailings Basin must be adequately addressed through PolyMet’s assumption of remedial liabilities under the VIC program, and that mitigation measures should be included and discussed in the draft EIS to ensure that no new exceedences of the chronic aluminum aquatic life use criterion will occur. Fond du Lac does not believe that simply monitoring for aluminum is sufficient to protect aquatic life, particularly when the existing seepage is already causing exceedences downstream.	WR1A,WR1E,FM2,FM4
19288	DEIS 4.6-9 The DEIS does not explain why more stringent controls for fugitive air emissions are to be used on Tailings Basin roads than on Plant Site roads. What is the reason for the difference in 60% control for Plant Site roads versus 80% control for Tailings Basin roads? Please explain why the facility is not proposing to use the extra controls on both sets of roads.	AQ1
19288	Tribes have also commented several times previously that air emissions from the proposed Keetac expansion project need to be included in the PolyMet air quality and mercury analyses. This is essential for a valid cumulative impacts analysis.	AQ4B

*Alphabetical by sender's first name*

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19288	DEIS 4.6-12 states that the FLAG Phase I report was used. Please discuss how use of the updated version of this document could change the findings.	AQ4
19288	DEIS 4.6-13 Modeling did not include current proposed tailings basin emissions. Increased emissions of PM10 and PM2.5 of 96 and 11 tpy, respectively, are expected. These emissions increases were initially deemed too low for concern. Then further analysis was done, but it has not been evaluated yet by the MPCA. The DEIS states that “data is included but should be considered preliminary”. Where is this data? It is critically important for this to be included in the DEIS (along with the applicable MPCA comments) not just in the FEIS, because by then the ability for tribes to comment will be past. This needs to be done because emissions from the facility are predicted to be very close to the NAAQS for PM2.5 (see comment below).	AQ4A
19288	DEIS 4.6-14 states that modeling for PM2.5 increment cannot be completed b/c EPA has not set a baseline date yet. The DEIS should state that the permit will be re-opened and this modeling will be done when the baseline date is set. That way, any needed mitigation can take place.	AQ4
19290	DEIS 4.6-15 states that the PM10 24-hr impact approaches the Class II increment level for the Mine Site. Fond du Lac cautions that Class II increment is very close to being fully consumed in this area. This is important to note due to all the expansion planned in the area.	AQ4B,AQ6,AQ8
19291	DEIS 4.6-16 The highest-sixth-high (“H6H”) corresponds to one exceedence per year, yet the standard says one exceedence is allowed per year, not over the five-year modeling period. Fond du Lac believes that the H6H from each of the five years of modeling should be examined to see if it exceeds the standard.	AQ4
19292	DEIS 4.6-17, Table 4.6-10. Fond du Lac notes that PM2.5 total is very close to the NAAQS (34 ug/m3 versus 35 ug/m3). This is especially concerning because PM2.5 emissions estimates from this project have a high degree of uncertainty. Again, this total comes very close to exceeding a health-based standard, with numerous new projects planned in the area. The DEIS needs to explain what measures are proposed to limit the chance of exceeding these standards. Will monitoring be conducted? What mitigation plans are in place if an exceedence is detected? What conservative measures were included in the modeling?	AQ5,AQ6
19293	DEIS 4.6-19 states that potential mitigation measures for visibility are located in Section 4.6.3.4, but that section is Tailings Basin Alternative. The section should instead be 4.6.3.5, Mitigation Measures.	AQ5
19293	The Tribal cooperating agencies’ position is that this analysis does not use the full particulate emission rate from the plant site, which would be 622 tpy using Table 4.6-6 with fugitive and mobile sources. Also unaccounted for are the additional 102 tpy from the tailings basin.	AQ4
19294	Fond du Lac notes conflicting statements due to risk effects. From the 2nd paragraph of this section, “Although the current Project utilizes LTVSMC tailings to develop a portion of the current Tailings Basin, sampling data from the LTVSMC tailings show that the toxic compounds are lower than the modeled tailings material, except for potentially for manganese, beryllium, cadmium, and antimony. Cadmium and antimony are included in this discussion, although the content of the LTVSMC tailings was below analytical detection limits... However, these four compounds were not drivers in the original risk assessment.” If cadmium is higher than what was modeled and is a major risk driver, this MEI analysis could be inconclusive as it does not take into effect the latest data. The Tribal cooperating agencies’ position is that regardless of the likelihood of farming being present at the boundary of the installation, the farm that is 6.5 miles away still might be within an area of exceedence of the MDH standard even though it is not at the maximum risk receptor point and must be evaluated to all direct and indirect toxic health risks associated with this project. It is also the position of the Tribal cooperating agencies that all risks outside the project boundaries need to be below MDH guidelines at the time that an air permit is issued to this facility.	AQ4,AQ6

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19295	<p>DEIS 4.6-28 Greenhouse Gases Fond du Lac has repeatedly requested that the lead agencies develop a comprehensive analysis of the Project’s potential impacts on climate change, beyond a greenhouse gas inventory. The Ninth Circuit Court of Appeals held in Nov 2007, for the first time, that federal agencies must assess carbon dioxide emissions and other climate change impacts in environmental review documents prepared under the National Environmental Policy Act (NEPA). The Court’s unanimous decision in <i>Center for Biological Diversity v. National Highway Traffic Safety Administration</i> arose out of challenges to new automobile fuel efficiency standards for light trucks and SUVs developed by the National Highway Traffic Safety Administration (NHTSA). The Ninth Circuit took the unusual step of ordering NHTSA to prepare an EIS assessing carbon dioxide emissions attributable to the new standards, as well as the actual environmental effects associated with climate change. Petitioners alleged that NHTSA’s environmental review under NEPA failed to: (1) take the requisite “hard look” at the carbon dioxide emissions and other climate change impacts attributable to the new CAFE standards. The fact that ‘climate change is largely a global phenomenon that includes actions that are outside of [the agency’s] control . . . does not release the agency from the duty of assessing the effects of its actions on global warming within the context of other actions that also affect global warming.’ While NHTSA did the calculations necessary to determine how much extra carbon dioxide would be emitted, it failed completely to discuss in any detail the global warming phenomenon itself, or to explain the benchmark for its determination of insignificance in relation to that environmental danger. The Court faulted NHTSA for failing to “discuss the actual environmental effects” of the proposed standard, and directed the agency to “evaluate the ‘incremental impact’ that [those] emissions will have on climate change or on the environment more generally in light of other past, present, and reasonably foreseeable actions. In light of the Ninth Circuit’s emphatic declaration that the “impact of greenhouse gas emissions on climate change is precisely the kind of cumulative impact analysis that NEPA requires agencies to conduct,” agencies cannot avoid evaluating climate change impacts for a broad range of projects requiring federal approvals or permits, such as energy facilities and transmission lines, casinos, landfills, mines, and transportation projects. The Court’s holding also suggests that simply quantifying emissions and comparing them to a baseline is insufficient. Instead, project proponents should be required to evaluate the interplay between a project’s emissions, emissions attributable to other past and reasonably foreseeable future actions, and the actual environmental impacts attributable to climate change.</p>	AQ3

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19296	<p>In addition to the broadly recognized services that wetlands provide, they also store significant amounts of carbon. It has been estimated that wetlands (only about 6% of the world’s terrestrial area) contain carbon equal to the total atmospheric carbon store (Intergovernmental Panel on Climate Change, Working Group 11: Impacts, Adaptation and Vulnerability, 5.8.1 (2001)). Much of the carbon stored in wetland soils and vegetation will be released if they are drained, and the release of carbon will exceed sequestration. A relatively simple response to climate change is prioritizing avoidance of wetland impacts. Wetlands store more carbon than any other ecosystem. Including carbon storage in the §404 permit avoidance and minimization sequencing through the ‘least damaging practical alternative’ evaluation would be a logical step towards reducing the regional carbon footprint. Carbon sequestration services provided by forested wetlands and peat bogs must be considered in the avoidance equation alongside mitigation. The American Society of Wetland Managers climate change recommendations include: •incorporating adaptations to climate change in water projects to add safety factors for floods and erosion •added ecosystem protection and adjustment goals reflecting anticipated climate changes such as low flow protection for fish and other wildlife. •Add protection of wetland carbon stores as an explicit goal of the §404 permitting program •require impact reduction and compensation •Consider the impact of proposed activities on carbon stores in regulatory Permitting The Minnesota Carbon Sequestration Project, an interdisciplinary research group, produced an assessment of the potential capacity for carbon sequestration in Minnesota’s terrestrial ecosystems, on the request of the state legislature. After analyzing existing scientific literature, land use, and current state policies and programs on carbon sequestration potentials, they released a report in 2008 entitled The Potential for Terrestrial Carbon Sequestration in Minnesota. Key findings from the team include: • Peatlands in Minnesota contain the largest carbon stocks in the state, in excess of 4 billion metric tons • Release of this carbon to the atmosphere as CO2 can result from peatland drainage and conversion • Release of this carbon to the atmosphere would accelerate global warming and require greater reductions in CO2 emissions elsewhere • Destruction of 1,000 acres of peatland in Minnesota from mining or other activities would increase the state’s total CO2 emissions by 2% over 2005 levels Their top recommendation was to “Preserve the existing large carbon stocks in peatlands and forests by identifying and protecting peatlands and forests vulnerable to conversion, fire, and other preventable threats.” The Minnesota Climate Change Advisory Group, a broad-based group of Minnesota citizens and leaders, including a representative from the Fond du Lac Environmental Program, was created to develop state-level policy recommendations to Governor Pawlenty. In 2008, the group released “Minnesota Climate Change Advisory Group Final Report”, which included the following findings and recommendations: • Wetlands have among the highest potential carbon-sequestration capacities for any type of land cover in Minnesota. Peatlands are likely Minnesota’s largest single carbon sink, containing 37% of all carbon stored in the state. • Protecting these enormous carbon reservoirs is critical • Policy goals include protect and restore northern peatlands; by 2015, identify peatlands at risk of releasing greenhouse gases because of lowered water table or industrial uses such as mining; design policies to protect peatlands and wetlands from drainage and other carbon-releasing land uses.</p>	AQ3
19297	<p>Fond du Lac acknowledges that climate change regulations and requirements have not yet caught up with policy in Minnesota. But this Project is clearly in violation of the science-based recommendations of multi-disciplinary experts across the state and throughout the country. Climate change litigation has resulted in a clear mandate for the EIS process: any project subject to environmental review must include a comprehensive analysis of climate change impacts.</p>	AQ3
19298	<p>DEIS 4.6-40 In order to meet the conditions of the statewide mercury TMDL implementation plan for new or expanded sources, PolyMet proposes to work with crematoria on mercury reductions, but only suggest working to quantify their emissions. This may include research or evaluation of control technologies, but the DEIS indentifies no real, enforceable requirements to take action. Any air permits issued must contain clear deadlines for actions.</p>	AQ5,AQ6A



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Comment ID	Comment Text	Theme Codes
19298	DEIS 4.6-37 The text states that “calculated visibility impacts greater than 5 or 10% could occur at some point within the BWCAW on a small number of days each year (a maximum of 23 days per year above 5% and one day above 10%)”. Fond du Lac does not believe that 23 days of visible impact on visibility per year can be characterized as “a small number”. The Federal Land Managers are concerned with any number of days with a visibility impact above 5%. While the Band realizes that mitigation discussions are still underway between PolyMet, the MPCA, and the FLM’s, we would still like to have options presented in the DEIS stage so that we may comment on them. At this point, it is impossible to know what scale of mitigation may be possible, especially as a number of other sources in the area intend to perform mitigation, as well.	EOO,AQ5
19299	DEIS 4.6-42 It appears that tribal comments found on this page have not been addressed. This should be done in the DEIS	AQ4
19300	DEIS 4.6-45 Analyses of cumulative acid deposition, Class I and Class II air impacts, and mercury do not include the Keetac expansion. The Fuel Diversification item is a different project from a few years ago.	AQ4B
19300	DEIS 4.6-44 Table 4.6-21 shows that the total cumulative modeled air concentration of 7.5 ug/m3 is very close to the Class I PSD Increment of 8 ug/m3. This is a concern to the Band due to the number of other new projects proposed in the area that will also emit related pollutants.	AQ4B
19301	It is the position of the tribal cooperating agencies that noise contour maps should be developed for inclusion in this PDEIS. Noise contour mapping would allow reviewers to assess the impacts of noise to all publicly accessible lands in the vicinity of the project which include large sections of the Superior National Forest immediately adjacent to the mine site (See figure 4.9-1). An assessment of noise impacts to all public access lands is important information for assessing cultural impacts to tribes with hunting, fishing and gathering rights in the 1854 Ceded Territory.	N1
19302	It is the tribal cooperating agency position that the Army Corps has not completed §106 NHPA consultation with potentially affected tribes. Therefore, this document does not estimate the potential degree of disturbance to tribal members who may be involved in traditional natural resource harvest harvests on national forest lands.	N1
19303	DEIS 4.7.3 Environmental Consequences/Summary concludes “Based on the above information, it is anticipated that the continuous generation of noise at the Plant and Mine Sites would have an insignificant effect on the noise environment during mine operations, Closure, and Post Closure.” Tribal cooperating agencies disagree with this conclusion. This document does not present enough information to make this claim.	N1
19304	DEIS 4.7.4 Cumulative Effects states “The cumulative effects of a few reasonably foreseeable projects (i.e., future developments) within a 10 mile radius of the Project area were also considered over the 20 years of Project mining.” Tribal cooperating agencies are not aware of any assessment that has been conducted. Contour mapping of cumulative noise sources should be presented in this section. Tribal cooperating agencies do not believe that an adequate cumulative impact of noise impacts analysis has been done. Meeting ambient noise standards is a different question than assessing impacts. Impacts should be fully characterized in this document and contour maps showing overlapping noise pollution from different projects provided. Without this information, it is not possible for the public to review the cumulative impacts of noise. In addition, the cumulative impacts of mine related vibration have not been assessed.	N6

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Comment ID	Comment Text	Theme Codes
19305	<p>It is Fond du Lac’s understanding that this chapter is still being revised, as part of the ongoing §106 NHPA consultation process with the tribes. We note that the EIS cannot be considered final under federal guidelines, or a Record of Decision issued, until this consultation process has concluded. The tribal cooperating agencies’ cultural resources staff have worked to improve and refine the information and analysis in this chapter, as the protection of treaty resources is our prime concern. While the USACE did not determine that the 1854 Ceded Territory is a Traditional Cultural Property, the Grand Portage Band has documented its disagreement with this determination. The tribal cooperators are proceeding in accordance with USACE’s offer to fully evaluate the Ceded Territory, including all factors that would be considered in a TCP analysis, pursuant to its trust responsibility. The USACE has not completed consultation with the potentially affected tribes regarding culturally important species. The extent of existing wild rice beds has not been fully characterized; consequently, evaluation of the impacts and cumulative impacts to wild rice has not been determined. Wild rice grows on the Embarrass River, the lower Partridge River, and the St. Louis River; the Minnesota water quality criterion of 10 mg/l sulfate applies to these waters. There are other regional projects (including Mesabi Nugget Phase II and Laskin Energy) that are discharging water with elevated constituents. With these existing sources, it is unlikely that PolyMet would be able to discharge untreated tailings basin effluent without violating the CWA. But treatment of the tailings basin effluent prior to discharge to the Partridge River is not included in the potential mitigation measures. There has not yet been sufficient evaluation of Band member use of vegetation and other usufructuary resources in the APE, and there is no permissible basis to omit such evaluation where the USACE and other federal permitting agencies have a trust responsibility to the Band to maintain treaty resources in the 1854 Ceded Territory. The APE for the Project was not determined until August 11, 2009, and tribal consultation is ongoing. Historic and current tribal harvest information has not been finally determined even for the Plant or Mine Sites. Although this area is significantly disturbed and will be for the foreseeable future, the closure and reclamation plans should have a significant effect on native vegetation as it is reintroduced. The prevalence of invasive, non-native species and their ability to out-compete native plants in disturbed areas, coupled with PolyMet’s plan to introduce non-native and invasive species to this area, would result in significant impacts to cultural resources that have not been discussed in the DEIS. Several wildlife species of high cultural and present-day value to Band members exist in the APE, including moose, whitetail deer, wolf, fisher, marten, and lynx. Most notably, the Minnesota moose population is under a long-term population decline. Mining operations will certainly do nothing to aid in the recovery of moose and are likely to reduce available habitat and impact travel corridors. Water, air, and noise pollution, combined with increased road density, have been shown to have negative impacts on most boreal wildlife species including wolves, moose, and lynx. Further evaluation of wildlife impacts must be done. Several lakes and the Partridge River watershed are likely to experience adverse water quality and hydrologic impacts, which will impact fish species and thus the Bands’ 1854 Treaty rights to harvest fish in those water bodies. The DEIS as written fails to mitigate the costs to fisheries and wildlife species that are protected under the 1854 Treaty. Treaty reserved fishing rights cannot be fully exercised when fish consumption must be restricted for health reasons to one or two meals per week. The entire DEIS must include proper anal</p>	G3,CR1,CR2,CR3,CR4
19305	<p>The Project is clearly inconsistent with several of the identified land use plans: the Minnesota Forest Resource Council Landscape Management Plan (in particular, the goal of “providing diverse habitat to maintain natural communities and viable populations for the plant and animal species in northeastern Minnesota”) and the St. Louis River Management Plan (the goal “to promote preservation and improvement of water quality, recreational opportunities, ecological health and archaeological resources”). The mitigation measure (using native seed mix) is not sufficient to compensate for the adverse impact.</p>	CPLU1,CPLU2

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Comment ID	Comment Text	Theme Codes
19306	It is Fond du Lac's position that, because the Project would create a situation where the applicant would enjoy substantial financial gain while potentially creating disproportionately high and adverse human health or environmental effects on minority and low income populations, the Project requires a complete analysis of environmental justice (Executive Order 12898, signed by President Clinton on February 11, 1994; EPA's website at <a href="http://www.epa.gov/compliance/environmentaljustice">http://www.epa.gov/compliance/environmentaljustice</a> ). The casual dismissal of environmental justice issues in the DEIS is offensive. A simple recitation of census numbers and proportions of Native Americans in the regional and statewide populations is not a legitimate analysis. There are significant environmental justice concerns with the Project, including but not limited to: loss of usufructuary rights, permanent loss of wetlands in the 1854 Ceded Territory and the subsistence and cultural benefits they provide, increasing mercury in fish harvested from reservation and Ceded Territory waters, loss of wild rice resources, loss of wildlife species. These impacts must be fully considered in the DEIS.	SE2
19306	Since the proposed land exchange between PolyMet and the USFS/Superior National Forest has not even begun formal review, it is appropriate to consider the Project's compatibility with SNF plans. During preparation for the Forest Plan revision in 1997, SNF set about identifying natural areas on the Forest to potentially designate for permanent protection, to be maintained as natural. Their approach was to develop a list and general description of the highest quality remaining examples of common ecosystems present within each Landtype Association ("landscape"). Forest biologist Robin Vora conducted that assessment. His results were presented in a report titled "Identification of Potential Natural Areas, Including Representative Ecosystems, on the Superior National Forest." In the report he notes, "A network of natural areas helps to protect biological diversity at the genetic, species, ecosystem, and landscape scales. Natural areas representative of common ecosystems in natural condition serve as baseline or reference."	CPLU3
19306	In most cases, determination of the level of discussion on biological diversity should, as with all impacts, be made during the scoping process. The scoping process should be used to identify whether biological diversity will be an important consideration in the environmental analysis. Biological resources are important ecologically and economically. At the ecosystems level, maintenance of structural diversity and functional integrity is essential to the continued provision of important ecological services, such as regulation of hydrologic cycles, and carbon and nutrient cycling. Healthy, functioning ecosystems are necessary to support commercially and recreationally important fish and wildlife populations. Furthermore, the aesthetic, ethical, and cultural values associated with unique forms of life lend additional support to the establishment of biological conservation as public policy (Wilson, E.O. ed. 1988. Biodiversity. National Academy Press, Washington, D.C.) Physical alteration, as a result of resource exploitation and changing land use, is the most pervasive cause of biodiversity loss. Ecosystem alteration includes habitat destruction, simplification, and fragmentation. When natural areas are converted to industrial, residential, agricultural, military, recreational, or transportation uses, ecosystems are disrupted and biodiversity diminished. Beyond the direct removal of vegetation and natural landforms in local areas, development of sites for human use fragments larger ecosystems and produces isolated patches of natural areas. Climate change impacts biodiversity as well: the ability of ecosystems to shift their locations would be further hindered by fragmentation of the natural landscape that places inhospitable environments between current and future ranges. There are general principles of ecosystem management: minimize fragmentation (promote natural pattern and connectivity of habitats); protect rare and ecologically important species; protect unique or sensitive environments; that promote or protect biodiversity. This project is clearly inconsistent with those principles	AQ1
19308	The public process for the DEIS was grossly deficient in ensuring effective public participation and access to information to the Native American population potentially affected by the Project. The public hearings were tightly controlled, and did not include an opportunity for the tribal cooperating agencies' technical staff to provide their perspective to the public.	EOO
19309	The EIS process will not be complete or adequate until a full analysis of environmental justice issues has been conducted.	SE2
19310	The Tribal cooperating agencies' position is that the Army Corps has not completed consultation with potentially affected tribes. Therefore, this document does not estimate the degree of disturbance to tribal members who may be involved in traditional natural resource harvest harvests on national forest lands.	CR2,CR4

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
19310	Tribal cooperating agencies' position that the use of a few visual receptors to assess PolyMet related visual impacts is not adequate. Using this method means that the conclusions presented in this chapter apply only to those visual receptors and do not apply to any other publicly accessible area in the vicinity of the proposed project. Tribal cooperating agencies have requested that a more complete Visual Impact Assessment (VIA) be developed for inclusion in this PDEIS (GLIFWC Comment letter of June 30, 2008 and GLIFWC comment letter of February 6, 2009). Methods for a complete VIA were developed and used for other mine proposals as part of the Army Corps federal EIS process (Crandon Mine EIS Preliminary Draft Technical Memorandum: Visual Resources Section of Draft Chapter 3, November 2002). Despite these comments and Corps precedent, a complete VIA has not been included in this iteration of the PDEIS. A complete VIA would allow the public to review the impacts of project features to all publicly accessible lands in the vicinity of the project which include large sections of the Superior National Forest immediately adjacent to the mine site (See figure 4.9-1). A VIA of all public access lands is important information for assessing cultural impacts to tribes who have retained the right to hunt, fish and gather on national forest lands	VI1
19311	DEIS 4.11.4 Cumulative Effects concludes "Therefore, there would be no long-term impacts during the Project life and Post-closure relative to Visual Resources and no cumulative effects analysis would be warranted." The Tribal cooperating agencies' position is that a cumulative impact of visual impacts analysis is needed. A thorough VIA following past Army Corps practices has not been conducted for this project and tribal consultation regarding cultural impacts have not been completed. Therefore, this conclusion is premature. Finally, the Tribal cooperating agency position is that the introduction of non-native, invasive species as a revegetation measure may have longterm visibility impacts to the site. It is the Band's understanding that the company and the Federal Land Managers are close to an agreement for visibility mitigation that is not fully fleshed out in the DEIS. Please address further.	VI2
19312	DEIS 4.13 Geotechnical Stability/ Environmental Consequences discusses waste rock slope stability analysis (deferred until permitting), low safety factors at the Tailings Basin because of slimes, and unknown stability or presence of slimes underlying the proposed Hydrometallurgical Residue Facility. The Tribal cooperating agencies' position is that this approach is not consistent with the federal EIS process. The purpose of this document is to provide information for all reasonably foreseeable impacts. The lack of a stability analysis for the stockpiles is a serious data gap given the serious environmental consequences of a structural failure of a stockpile. The structural stability of the tailings basin has been a serious concern since the PolyMet project was first proposed. This concern has led to the development of at least three different tailings basin designs that have been presented in various draft documents. Contractors reviewing these designs have expressed serious concerns with both the shortterm and the long-term stability of the facility. Tribal cooperators take the position that given the history of design problems, it is irresponsible to postpone a serious analysis of the structural integrity of the latest tailings basin design until the permitting stage. A complete stability analysis must be included in the DEIS to comply with NEPA and so that the public can review a complete set of possible environmental impacts associated with this project. The hydrometallurgical residue facility would contain the most hazardous waste materials produced by this project that, if released to the environment, would cause serious and long lasting contamination. The unknowns listed in the DEIS are a serious data gap and the tribal cooperating agency position is that the analysis should be conducted and included in the DEIS to comply with NEPA and so that the public can review a complete set of possible environmental impacts associated with this project.	GT1
19313	The Tribal cooperating agencies' position is that the existing facility has stability concerns before any Polymet tailings have been deposited on top of it. This simple fact illustrates the need for a complete structural stability analysis to be performed and included in the DEIS.	GT1
19314	Tribal cooperating agencies strongly disagree with this approach. The Tribal cooperating agencies' position is that this approach is not consistent with the federal EIS process. The EIS must identify alternatives and mitigation methods that address potential problems with the project. Sufficient data must be collected so that a complete structural integrity analysis can be performed and included in the DEIS.	GT1
19314	The Tribal cooperating agencies' position is that this approach is that the analysis must be conducted prior to permitting and included in the DEIS.	GT1

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<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
19316	Tribal cooperating agencies strongly disagree with this approach. The Tribal cooperating agencies' position is that the purpose of an EIS is to identify mitigation measures that address potential problems in the project. The analysis described in the previous paragraph must be conducted prior to permitting and included in the DEIS.	GT1
19317	The Tribal cooperating agencies' position is that given the lack of confidence in the structural integrity of the tailings basin, the dam break analysis and risk assessment must be conducted prior to permitting and the results included in the DEIS so that the public can be fully informed about the risks associated with this project.	GT1
19318	Climate Change implications of the proposed project. The project would disturb extensive areas of peat (Section 4.2) Peat is known to be an important carbon sink. Wetlands in general are recognized as important carbon sinks and areas where wildlife will seek refuge as the climate warms.	AQ3
19318	It is the position of Tribal cooperating agencies that the CEQ guidelines on cumulative effects were only one of the sources used to develop the "Protocol to Assess Expanded Cumulative Effects on Native Americans." This protocol was submitted to the lead EIS agencies with the expectation that the additional information detailed in the protocol would be used to assess cumulative impacts on the potentially affected tribes. The Tribal cooperating agency position is that while the protocol is mentioned in this section, none of the expanded data collection or analysis that the protocol recommends was done. Therefore it is the tribal cooperating agency position that the cumulative impact section is incomplete and does not properly assess cumulative effects of the proposed project on natural and cultural resources.	G8C
19319	Cumulative impacts to plant and animal species that are not listed as threatened or endangered. The focus of the EIS on listed species is understandable but other species that are important to tribal and non-tribal members would likely be impacted by mining projects. Moose, for example, are likely to be impacted through disturbance along the few wildlife corridors remaining along the Mesabi range and through wetland impacts of this project. At a time when moose populations in Minnesota are declining, this analysis is particularly important and should be done as part of this EIS.	WI5
19319	Cumulative impacts to wild rice. Wild rice is a valuable tribal resource that has been declining throughout the 1854 ceded territory. Mine effluent is often associated with levels of sulfate that has impacted wild rice and hydrologic changes from pit dewatering and seepage from tailings basins can also impact wild rice, which is dependent upon a relatively stable hydrologic regime. The cumulative impacts to wild rice have not been assessed	WR5A,WR5C,CR1,CR2
19320	The Cumulative effects of noise and vibration. These issues have not been analyzed although they were raised by the public during scoping.	N3,N6
19320	The DEIS fails to adequately analyze cumulative impacts to the water quality of the Partridge, Embarrass, or St. Louis Rivers. In Colby Lake, the community water supply for the City of Hoyt Lakes, aluminum, iron, copper, and mercury concentrations already exceed Minnesota water quality standards. The existing large number of water quality exceedances and the suite of constituents, particularly trace metals, exceeding standards shows the site has not been remediated from previous mining activities. Additionally, amphibole or asbestos-like mineral fibers, known to cause digestive tract cancers in high concentrations, have been identified as existing pollutants in the Hoyt Lakes community water supply and their presence should be identified in the DEIS. Related cumulative-impacts issues such as groundwater drawdown or mounding due to multiple mine projects, water quality in aquifers impacted by previous and existing other mine projects, and surface waters such as the Partridge and Embarrass Rivers and Second Creek that are impacted by multiple mines need further analysis. In particular, the contribution of legacy contamination from the LTVSMC plant site and tailings basin must be fully evaluated.	WR5A
19320	The cumulative effects on fish and macroinvertebrates. This discussion is limited to sulfate and mercury. Cumulative effects of habitat degradation on the fisheries of the region have not been discussed.	FM3
19320	The Cumulative risk analysis of transportation of hazardous materials. This issue has not been analyzed.	HM3

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19320	The cumulative effects of the Project on the 1854 Ceded Territory has not been addressed.	G3,CR4
19322	The cumulative effects on air quality have not been adequately addressed. The cumulative analysis did not account for all of the PolyMet emissions from the tailings basin, nor did it factor in emissions from the Keetac Expansion Project. The attainment for PM2.5 is questionable because the 24 hr standard is almost met without those sources included in the modeling. The Class 1 PM10 increment analysis did not take into account the full particulate emissions from the tailings basin. That analysis also did not factor in any emissions from the Keetac Expansion Project, which plans to increase production by 61% by reopening another furnace line, nor is there any mention of the Essar Steel Expansion project that is planned. The present analysis showed that there was very little increment left without accounting for these sources and that as such it would have a significant impact by exceeding the increment limit. Data from the Central Regional Air Planning Association (CenRAP) indicate that visibility in Minnesota Class I areas is not expected to improve as much as is required by the Regional Haze Rule, even with expected reductions. Aggressive mitigation of NOx emissions is expected by the MPCA and the FLM's during the permitting process. The Tribal cooperating agencies should be included in these discussions to the extent possible.	AQ4B
19322	Fond du Lac is specifically concerned that water quality within the St. Louis River has already been degraded by past and present mining activities, as documented by Fond du Lac and 1854 Treaty Authority monitoring. Additional discharges of sulfate, mercury and other trace metals will have a cumulative effect on water quality in the St. Louis River. An Antidegradation Analysis for the Lake Superior Basin must be conducted for several contaminants in addition to mercury. The results of this analysis should be included in the DEIS.	WR5A
19324	For the reasons stated below, the DEIS is legally and technically flawed because it improperly segmented the decision regarding a possible land exchange into a separate environmental analysis, eliminated viable alternatives from its analysis, failed to adequately the cumulative impacts associate with this project, and insufficiently analyzed the environmental consequences to numerous resources such as water quality, wildlife, wetlands and air quality. Accordingly, the Sierra Club requests that DNR and the Corps conclude the NorthMet Project will cause significant and irreparable environmental harm and reject the Proposed Action. Alternatively, we request that DNR and the Corps fully and completely address the following deficiencies and concerns surrounding the DEIS and re-issue the DEIS for further public comment.	G8
19324	please see your way clear to supoort polymet mining.....	EOO
19324	In summary, Fond du Lac believes that the DEIS as published does not contain sufficient detail or complete analysis to ensure that environmental consequences of the Project have been fully considered, and the public provided opportunity for review. The deficiencies identified throughout the EIS process by the tribal cooperating agencies have been rarely addressed, let alone incorporated into the analysis. Outstanding significant issues include: • Elimination of the underground mining alternative • Inadequacy of scoping process • Inclusion of the proposed land exchange in this EIS process • Full discussion of appropriate financial assurance for reclamation, remediation and restoration of resources • Long-term treatment of contaminated water/consistency with maintenance-free closure goals • Clear discussion of PolyMet liabilities for legacy contamination, and inclusion of existing levels of groundwater contaminants in modeling predictions • Indadequate water quality impacts analysis • Project's affect on existing water quality impairment (mercury bioaccumulation) • Project's affect on wild rice waters (sulfate loadings) • Project's affect on wildlife corridors • Project's affect on air quality (new source of mercury; visibility in Class 1 airshed) • Inadequate analysis of geotechnical stability (waste rock stockpiles, tailings basin, hydrometallurgical residue cells) • Inadequate hydrologic and geochemical characterizations using all existing data; insufficient new data to support modeling and assumptions • Inadequate assessment of indirect impacts to wetlands • Inadequate cumulative effects analysis, across all resource categories • Inadequate analysis of impacts to the 1854 Ceded Territories and exercise of treaty rights • Inadequate analysis of environmental justice issues • Inadequate analysis of climate change impacts Fond du Lac expects that supplemental information and analysis must be forthcoming before the EIS process can conclude. We look forward to continued involvement and consultation on this Project and EIS process.	G8

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19324	The piecemealing of the environmental impacts analysis is a violation of NEPA. First, despite PolyMet’s claims, the Forest Service has a duty to protect the surface lands of the Superior National Forest. Second, any possible land exchange is a “connected action” that the agencies must analyze under one EIS. Finally, as a connected action, there are numerous areas of environmental review that the DEIS unlawfully fails to address	ALT8
19326	The Forest Service has the duty to protect the public’s surface lands for forests, water, and multiple uses under NFMA, the Organic Act, and the Property Clause. Congress has the power under the Property Clause to regulate federal land. U.S. CONST. art. IV, § 3, cl. 2; California Coastal Comm’n v. Granite Rock Co., 480 U.S. 572, 580 (1987). Congress may even regulate conduct occurring on or off federal land which affects federal land. <i>Kleppe v. New Mexico</i> , 426 U.S. 529, 539 (1976).	PD2
19327	The proposed NorthMet Mine fails the independent utility test. First, as discussed above, the Forest Service interprets PolyMet’s deed language to the mineral rights as prohibiting open pit mining. DEIS at S-1. This is consistent with Eighth Circuit precedent, which holds that even in the face of private mineral rights the Forest Service has limited but substantial authority to “determine the reasonable use of the federal surface.” See <i>Duncan</i> , 109 F.3d at 498. Therefore, without the land exchange, the proposed NorthMet Project would not move forward. This project thus fails the independent utility test because it cannot reasonably be completed without the land exchange. See, e.g., <i>Wetlands Action Network</i> , 222 F.3d at 1118; <i>Utahns for Better Transp.</i> , 305 F.3d at 1183; <i>Native Ecosystems Council</i> , 304 F.3d at 894.	PD1
19327	Thus, although the United States and PolyMet currently disagree regarding whether PolyMet has the authority to open pit mine these minerals on the Superior National Forest, DEIS at S-1, the case law and Eight Circuit have clearly established that the Forest Service has substantial authority to itself “determine the reasonable use of the federal surface.” <i>Duncan</i> , 109 F.3d at 498. Since the NorthMet Project mine site is located on the Superior National Forest, DEIS at S-1, the Forest Service has the ability, right, and duty to restrict open pit mining on the national forest.	PD1
19328	Land transfers of public lands for private lands have recently been held to fully change the scope of environmental under NEPA, warranting acknowledgment and analysis within an EIS. <i>Center for Biological Diversity v. U.S. Dep’t of Interior</i> ,	PD1
19328	The DEIS identifies and considers in detail three alternatives: (1) the “no action” alternative; (2) the mine site alternative; and (3) the tailings basin alternative. DEIS at 3-50 – 3-62. The fundamental difference in the mine site relative to the proposed action is the long-term treatment and disposal of the waste rock at the Mine Site. This alternative would subaqueously dispose of the most reactive waste rock (Category 2, 3 and 4) in the East Pit while the least reactive waste rock (Category 1 and overburden) would remain as a permanent surface stockpile. DEIS Summary 2-15. The Tailings Basin Alternative consists of a modified design or layout to reduce the Proposed Action’s potential impacts to surface and ground water quality at the Tailings Basin. This alternative is the combination of several potentially viable individual mitigation measures to address seepage and geotechnical stability in the Tailings Basin. DEIS Summary 2-16. Thus, none of the alternatives evaluated in the DEIS involved different mining techniques or a different scale or magnitude of mining.	PD1
19328	As in <i>Center for Biological Diversity</i> , examining the environmental impacts of the proposed NorthMet project would substantially change if the agencies considered how land was owned, in particular applicable federal regulations under federal ownership. The DEIS would analyze the project’s potential impacts in light of the applicable federal requirements, such as the Organic Act, National Forest Management Act, and others. Since these regulations establish different standards and guidelines, the applicability of these regulations would significantly change the environmental impacts analysis and scope of issues that the environmental analysis must consider. For instance, the Superior National Forest Plan has far different standards than were used under the DEIS, such as “watersheds . . . are maintained or restored in a way that allows for the conservation of genetic integrity of native species,” which would substantially alter the analysis. <i>Superior National Forest Land and Resource Management Plan</i> , July 2004.1	PD1

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**Theme Codes**

19328 Minnesota Rules states that an agency may exclude an alternative if “it would not meet the underlying need for or purpose of the project; it would likely not have any significant environmental benefit compared to the Project as proposed; or another alternative, of any type, that will be analyzed in the DEIS would have similar environmental benefits but substantially less adverse economic, employment, or sociological impacts.” MN Admin. Code § 4410.2300(g). This rule does not allow an agency to eliminate an alternative that would have significant environmental benefit simply for economic reasons. The agencies eliminated an underground mining alternative because it determined that this alternative did not meet the purpose and need of project because such an alternative “was not economically viable.” DEIS at 3-64, Table 3.2.4. In addition, the agency eliminated this alternative because it claimed that the ore deposit is shallow and could increase safety concerns. Id. Finally, although not specifically referencing underground mining, the DEIS states that it eliminated alternative metal extraction technologies – underground mining is an alternative metal extraction technology – because it determined that “it would not have significant environmental benefits over the proposed action.” DEIS at 3.68. The cooperating tribal agencies disagreed with this rationale noting the significant environmental benefits of underground mining and a study by U.S. Steel of this mineral deposit, which recommended underground mining because the ore depths were so great that open pit mining would not reach them. Id. In addition, the agencies eliminated alternatives that had a modified scale or magnitude. The agencies determined that although these alternatives offered environmental benefits, the agencies still eliminated them because the reduced return on investment they were not economically feasible. DEIS at 3.70. The agencies did not attempt to link this rationale with the project’s purpose and need. Id. Each of the rationales advanced by DNR and the Corps are legally deficient reasons to eliminate underground mining or reduced scale as alternatives that the DEIS should have evaluated. First, the ecological costs of open-pit mining and above ground disposal of tailings and waste rock are immense. Underground mining would not destroy the breadth of wetlands that the proposed project would destroy. In addition, with underground mining there is no waste rock and above ground disposal issues because the toxic material is left underground. This greatly reduces the impacts to groundwater and surface waters. These are just a few of the environmental benefits that the DEIS should have explored in its comparative analysis of the underground mining alternative. In addition, a project of reduced scale would obviously have immense environmental benefits. Therefore, the agencies should have considered a smaller project alternative and compared the environmental impacts of the proposed project with this reduced scale alternative. MN Admin. Code § 4410.2300(g) (agency may exclude an alternative if “it would likely not have any significant environmental benefit compared to the Project as proposed”). Second, Minnesota regulations do not allow an agency to eliminate an alternative for economic reasons. See MN Admin. Code § 4410.2300(g). Thus, the agencies elimination of the modified scale alternatives is not justified under Minnesota law. The agencies should thus modify the DEIS to include this alternative in its detailed analysis. With regard to the underground mining alternative, the agencies attempt to shoe-horn this illegal economic rationale into the purpose and need exemption. DEIS at 3-64, Table 3.2.4 (agencies eliminated underground mining alternative because it determined that this alternative did not meet the purpose and need of project because such an alternative “was not economically viable.”). This rationale is not legally defensible because the purpose an

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19331 The DEIS’ analysis of cumulative impacts is conclusory and lacks any specific analysis. These are discussed in detail throughout these comments; however, the following example demonstrate the DEIS’ inadequacy. In discussing wildlife corridor impacts from the NorthMet Project in light of the other “reasonably foreseeable projects” the DEIS states: “the other reasonably foreseeable projects are anticipated to affect nine of the 13 wildlife travel corridors identified by Emmons and Olivier. . . . These impacts should be considered significant; however, relative to the impacts from these other reasonably foreseeable projects the contribution of the NorthMet project to cumulative effects on wildlife corridors would be minor.” DEIS at 4.4-32.

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**Comment ID    Comment Text**

**Theme Codes**

19331	DNR and the Corps used an inadequate scope of projects for its cumulative impacts analysis. First, the NorthMet Project acknowledges that the current project will only utilize approximately 30% of the existing processing plant's capacity. Yet nowhere in the DEIS do the agencies account for the probable expansion of this processing plant to 100% of its capacity. See PolyMet Mining Advancing Port Production Cooper, Nickel and Precious Metals in US at 8, 17 (2009) (attached hereto). Second, the agencies arbitrarily restrict the projects that they consider "reasonably foreseeable." For instance, with regard to cumulative effects to water resources, the DEIS states "In order to be reasonably foreseeable, an activity cannot be simply speculative, but should be included in government plans and budgets or, for private projects, have filed for required permits." DEIS at 4.1-173. To require that a project must "have filed for permits" in order for it to be considered for cumulative impacts is imposing an unreasonably strict definition of what is a reasonably foreseeable impact. For example, there are several mining projects in the advanced stages of exploration that DNR and the Corps should have considered as reasonably foreseeable. These projects include the Duluth Metals Ltd (Nokomis deposit) and the Franconia Minerals Corp (Birch Lake deposit). Ignoring the potential for these developments understates the cumulative impacts to the region. DNR and the Corps also arbitrarily restricted "reasonably foreseeable" future actions with regard to its analysis of cumulative impacts on wildlife. Once again the agencies failed to include the Duluth Metals Ltd (Nokomis deposit) and the Franconia Minerals Corp (Birch Lake deposit) in its list of future mining projects. See, DEIS at 4.4-27, 4.4-31; Barr Engineering Co., Revised Cumulative Effects Analysis – Wildlife Habitat and Sensitive Wildlife Species (March 31, 2009) at p. 21- 24. Ignoring the potential for these developments inappropriately minimizes the	ALT8,G1
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<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
19332	<p>The DEIS does not adequately disclose the full-range of potential impacts associated with the NorthMet Project because critical relevant data was not obtained. In addition, although the DEIS acknowledged a few of these data gaps, it did not claim that the information was not obtained due to financial reasons. Instead the DEIS just makes conclusions about impacts and alternatives based on this inadequate information. This is inadequate under NEPA. Under NEPA’s implementing regulations: “If the incomplete information relevant to reasonably foreseeable significant adverse impacts is essential to a reasoned choice among alternatives and the overall costs of obtaining it are not exorbitant, the agency shall include the information in the environmental impact statement.” 40 C.F.R. § 1502.22. The data gaps in the DEIS are “essential to a reasoned choice.” 40 C.F.R. § 1502.22(a). Without this information, DNR and the Corps are not fully informed regarding the environmental consequences associated with the Proposed Project and its alternatives. Since the agency did not claim that these data gaps were the result of exorbitant costs, the DEIS is inadequate because the information discussed below is missing. For instance, the DEIS omitted mercury from its modeling and transport analysis for water quality impacts. Specifically, the DEIS states: “The models predicted concentrations for 26 parameters (i.e., silver, aluminum, arsenic, boron, barium, beryllium, calcium, cadmium, chloride, cobalt, copper, fluoride, iron, hardness, potassium, magnesium, manganese, sodium, nickel, lead, antimony, selenium, sulfate, thallium, vanadium, and zinc). Mercury was not included in either model because data for mercury were not available for stockpile liner leakage (RS53/42, SRK 2007) or groundwater recharge from the East and West pits (RS31, SRK 2007).” DEIS at 4.1-108. This omission of data is especially troubling because the water bodies impacted by the NorthMet Project do not comply with mercury water quality standards, discussed in detail later. In addition, the agencies do not claim that this data was omitted due to cost concerns. 40 C.F.R. § 1502.22. In addition, the DEIS provides insufficient information regarding stream flow data. The DEIS only provides information for the Embarrass River to 1964 and for the Partridge River to 1988. The DEIS completely fails to provide stream flow rates or water quality data for important stretches of the Embarrass and Partridge Rivers, such as Trimble and Spring Mine Creek. Later in these comments, Sierra Club addresses how flow fluctuations are an important factor in methylation. So without this information it is difficult, if not impossible, for DNR and the Corps to predict the water quality impacts to these water bodies; making it impossible to render a reasoned decision. Once again, the agencies do not provide a reason for this data gap. This is inadequate under NEPA. 40 C.F.R. § 1502.22. Finally, the DEIS provides insufficient information regarding the environmental impacts associated with aluminum leaching and groundwater. Even though the agency recognized the NorthMet Project would leach aluminum in significant quantities from the Tailings Basin, DEIS at 4.1-69, the agency did not model aluminum transport through groundwater because the existing concentrations in groundwater already exceeded water quality standards. DEIS at 4.1-78. Once again, the agencies do not provide a reason for failing to obtain this information. 40 C.F.R. § 1502.22. Without this information it is difficult, if not impossible, for DNR and the Corps to predict the groundwater quality impacts associated with aluminum.</p>	WR1E,G8
19333	<p>There are seven species that are federally or state listed as endangered, threatened, or considered species of special concern; 58 species that are considered Minnesota Species of Greatest Conservation Need, and 23 species listed on the USFS’s Regional Foresters Sensitive Species list that the NorthMet Project may potentially impact. The DEIS analyzes the direct, indirect, and cumulative effects of the project on these wildlife, wildlife habitat, and travel corridors. This analysis, however, is deficient for a number of reasons.</p>	WI2

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Comment ID	Comment Text	Theme Codes
19333	<p>Portions of the Mine Site lie within the revised boundaries of federally designated lynx critical habitat. DEIS at 4.4-3. The USFWS designated this critical habitat on February 25, 2009. 74 Fed. Reg. at 8,642 The DEIS mistakenly relies upon an assumption that there is no presence of Canada Lynx within the project area. Based upon a single year (2006) winter survey and several summer surveys, it stated that evidence of 20 different lynx were identified within 18 miles of the project site, including reproductive individuals, and that the nearest sighting was six miles from the Mine Site. DEIS at 4.4-3 First, the DEIS does not analyze at what point in the lynx-hare population cycle, the lone winter tracking survey was conducted. Lynx populations cycle according to the availability of their favorite prey and primary food source, snowshoe hare. This prey tends to cycle within a ten year term. The DEIS does not provide any information as to what point we are within the lynx-hare cycle, currently or when the winter survey was done. Moreover, analysis is needed of the full cycle, to obtain an accurate portrait of lynx numbers. This is especially important when the lynx populations are high. Population surveys of the lynx for just one year are meaningless without an understanding of where we are in the lynx-hare population cycle, and survey information is required for several of years immediately before and after the 2006 survey. It is anticipated that we are at the near low of the ten year cycle, but the DEIS provides no guidance on this issue whatsoever. Second, in order to be capable of providing more definitive conclusions about lynx presence and use of the Project area, the DEIS should have included winter lynx tracking data from several consecutive years, but it did not. The DEIS improperly relies upon a single winter survey in 2006 and numerous summer surveys. The DEIS claims that no lynx were found during summer wildlife surveys at the Project area in 2000 and 2005. Any determination, however, that lynx were not present within the area is not proven. Sighting of uncollared lynx are far rarer in summer, and the primary method to detect an uncollared lynx is through lynx tracks in snow. This is one reason the USFS is developing a new protocol for tracking lynx in the winter. The Forest Service chose this method because “with fluctuating budgets and resultant limited staff and shortfalls in equipment, a costeffective and practical method is needed.” See Catton, Shedd, A Snow Tracking Protocol to Survey and Monitor Lynx (<i>Lynx canadensis</i>) Populations on the Superior National Forest, Minnesota (2007); Abstract for presentation at Canada Lynx, Biological and Political Realities for Conservation Planning, International Workshop Grand Portage, MN Oct 2007 (attached hereto). Such data is readily available but was not relied upon by the DEIS. The Canada Lynx Project is a joint research project of the University of Minnesota Natural Resources Research Institute’s Center for Water and Environment, the Superior National Forest, and the U.S. Geological Survey’s Biological Resources Division. See Moen, Niemi, Burdett, Canada Lynx in the Great Lakes Region, Final Report (2009) NRRRI Technical Report No. NRRRI/TR-2008-14 Release 1.0., 6 (attached hereto) (hereafter referred to as “Moen Final Report”).</p>	WI1
19335	<p>The Project is within designated “critical habitat” for the lynx, and the DEIS acknowledges the destruction of approximately 1,454 acres of suitable habitat. The DEIS, does not however, address any of the objectives set forth in the Recovery Outline, the Conservation Strategy, or the Superior National Forest Plan.</p>	WI1
19335	<p>Third, the DEIS does not evaluate information readily available that there has been one female lynx (know as L11) documented to have moved within the Project area. Her location was near the southwest edge of the proposed mine site between Wetlegs Creek and the Partridge River, just over one mile south of the mine site and road, and a half-mile south of the rail line. This information was provided by live capture in February 2003, and telemetry provided by a radio collar and documented by researchers of the Canada Lynx Project. Data ended in November 13, 2006 when L11 was trapped and killed in Ontario. Moen, Ronald, Canada Lynx in the Great Lakes Region 2008 Report, at 7 (attached hereto). The radio collar signal placed the lynx in T59N–R13W, approximately at the corner of sections 16, 17, 20, and 21. Id. The DEIS should have addressed the fact that at least one female has been observed at the project site, as it is possible that other females may have entered the site since this data was recorded. The DEIS inaccurately concludes that the Canada Lynx would experience “localized direct loss and fragmentation of designated habitat and increased potential ... for incidental takes resulting from vehicular collisions; however, these impacts are not anticipated to threaten the overall species population level and abundance in Minnesota.” DEIS at 4.4-12. (emphasis added). This statement is not supported by the environmental impact analysis because the agency failed to consider numerous aspects of impacts to the lynx and their habitat as required by federal law.</p>	WI1

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Comment ID	Comment Text	Theme Codes
19336	Second, the Canada Lynx Conservation Assessment and Strategy as amended in 2003 provides direction on the management of Canada Lynx with National Forest. The Lynx Conservation Assessment and Strategy was developed to provide a consistent and effective approach to conserve Canada lynx on federal lands in the conterminous United States. Lynx Conservation Assessment and Strategy Page 7 (hereafter referred to as "LCAS") (attached hereto). When listing the Canada Lynx as threatened, the U.S. Fish and Wildlife Service concluded that the lack of guidance for conservation of lynx in the National Forest Land and Resource Management Plans and the Bureau of Land Management Land Use Plans impaired survival of the lynx throughout a contiguous part of the United States. Id.	WI1
19336	First, the DEIS does not address the 2005 Recovery Outline prepared by the Fish & Wildlife Service. These documents identify key objectives to ensure the protection of the lynx population while the formal recovery document is prepared. The DEIS must assess the Lynx Recovery Outline including evaluating recovery actions needed to maintain the four objectives identified in the document to make positive progress towards lynx recovery. These objectives are: (1) retain adequate habitat of sufficient quality to support a long-term persistence of lynx in the identified core habitat areas; (2) ensure sufficient habitat for immigration and emigration between the core areas and adjacent populations; (3) ensure that habitat in secondary areas remains available for continued lynx occupancy; and (4) to ensure that threats are adequately addressed to protect lynx population in the contiguous United States for at least 100 years. See U.S. Fish & Wildlife Service, Recovery Outline, Contiguous United States Distinct Population Segment of the Canada Lynx 12 (2005) [hereinafter "Recovery Plan"] (attached hereto).	WI1
19337	The proposed project is on federal land. Had the DEIS included an analysis of the connected action of the land exchange, it would have included a review of the Lynx Conservation Assessment and Strategy standards. Even separate from the land exchange issue, the LACS provides essential information concerning proposed projects on lynx habitat that was readily available to the Corps and DNR that should have been included in the DEIS. Neither agency performs an adequate analysis of reviewing these standards as applied to this NorthMet project.	WI1
19337	The DEIS failed to incorporate any these standards in its analysis, and therefore provides inadequate analysis to the DNR and the Corps.	WI1
19337	Third, In recognizing that northeastern Minnesota provides important habitat for the lynx, the National Forest Plans on the Superior National Forests have been revised to provide for the conservation of the lynx. Recovery Outline at 9. The Superior National Forest Plan states that its objective is to fulfill the purpose of a useful, proactive plan, until a formal Recovery plan is promulgated. They state, "the Plan is intended to err on the side of maintaining and restoring lynx habitat for lynx and their prey." U.S. Fish & Wildlife Service, Superior National Forest Plan, Appendix E (2004). <sup>2</sup> The Forest Plan sets forth procedural guidance to address mortality risk factors and guidance to address movement and dispersal risk factors, U.S. Fish & Wildlife Service, Superior National Forest Plan, E-6-E-8; the DEIS did not address either of these issues. As the Forest Plan is listed in the FWS Recovery Outline as being a document useful to the conservation of lynx habitat prior to a formal recovery document being prepared, the DEIS should have addressed the issues set forth within it. Failure to address these issues was a failure to consider an important aspect of the problem, and until DNR addresses these issues, the basis for the DEIS is arbitrary and capricious.	WI1
19339	The DEIS examines destruction to the lynx's habitat in terms of the geographical size of the project, but fails to adequately consider the effects of habitat degradation.	WI1

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Comment ID	Comment Text	Theme Codes
19354	The DEIS states that Corridor 11 (identified as 16 in the Barr Report) and Corridor 12 (17) are near the mine site. The E & O Report identifies Corridor 11 as a “very small, but probably very important passageway.” E & O Report at 18. The DEIS, however, states that because Corridor 11 (16) is already impacted by the tailings basin, it is of minimal value and will not be further damaged. This statement does not adequately address how increased vehicle traffic and local development associated with the mine site could further impact Corridor 11. Additionally, the DEIS does not address the differences between the report it relies on that calls the corridor “very important” and the DNR’s assessment that the corridor is of “minimal value.” The analysis in the DEIS relating to the impact the project will have on Corridor 12 (17) runs directly counter to what the report states. The DEIS says that the Corridor will likely be indirectly impacted by reducing the size and degrading the quality of the habitat located to the southeast of the corridor, but that no direct impact to the corridor will occur. DEIS at 4.4.-31-32. The Barr Report, however; states, “Corridor 17 . . . contains High Quality corridor habitat where it is not significantly impeded by mining features. . . . In the reasonably foreseeable future, this corridor will be lost to the expansion of NorthShore’s mine pits to join into one large pit.” Barr Report at 56. As the DEIS indicates that Corridor 12 (17) will be impacted by this project, the aforementioned discrepancy must be rectified. If there is a total destruction of the one high value corridor by this project, there are no material facts to suggest that this is a minimal impact. Additionally, the agency must take a “hard look” at the problems involved, and must show that it was “genuinely engaged in reasoned decision-making.” <i>Citizens Advocating Responsible Development v. Kandiyohi County Board of Commissioners</i> , 713 N.W.2d 817, 832 (Minn., 2006.) A project that affects two out of 13 (18) wildlife corridors by increasing traffic, encroaching onto natural habitat, and potentially destroying one of the corridors is a significant impact that the DEIS must disclose.	WI5
19354	The DEIS’s failure to analyze the effect of the project on the quality of the Lynx’s habitat is an error that must be corrected. It is not enough to simply state the total quantity of habitat that will be affected.	WI1
19354	The project will result in large scale fragmentation of critical lynx habitat, yet little analysis was made within the DEIS on the project’s contribution to habitat fragmentation. Serious consequences occur with the habitat fragmentation. Studies has shown that fragmentation results in: (1) reduction of key snowshoe hare habitat and of patch size of late-successional forest; (2) increase in competing carnivores such as bobcats and coyotes; 3) increased edge densities between early successional and other forest types; and (4) changes in seral forest stands within landscapes. See Leonard F. Ruggiero, et al. 1999. <i>Ecology and Conservation of Lynx in the United States</i> . USDA-Forest Service. General Technical Report RMRS-GTR- 30WWW, at Chapter 4, pp.85-86 (attached hereto).	WI1
19358	The DEIS is inadequate in its assessment of the cumulative impacts of mining projects to the Canada Lynx. Under NEPA, a DEIS must examine “actions, which when viewed with other proposed actions have cumulatively significant impacts.” 40 C.F.R. 1508.25(a)(2). A cumulative impact is “the impact on the environment which results from the incremental impact of the action when added to other past, present and reasonably foreseeable future actions, regardless of what agency (Federal or non-Federal) or person undertakes such other actions.” 40 C.F.R. 1508.7, <i>Dep’t of Transportation v. Public Citizen</i> , 541 U.S. 752, 770 (2004), see also discussion above related to Cumulative Impact analysis. The Minnesota Supreme Court, when interpreting similar “cumulative impact” analysis requirements under Minnesota Environmental Policy Act (“MEPA”) (which is the state equivalent of NEPA) stated that the purpose of performing a cumulative impact assessment is to “determine whether the project, which may not individually have the potential to cause significant environmental effects, could have a significant effect when other local projects already in existence or planned for the future are considered.” <i>Citizens Advocating Responsible Development v. Kandiyohi County Board of Commissioners</i> , 713 N.W.2d 817, 829 (Minn., 2006). The DEIS concludes with little to no scientific evidence that the habitat and wildlife corridor loss will not have a cumulative impact on the lynx nor does the DEIS identify and discuss all of the projects that should be considered a past, present, or reasonably foreseeable future action.	WI5

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Comment ID	Comment Text	Theme Codes
19359	The DEIS misstates the law. It states that although the cumulative impacts on wildlife corridors “should be considered significant,” DEIS at 4.4-32, the contribution of NorthMet is insignificant, therefore the NorthMet Project is a minor contributor to cumulative effects. It is an “erroneous assumption that if a given project does not in itself have the potential for causing significant negative environmental effects, there is no possibility of cumulative potential effects resulting from the project.” Citizens Advocating Responsible Development v. Kandiyohi County Board of Commissioners, 713 N.W.2d 817, 836 (Minn., 2006). While DNR and the Corps should find the loss of the two corridors significant, they should definitely find the total cumulative impact is unquestionably significant. As the Minnesota Supreme Court stated in Kandiyohi	WI5
19360	Likewise, this project’s impacts, while important and substantial, are not the only basis for determining cumulative impact. The agency must take a “hard look” at what the cumulative loss of 9 out of 13 corridors means for wildlife protection and habitat preservation. The analysis must be thorough and based on the best available science. For instance, the DEIS should determine the travel capacity of the remaining four corridors, analyze whether the remaining 4 corridors are enough to sustain the Canada Lynx population, what type of physical pressure does this place on the Lynx survival (how much farther will the lynx have to travel, what are the increased dietary demands due to this additional exertion), which roadless blocks are cut-off from the lose of these 9 corridors, and were these corridors also popular denning or breeding sites. A reasoned assessment would have looked at all of these issues plus more. There is no reasoned assessment or scientific reports to support that loss of 9 corridors is not a significant cumulative impact, rendering the DEIS inadequate.	WI1,WI5
19361	The DEIS does not account for future cumulative effects from either the Duluth Metals proposed mines, nor the Franconia mine. Duluth Metals is working to develop an ore reserve near Ely. The Nokomis property, which they seek to mine, covers approximately 3,000 acres. Franconia Minerals is seeking to develop a mine under Birch Lake, located to the northeast of the project area. <sup>3</sup> They also control mineral deposits in Maturi and Spruce Road Deposits. The Birch Lake project is in pre-feasibility studies and can reasonably be foreseen to be a potential future impact. Also, PolyMet itself has stated that the NorthMet Project will only utilize approximately 30% of the existing plant capacity, allowing for it to triple its capacity. PolyMet Mining Advancing Port Production Cooper, Nickel and Precious Metals in US at 8, 17 (2009) (attached hereto). DNR and the Corps should have accounted for these reasonably foreseeable actions when looking at cumulative impacts of habitat degradation. Additionally, while the DEIS states that the Emmons & Olivier Report on habitat loss through logging activities studied cumulative impacts through 2014, DEIS 4.4-27, in fact, the report stated; “[f]orestry data are available on a limited temporal scale. Specific state plans for harvesting are available through 2007 only. This means that beyond 2007, the cumulative effects with respect to all three actions are incomplete.” E & O Report at 20. Thus, the DEIS admits that the cumulative affects of mining projects combined with logging projects are not fully analyzed. The cumulative impact of logging in addition to the proposed project should be examined in order to fully estimate potential habitat loss.	WI5
19362	We have documented above in these comments that the 2006 lynx winter survey and the general wildlife summer surveys were insufficient for the DEIS to conclude that lynx were not present with the proposed project area. The DNR and the Corps are advised that rather than presuming that no lynx are in the project site, the opposite is true. By designating critical habitat for the Canada Lynx on February 25, 2009, the U.S. Fish and Wildlife Service stated in the final rule and in accompanying press releases that “[a]ll designated areas have recent verified records of lynx occurrence and reproduction and are considered occupied.” 74 Fed. Reg. at 8,617, see also U.S. Fish & Wildlife Service, News Release: Revised Critical Habitat Designated for the Canada Lynx (Feb. 24, 2009) (attached hereto). The DEIS should therefore perform an analysis that presumes that lynx have been using the project site. Indeed, Sierra Club has provided documentation above that at least one radio collared female was on or near the site before being killed in 2006 in Ontario Canada. It is therefore reasonable for the DEIS to take presence of lynx into consideration in an analysis on cumulative effects, and we strongly recommended that the DNR and the Corps remedy this deficiency in the DEIS.	WI1

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Comment ID	Comment Text	Theme Codes
19363	Both the Barr Report and E & O Report note the destruction of over 1400 acres of critical habitat and cumulative destruction of at least 9 travel corridors. As such, the DEIS must look at mitigation measures under both the requirements of NEPA and the ESA. DRN and the Corps have failed to do adequately examine possible mitigation measures. The DEIS has some mitigation “proposals” but does not clearly articulate which specific measures the agencies will implement. For example, the DEIS notes that there is potential for wildlife mortality due to the increased traffic at the project site, and states that a mitigation measure will be to control vehicle speed. The Barr Report, however, states that auto and rail collisions are a source of mortality for lynx, noting that one lynx was even killed attempting to cross a gravel road where speeds are only supposed to reach 30 mph. Barr Report at 13. The DEIS needs to take a “hard look” at available mitigation measures. For instance, the agencies should look to implement large animal culverts or overpasses along the main project road and railway. When discussing many of the travel corridors, the Emmon & Olivier report indicates this is a mitigation measure that may result in fewer mortalities. E & O Report at 8,12. Other reports regarding lynx protection have also proposed this as a mitigation measure. For example, the Washington State Lynx Recovery Plan recommends that “[t]he needs of carnivores should be considered during the design and site selection for crossing structures such as oversized box culverts and fences . . .” Washington Department of Fish and Wildlife, Lynx Recovery Plan 35 (2001) (attached hereto). This DEIS should examine this as a possible mitigation measure along with others.	WI5
19364	As stated above, the agency must look at all reasonably foreseeable environmental effects and important aspects of the problem. The DEIS entirely neglects to discuss the effects of climate change on the lynx or its critical habitat. According to the Intergovernmental Panel on Climate Change, the term “climate change” refers to “any change in climate over time, whether due to natural variability or as a result of human activity.” <sup>4</sup>	WI5
19365	DNR and the Corps overlooked some very important factors with regard to the waste rock stock piles. Each of these overlooked elements would significantly impact the quantity of constituents leached from these stockpiles. Without properly determining the amount and type of leachate, the DEIS has failed to examine the true environmental impacts associated with the waste rock stock piles, in violation of NEPA.	G9
19365	The NorthMet Project will unquestionably result in the destruction or adverse modification of critical habitat for the endangered Canada Lynx. First, the DEIS explicitly states that the NorthMet Project will destroy 1,454 acres of critical lynx habitat. DEIS 4.4.-10. Further, as discussed in the Wildlife section, supra, this project will significantly degrade critical habitat for the Canada Lynx by negatively impacting two of the lynx’s travel corridors, which are listed as critical habitat. (Specifically, the NorthMet Project will adversely impact travel Corridor 11, and completely destroy Corridor 12. Barr Report at 56.) This is a violation of ESA § 7(a)(2), which prohibits such destruction and adverse modification without an exemption. 16 U.S.C. § 1536(a)(2). Nowhere in the DEIS does DNR or the Corps address the NorthMet’ Project’s conflict with this essential federal law. This is inadequate under NEPA. 40 C.F.R. § 1502.16.	WI1,WI2,WI5
19365	The DEIS falls far short of the standard NEPA and federal courts have held is required for an EIS.	PRO3
19365	The analysis of environmental impacts within the DEIS is inadequate because there was no analysis as to the impact of climate change upon the lynx or its habitat. This deficiency must be addressed. See <i>Ctr. for Biological Diversity v. Kempthorne</i> , 588 F.3d 701, 2009 U.S. App. LEXIS 26160,*20 (where the court found an agency’s decision not arbitrary and capricious, noting “the Service’s EA did acknowledge climate change and enumerated its long term effects on polar bears . . .” (emphasis in original)). Climate change is an important aspect of the problem that the agencies must address with regard to the lynx.	WI5
19367	The agencies categorization system is inadequate and overlooks an important aspect of the problem. The DEIS proposes to categorize waste rock using its average sulfur content (and sulfur to copper content). DEIS 3.13 – 3.14.	CR1

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Comment ID	Comment Text	Theme Codes
19368	By only focusing on the sulfur and copper content as indicators for leachate, the agencies have ignored an important aspect of the problem. Motor Vehicle Mfrs. Ass'n v. State Farm Mut. Auto. Ins. Co., 463 U.S. 29, 43 (1983). The DEIS must remedy this problem and disclose how Duluth Complex disseminated mineralized rock will release heavy metals significantly exceeding surface water standards at neutral pH conditions. In addition to copper, at a minimum, Nickel, Cobalt and Zinc are readily released in near neutral pH (+/- pH 7). <sup>12</sup> These releases are well documented. Nickel, Cobalt and Zinc are especially mobile at circumneutral pH. As early as 1976, circumneutral metals releases at the Dunka mine were known to have exceeded MPCA surface water standards. In 1983 these discharges were acutely toxic. <sup>13</sup> Other national scientific studies have documented similar leaching behavior from nickel sulfides. <sup>14</sup> These facts are ignored by the DEIS and hold significant potential for large long-term toxic environmental impacts from the PolyMet operation. Failure to analyze this information is a violation of NEPA. See Friends of the Boundary Waters Wilderness v. Dombeck, 164 F.3d 1115, 1128 (8th Cir. 1999).	PD2
19369	The liners and cover systems proposed are defective for a number of reasons. First, it is impossible to accurately segregate millions of tons of waste rock based on sulfur content. Moreover, the disseminated nature of the Duluth Complex makes it impossible to accurately identify and segregate millions of tons of disseminated mineralized Duluth Complex rock with statistically high accuracy and precision. Inevitably, some waste rock with a sulfur content higher than 0.5% will find its way into the Category 1 pile, and visa versa. Given this inevitability the DEIS must either re-examine the environmental consequences associated with leaching assuming that less than 100% of the waste rock is effectively sorted or it must require the lower categories of waste rock have the same liner systems as the higher categories.	PD2
19370	Moreover, as discussed above, acid and circumneutral leaching is expected from all stockpiles of mineralized Duluth Complex waste rock. This type of leachate has been found to exceed surface water standards and to be acutely toxic. <sup>15</sup> To date, the only potentially long-term strategy to prevent the above metals release is to keep water away from the mineralized Duluth Complex rock. The DEIS fails to disclose, analyze, or evaluate any of these environmental concerns. Due to the inherent inaccuracies with sorting Duluth Complex waste rock and the fact that acid and circumneutral leaching occurs with all stockpiles, the agencies must cover all waste rock stockpiles, including Category I and II, with synthetic membranes to eliminate infiltration. Additionally, the agencies should not allow PolyMet to use Category I waste rock as construction material due to its potential for non-acid metals releases. Only non-Duluth Complex rock should be used for construction. Second, the DEIS does not address what, if any, actions PolyMet will take to smooth the topography at the bottom of the pits before commencing stockpiling.	WR4B,PD2,PD11
19370	The DEIS never acknowledged this problem, which could have severe environmental consequences. To address this issue, the agencies can require PolyMet to remove all overburden from the bedrock and survey. Additionally, after removal of the overburden the agencies should require that PolyMet survey the bedrock under stockpiles, which would include mapping elevations and clearly identifying drainage channels. The agencies should require that changes in elevations that could cause a tear are dealt with and that all holes are grouted. Only after the above actions are completed, should the agency allow the stockpiling of waste rock. Moreover, if this liner has a catastrophic failure, the above survey information will provide valuable insight to locate all leachate discharge locations for mitigation.	PD11



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<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
19371	<p>Third, the agencies need to redesign the stockpiles to ensure that precipitation does not come into contact with these stockpiles. As previously stated leaching in the Duluth Complex increases with low pH, elevated temperature, elevated oxygen, stockpile height, elevated ionic strength of water, rainfall, surface area, decreased alkalinity, increased organic ligands, stockpile composition. The elimination of infiltration water from mineralized waste rock is the only proven way to eliminate leachate. Elimination of infiltration water represents a considerable hurdle for the project. The average annual precipitation for the area is 28.4 inches. It can be expected that 855.9 acres of stockpiles can be expected to receive 660,008,592 gallons of precipitation in an average year. Uncovered AMAX test plots indicated 50% to 60% of precipitation was released as leachate.16 In an average year, calculations would predict PolyMet stockpiles produce between 330,004,296 to 396,005,155 gallons of leachate. This could lead to significant impacts since the infiltrated water will contain metals and sulfides. As noted, the Category 1 and 2 stockpiles will not have synthetic liners as part of their covers. The DEIS assumes the proposed 0.5% sulfur cutoff limit has the unlikely precision and accuracy of 100%. If the sulfur evaluation proves less accurate, acid leachate of the above heavy metals and copper can be expected in some areas for perpetuity. Toxic metal releases of nickel, cobalt, and zinc that also exceed surface water standards can be expected for perpetuity (see discussion above). The DEIS must discuss how releases would impact surface waters, such as the Partridge River watershed, which could be disastrous.17 Additionally, the DEIS should discuss how these releases effect the cumulative impacts to local drinking water supplies, such as Colby Lake. The stockpile reclamation proposed lacks specificity as to how the proposed stockpile design will prevent significant amounts of precipitation inflow into already leaching mineralized waste rock at closure. The DEIS states that PolyMet will construct the waste rock similar to the taconite waste rock stockpiles to have 60' lifts. DEIS at 3-39. In addition, the DEIS states that catch benches at least 30' in width would remain on all waste rock stockpiles. DEIS at 3-41. The DEIS does not state if the lifts and benches would face inwards or outwards or mention the bench slope direction. If the lifts faced inwards, like taconite lifts, it would maximize precipitation infiltration into the waste stockpiles. This is an inappropriate design for mineralized Duluth Complex stockpiles since they are chemically dissimilar to taconite waste stockpiles. Numerous reports conclude that it is imperative that water not infiltrate into mineralized rock stockpiles to prevent the formation of circumneutral heavy metal leachates and/or acid heavy metal leachates. The DEIS must specify how PolyMet would construct these benches and lifts in order to accurately assess the potential for metal and acid leachate.</p>	WR2D,PD2,PD11,PD3
19372	<p>Finally, the DEIS is silent with regard to a number of issues that will significantly impact the ability of the cover to prevent water infiltration and leachate production for perpetuity. For instance, the DEIS does not discuss how the synthetic membranes will be incorporated into the sideslopes or how the membranes will be maintained for perpetuity. This is especially problematic because PolyMet would cover the Category 3 and 4 stockpiles with yet undefined "soil." DEIS at 3-17. The DEIS fails to discuss how this cover will prevent infiltration since covering the tops, lifts, and benches may route stormwater to the steep uncovered sideslopes allowing infiltration and the resultant acid and circumneutral leaching of metals and sulfates.</p>	PD2
19373	<p>In addition, the DEIS provides no information or analysis with regard to the closure concentration/mass loading/toxicological impacts of mine drainage from the stockpiles to the Partridge River watershed including Colby Lake drinking water supply. The DEIS must address all of these inadequacies in order to sufficiently disclose the possible environmental impacts from these stockpiles, most importantly regarding the potential for leachate.</p>	WR3A,PD2,PD9

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**Comment ID    Comment Text**

**Theme Codes**

19373 The DEIS discusses placing limestone additions into the waste rock piles to reduce anticipated acid leachate by raising pH. DEIS at 3-40. DNR and outside literature suggest such treatment may be somewhat effective for copper. Only focusing on a mitigation measure that addresses copper ignores an important aspect of the problem. The highest heavy metal concentrations from circumneutral leachate observed from Duluth Complex Material are nickel, cobalt and zinc and these metals leachate exceed surface water quality standards and are acutely toxic (see above). Scientific literature has documented the release of nickel at neutral and basic pH (at low sulfur concentrations), see above. Furthermore DNR pilot testing has demonstrated only a 10% reduction in nickel release by the use of limestone in a Dunka Mine Duluth Complex waste rock seepage. Clearly, under active control, limestone may reduce pH under acid conditions, reducing the catastrophic release of heavy metals from acid mine drainage. However it will not bring the aforementioned metals into compliance with today's surface water standards. Moreover, the proposed treatment effectiveness becomes questionable when you look at the sheer magnitude of waste rock involved – waste rock piles 300 feet high and 1/2 to 1 mile long. The DEIS never addressed a number of problems related to the scale of the stockpile. For instance, there are no controls to regulate or oversee the process. Without such controls it is impossible to understand how the limestone is working. In addition, scientific literature reports limestone is easily coated, rendering it useless. Therefore, periodic replacement is likely necessary. The DEIS never discusses how this will be accomplished. In addition, limestone will increase the hardness of the water. The DEIS never discloses the consequences to existing soft water biota from the added hardness being introduced. The DEIS must address all of these inadequacies in order to sufficiently disclose the possible environmental impacts from these stockpiles.

PD2

19373 These conclusory statements in the DEIS is not supported by any evidence within the DEIS. Froehlke, 473 F.2d at 348 (an EIS cannot be composed of statements “too vague, too general and too conclusory.”); Mid States Coalition for Progress, 345 F.3d at 536 (remanding for preparation of supplemental EIS when agency failed to “explain fully its course of inquiry analysis and reasoning.”); Ctr. for Biological Diversity, 538 F.3d at 1223-1224 (holding agency violated NEPA when it “shunted aside significant questions with merely conclusory statements, [and] failed to directly address substantial questions”). In fact, the DEIS assumes that once the mineralized Duluth Complex material is underwater, it will not leach. However, this assumption is not substantiated by the DEIS or existing literature. The DEIS assumes that pit water that is anoxic (<1mg/l) will not leach metals. The DEIS provides no scientific documentation to substantiate this statement and does not acknowledge the scientific evidence that contradicts this assertion. For instance, in 1980, DNR reported the results of Professor S. Eisenreich laboratory testing of Mineralized Duluth Complex rock at differing oxygen levels. After approximately 33 days at <1 mg/l dissolved oxygen results demonstrated a slow but consistent release of metals copper, nickel, zinc and cobalt. This leaching rate will probably increase significantly over time and continue in perpetuity. Other mines have observed similar leaching. From 1850 to 1950 the Tri-State mining district underground mined lead and zinc sulfates. The mining took place within the groundwater aquifer. After mine closures the diggings filled rapidly with ground water (anoxic). Today the remaining mining district has severe ground water acid and metal contamination.18 Additionally, acid leachate and sulfate as high as 3,500 mg/l were documented in inundated underground mines containing carbonate minerals at the Shullsburg, Wisconsin Zinc Mines. The DEIS suggest the waste rock before water inundation will be allowed to begin the acid mine drainage process (with the waste water treated and sent to processing). The DEIS indicates that this acid mine draining will cease once inundated. Existing scientific literature, however, suggests that once acid mine leaching begins inundation may not control it. The DEIS must address whether inundation can actually stop this process. Simple conclusory statements are not sufficient under NEPA. Froehlke, 473 F.2d at 348 (an EIS cannot be composed of statements “too vague, too general and too conclusory.”); Mid States Coalition for Progress, 345 F.3d at 536 (remanding for preparation of supplemental EIS when agency failed to “explain fully its course of inquiry analysis and reasoning.”); Ctr. for Biological Diversity, 538 F.3d at 1223-1224 (holding agency violated NEPA when it “shunted aside significant questions with merely conclusory statements, [and] failed to directly address substantial questions”). It is the responsibility of the Corps and DNR to remedy the deficiencies of the DEIS.

WR2F,PD2

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Comment ID	Comment Text	Theme Codes
19373	The Tribal cooperating agencies' concerns are justified because the agencies did not sufficiently quantify current water quality standards for both the ground water and surface water. The agencies overlooked an important aspect of the problem. Motor Vehicle Mfrs. Ass'n, 463 U.S. at 43. The DEIS should have presented information from the monitoring data for NPDES permits MN0042579 and MN0054089, which are the NPDES permits for the Tailings Basin. The monitoring data show that the Tailings Basin has violated, continues to violate and will continue to violate the Clean Water Act with regard to water quality standards.19	WR3I
19375	However, as Dave Chambers exposed, the assumptions that lead to a conclusion that water treatment will no longer be required after 65 years should be considered very tentative. Center for Science in Public Participation Comments at 10 (attached hereto). For example, the assumptions used in determining the scaling factors summarized in Table 4.1-37 – Solute Release Scaling Factors, (lab to field) for the release of contaminants from waste rock piles could easily contain inadvertent errors (for example in the choice of particle size, temperature, fraction of rock flushed by infiltrating water, and the upper limit of contaminant concentrations) that could cause a significant departure from the predicted contaminant loads assumed in the EIS. Id.	WR1E
19375	These findings call into question whether the conclusion in the DEIS that water quality standards will be met in 65 years represents reasoned decisionmaking. Froehlke, 473 F.2d at 348 (an EIS cannot be composed of statements “too vague, too general and too conclusionary”); Mid States Coalition for Progress, 345 F.3d at 536 (remanding for preparation of supplemental EIS when agency failed to “explain fully its course of inquiry analysis and reasoning”); Ctr. for Biological Diversity, 538 F.3d at 1223-1224 (holding agency violated NEPA when it “shunted aside significant questions with merely conclusory statements, [and] failed to directly address substantial questions”). In addition, these findings strongly suggest that the agencies should take a conservative approach with regard to financial assurances for closure, see detailed discussion below regarding financial assurances.	WR1E,WR3I,PD2,PD8
19375	Despite the chemical disparity between these two types of mining waste, DNR and the Corps never chemically characterized the NorthMet tailings to determine if they were compatible with the LTVSMC Tailings Basin design in the DEIS. Without such an analysis, the DEIS has failed to disclose an important and potentially significant environmental impact. The DEIS fails to document both chemically and toxicologically how this basin will treat into perpetuity the tailings. For instance, the DEIS failed to evaluate the tailing waste to determine if it is a hazardous waste as required by Minnesota Rule 7045. This testing would include toxicity and lethality as well as verifying none of the chemicals used are listed hazardous wastes. If it is determined to be hazardous waste, the waste must be regulated under the Resource Conservation and Recovery Act (“RCRA”). Without knowing the chemical make-up of the tailings, it is literally impossible to know if the LTVSMC Tailings Basin can serve its intended purpose. For instance, if these tailings are deemed hazardous waste, the LTVSMC Tailings Basin does not have appropriate design to serve as a waste receptacle, since it was only designed to remove solids from water.	PD2
19375	In the DEIS, DNR and the Corps unlawfully limited the “area of interest” for its sulfate analysis to the Partridge and Embarrass River sub-watersheds. This is inappropriate. The agencies should have included the St. Louis River from mile 179 to the mouth of the river in the area of interest the sulfate could impact this water body. By artificially limiting its analysis of sulfate impacts to portions of the river watershed that are already at excessive sulfate levels (the Partridge and Embarrass River sub-watersheds) the DEIS has failed to disclose the full impacts of mercury methylation.	WR4B
19375	The NorthMet Project, which will release sulfates, would affect the mercury methylation rate. The impact on the methylation rate is directly tied to the current sulfate concentration (i.e., if the sulfate concentration is less than 8 mg/l the impact is considerable, but if the concentration is above 8 mg/l the impact is negligible). The DEIS’s analysis of this issue was inadequate because it used an artificially limited “area of concern,” which only had a sulfate concentration of greater than 8 mg/l. However, if the DEIS had used a proper area of concern, the environmental consequences of this Proposed Project would be markedly different. The agencies need to modify the environmental review to include the appropriate area of concern.	WR4B

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Comment ID	Comment Text	Theme Codes
19375	The DEIS should have disclosed a number of problems that could result from the use of silty sand soils. For instance, it is well documented that silt is a very poor engineering material because it lacks engineering plasticity necessary to remain stable from freeze thaw cycles, and will allow seepage. In addition, silt dries quickly and dusts. Silt is also readily carried off by storm water and forms colloidal suspensions that are difficult to settle without chemical additions. Finally, if the dikes break or erode substantially, they could allow the release of both silt-laden water and toxic levels to wetlands and surface water. Given the deficiencies with this material for engineering purposes, the DEIS should have disclosed this possibility and addressed the environmental consequences of such an incident. The DEIS needs to do one of two things to address this problem. First, it can disclose the disadvantages of using silt and chronicle the environmental impacts that could occur based on these deficiencies. Alternatively, it could use standard engineering materials instead of silt and have strict non-point runoff control measures.	EOO,PD4
19377	Second, mercury contamination of fish is a widespread problem in Minnesota and elsewhere. Many of the water bodies in the Project area are among those listed as impaired by mercury, including the Wynne, Sabin, Embarrass, and Esquagama Lakes (through which the Embarrass River flows); Colby Lake and Whitewater Reservoir in the Partridge River watershed; and segments of the St. Louis River. DEIS at 4.5-19. These water bodies have fish consumption advisories because the mercury concentrations in fish tissue pose a hazard to human health. Id. Mercury contamination of fish also poses a toxicity risk to fish-eating wildlife. Id. The water bodies listed above, as well as most other water bodies in the St. Louis River basin were excluded from the statewide mercury TMDL because mercury levels in the fish were above the level considered achievable by the TMDL. DEIS at 4.5-20. These water bodies may be subject to one or more separate TMDLs to be developed in the future. Id. Reducing the releases of sulfates, rather than increasing sulfate releases, as proposed in the PolyMet DEIS, is critical for delisting this water body for fish tissue mercury. Since increasing sulfate loads in these water bodies would exacerbate any future plans to address mercury levels, the DEIS must analyze how the NorthMet Project's increased sulfate loads would effect mercury methylation temporally (i.e., how much longer would it take for the sulfate concentrations to reduce to a level so they became a limiting factor on mercury methylation). Moreover, further degradation of these waters would violate the Clean Water Act. See, e.g., Friends of Pinto Creek v. E.P.A., 504 F.3d 1007 (9th Cir. 2007). It is a violation of the Clean Water Act to permit this mining proposal, knowing that the excess sulfate ions are likely to enhance methylation to the point that it would preclude the successful implementation of a mercury TMDL. See U.S. Environmental Protection Agency, Consideration Of Cumulative Impacts In EPA Review of NEPA Documents at 8-10 (1999) (attached hereto) (agency needs to consider temporal nature of impacts). Permitting of this mine could prevent for decades or even longer, delisting of the St. Louis River, an impaired water body under Section 303(d) of the Clean Water Act. The agencies failure to look at the temporal significance of continued pollution is a violation of NEPA.	WR4B,WR5A,FM1,FM5
19377	The agencies should have examined the sulfate impacts for water bodies further downstream where the sulfate concentration is below 8 mg/l, such as the Scanlon Dam in Cloquet at river mile 35. The reservoirs and estuary immediately below the Scanlon Dam are water bodies where sulfate is a limiting factor on methylation. DEIS 4.1-195. Since the sulfates emitted from the NorthMet Project could travel to these downstream water bodies, excessive sulfates could stimulate methylation in these water bodies. The DEIS should have included these other water bodies in its impacts analysis.	WR1E
19378	Finally, because the DEIS has inadequately assessed the environmental consequences of sulfate concentrations on methylation, the DEIS has also failed to address mitigation measures that could address this problem. Ultra filtration through special membranes can reduce their high volume, high concentration sulfate water to acceptable levels at an economically feasible cost. The DEIS should also discuss the possibility of "in pit" sulfate treatment.	WR1E,WR4C
19379	Although not disclosed in the DEIS, it would also expose sediments in the many beaver ponds on the Partridge River, yet another aspect the DEIS should have addressed.	EOO

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<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
19380	The DEIS does not cite to any report or scientific data to support its proposition that flow fluctuations associated with the Proposed Project “is not expected to result in significant increases in mercury methylation.” Id. In fact, it is the “tribal cooperating agencies’ position that the data used to support the DEIS conclusion is inadequate.” Id. at fn. 42. This cursory analysis is not sufficient under NEPA. NEPA’s implementing regulations require that the information in an EIS must “be of high quality” with “accurate scientific analysis.” 40 C.F.R. § 1508.1(b). The regulations also state that EIS “shall identify any methodologies used and shall make explicit reference by footnote to scientific and other sources relied on for conclusions in the statement.” 40 C.F.R. § 1502.24. In this case, the DEIS does not provide reference to any source that supports its conclusion. Froehlke, 473 F.2d at 348 (an EIS cannot be composed of statements “too vague, too general and too conclusionary”); Mid States Coalition for Progress, 345 F.3d at 536 (remanding for preparation of supplemental EIS when agency failed to “explain fully its course of inquiry analysis and reasoning”); Ctr. for Biological Diversity, 538 F.3d at 1223-1224 (holding agency violated NEPA when it “shunted aside significant questions with merely conclusory statements, [and] failed to directly address substantial questions”). Moreover, there is likely no data to support the DEIS’s conclusion. With the decline in water level, labile organic matter in the surface becomes oxidized releasing bound mercury as well as sulfate to the dissolved phase. <sup>26</sup> In fact, water level fluctuations have been shown to be a major contributor of methyl mercury to the sub-watersheds of the Red River. This indicates that it would have the same impact on the Partridge River, Colby Lake and Whitewater Reservoir. The DEIS should provide sufficient scientific data to support this conclusory statement. Otherwise, the DEIS should address the problem of flow fluctuations and mercury methylation, which would include quantifying the mercury methylation from water level fluctuations	WR4A
19381	Moreover, because the DEIS failed to acknowledge that flow fluctuations could impact mercury methylation, it makes no attempt to mitigate these impacts. There are reasonable design and operating strategies that the agencies could put in place to reduce these draw downs. For instance, the DEIS could mitigate these impacts by establishing a schedule for water releases and withdrawals from the NorthMet project and other projects to minimize sediment exposure and therefore methylation. If we are going to allow them to use our water, then we have the responsibility to mandate that they use it in such a way that minimizes environmental degradation. This basic concept has not been suggested in this DEIS and needs to be addressed before it can be deemed sufficient.	WR4C
19382	Finally, the DEIS inadequately addresses sulfate loading to floodplains. There are natural fluctuations in aquatic systems that present high risk for mercury methylation such as the spring snow melt and storm events in which the waters rise into wetlands and bring with it a higher than normal load of sulfates. Most of Minnesota’s watersheds have a riparian flood plain that typically is inundated each spring and then the water slowly recedes. These lowland swamps and forests are naturally sulfate poor as is typical of surface and ground water in northeastern Minnesota. With the spring expansion of water into these floodplains, an increase in sulfate loading is added to the mix of organic matter, sulfatereducing bacteria, deposited mercury and low oxygen concentrations. In summary, any sulfate added to this system has the potential to enhance mercury methylation in the floodplain. The DEIS states that 54% of the Partridge River is a Type C channel according to a Level I Rosgen Geomorphic Survey. DEIS at 4.1-23. Type C channels are characterized as having a well developed floodplain. The DEIS also states that in general the Partridge River has a well developed floodplain for all but the Type B reaches, which account for only 13% of the channel. That means 87% of the Partridge has a well developed floodplain and is at high risk for mercury methylation if the operation delivers the high sulfate waters predicted by the DEIS. The DEIS, however, never discusses how this floodplain poses risks of methylation. Instead, the DEIS makes conclusory statements that are counter to the information known about the Partridge River’s floodplain without any reference to scientific information to support it. For instance, the DEIS states that “the NorthMet Project is not expected to contribute to cumulative effects on mercury in water and fish tissue in the Partridge River watershed.” DEIS at 4.14-9. The DEIS makes the same statement regarding the St. Louis River. Id. Once again, these conclusory statements are not supported by the record because agencies did not perform a geomorphic survey of that river. Froehlke, 473 F.2d at 348; Mid States Coalition for Progress, 345 F.3d at 536; Ctr. for Biological Diversity, 538 F.3d at 1223-1224. Had the agencies done such an analysis, they would have found a well developed floodplain, which is extremely susceptible to methylation.	WR4B

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Comment ID	Comment Text	Theme Codes
19383	The agencies must remedy this deficiency by modeling the rising water levels, which would introduce sulfate into the high-organic wetland matrix, followed by falling water levels, which hydraulically deliver elevated methyl-mercury and/or phosphate to the stream for the floodplains and multiple backwaters and bays of the entire watershed. Otherwise, the DEIS is legally deficient.	WR4A
19384	In addition, the location of these stockpiles mandates that the agencies take a hard look at the mercury releases from these stockpiles and Tailings Basin. The Category 1, 2, and 3 stockpiles are located less than one-eighth of a mile from the Partridge River. A mile-long stretch of this stockpile is located about one-eighth of a mile from the Partridge River headwaters. The Category 1 and 2 stockpiles, with their associated mercury release from peat, may account for the largest source of mercury releases. These stockpiles, along with the Tailings Basin and other stockpile and pits, are potential pathways to the Partridge River, Embarrass River, and Colby Lake. Although the Partridge River is not listed as an impaired water body on the 303(d) list, further downstream most of the St. Louis River is listed for “mercury in fish tissue” impairment. DEIS at 4.1-33. In addition, Colby Lake and the Whitewater Reservoir are on the Minnesota 303(d) TMDL list because of mercury concentrations in fish tissue. DEIS at 4.1-37.	WR4B,WR4E
19384	There are a number of problems with this assessment of mercury impacts. First, while it may be true that minerals present in the mine waste rock will absorb mercury present in rainfall, this is not the only source of mercury release. The DEIS acknowledges that the waste rock will leach mercury concentrations between 5 and 7 ng/l. In addition, PolyMet proposes to include peat in the Category 1 and 2 stockpiles. Peat, which, owing to slow growth and efficient adsorption of mercury, can accumulate mercury deposited from many centuries of precipitation, discussed in detail below. <sup>27</sup> Therefore, the peat included in the waste rock stockpiles will be a massive source of mercury release. The DEIS should have accounted for each of these independent sources of mercury – waste rock leach, peat release and rainwater, modeled their respective releases, and then determined what impact the NorthMet Project would have on groundwater impacts.	WR4A,WR4E
19384	The DEIS does not provide a quantitative analysis of how mercury will impact water quality. Specifically, the DEIS states that: “The effects of the Proposed Action on surface water quality were evaluated using mass balance models linked to the hydrology predictions from the XP-SWMM model. . . . The models predicted concentrations for 26 parameters . . . . Mercury was not included in either model because data for mercury were not available for stockpile liner leakage (RS53/42, SRK 2007) or groundwater recharge from the East and West pits (RS31, SRK 2007).” DEIS at 4.1-108. The agencies attempt to justify this lack of quantitative data based on assumptions	WR4A,WR4B
19385	Given all these facts, it is incomprehensible and a violation of NEPA’s hard look standard that DNR and the Corps’s failed to require the same analysis of mercury release and transport as was performed for other constituents. The agencies must correct this error and provide a quantitative analysis of the discharge of mercury to the Partridge and Embarrass River from these pathways during and after mining, and from direct surface discharge from the West Pit after mining.	WR4A,WR4B
19386	In addition, the DEIS acknowledges that this project will eventually discharge to groundwater because the “West Pit overflow would ultimately be directed to the Partridge River.” DEIS at S-7. The DEIS does not address the environmental impacts associated with this known discharge. Instead the DEIS states that this issues will be addressed at closure. See, e.g., DEIS at 3-39 (“The East and West pits are expected to flood and have a net outflow of surface water. Outlet structures would establish the steady-state water levels in the East and West pits after Closure.”)	WR2C
19386	The DEIS inadequately addresses environmental impacts associated with surface water discharges because it uses an artificially restricted definition of surface water discharge – a surface discharge only occurs if there is a surface discharge to a surface water. For instance, the DEIS states with regard to the Tailings Basin “These water management methods would result in no direct surface discharge of process water at the Plant Site or Mine Site.” DEIS at 3-35. In addition, the DEIS states “[t]he Tailings Basin would be designed not to overtop, so there would be no surface discharges. It is expected that surface seepage would occur from the basin, but PolyMet proposes a surface seepage collection system that would capture essentially all of the surface seepage and return it to the Tailings Basin until the seeps dry out.” DEIS at 4.2-21.	EOO
19387	DNR and the Corps need to address these surface water discharges in the DEIS. In fact, these types of discharges are covered by the Clean Water Act’s requirement to get a National Pollutant Discharge Elimination System (“NPDES”) permit.	EOO

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19388	The agencies must address this deficiency in the DEIS and address these surface water discharges because its current treatment of these discharges does not meet the hard look standard. See, e.g., DEIS at S-9 (“There is some uncertainty as to whether the West Pit overflow would meet the Lake Superior mercury standard, but this impact could be mitigated if it would occur.”). In addition, the DEIS cannot piecemeal this analysis by stating that it will address the pit overflow discharge to surface water at the time of closure because, as discussed above, this is a	EOO
19389	The analysis done by DNR and the Corps does not adequately reflect the possible environmental impacts to groundwater. The “conservative” (i.e., low probability of occurrence) predictions from the deterministic model were in some cases not only below the high probability of occurrence predictions, but below the mean figure in the probabilistic predictions. DEIS at 4.1-53 – 4.1-54. DNR and the Corps should not have used “conservative” (i.e., low probability of occurrence) values but rather the average or high probability values because using these conservative values downplays the environmental consequences (and allows illogical results like seepage from the NorthMet Project will improve water quality). The fact that the agencies should have used the median or high probability numbers is supported by the fact that studies found that environmental impact statements consistently under-predict water quality impacts. <sup>28</sup> There are many complex factors contributing to uncertainty and modeling simply cannot account for all these factors. <sup>29</sup> In addition, the agencies never identified in the DEIS whether the numbers they were relying on to predict water quality impacts came from the deterministic modeling or Uncertainty Analysis. Without this information, it is impossible for the public to assess the adequacy of impact predictions throughout the DEIS. Numbers given in tables without a reference to the where they lie in the range of probability (low, median to high) provide very little information regarding the validity of those predictions. The DEIS should have presented the full range of impacts in environmental consequences discussion. In sum, the DEIS presents arbitrary numbers as to water quality predictions, rather than revealing the full extent of the potential impacts on water quality. Arbitrarily selecting low probability numbers does not represent a “hard look” at the environmental consequences.	WR2C
19389	The DEIS inadequately addresses uncertainties surrounding impacts to groundwater resources. The manner in which the agencies addressed these uncertainties actually downplayed the possible environmental impacts of the NorthMet project to groundwater and, in some cases, allowed the DEIS to make illogical conclusions that are arbitrary and capricious.	WR2C
19390	The DEIS’ analysis of groundwater impacts from aluminum is inadequate and does not represent a “hard look.”	WR2C
19391	Rather than make unsupported conclusions, <i>Froehlke</i> , 473 F.2d at 348; <i>Mid States Coalition for Progress</i> , 345 F.3d at 536; <i>Ctr. for Biological Diversity</i> , 538 F.3d at 1223-1224, the agencies should take a hard look at the project’s impacts to groundwater from aluminum concentrations. This would include modeling the direction and rate of groundwater flow, model the extent of the existing contaminant plume, and model how the contaminant plume would change with the addition of the NorthMet leach of aluminum. This data and analysis should then feed into estimates of how the proposed project would interact with existing contamination. The combination of existing conditions with impacts due to the proposed project would show what groundwater quality can be expected during and post project.	WR1E,WR2C
19393	As stated earlier in this section, the DEIS asserted that issues relating to groundwater contamination “will be addressed at closure.” See, e.g., DEIS at 3-39 (“The East and West pits are expected to flood and have a net outflow of surface water. Outlet structures would establish the steady-state water levels in the East and West pits after Closure.”) Delaying such analysis until after mine closure does not meet the “hard look” standard required by federal law. Such an analysis must be included in the DEIS.	WR1A

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Comment ID	Comment Text	Theme Codes
19394	<p>The DEIS inadequately deals with this peat destruction and associated mercury release in two significant ways. First, the DEIS does not quantify or take a hard look at how much mercury is sequestered in these wetlands and peat lands and what will happen to the environment when this mercury is mobilized. “What constitutes a ‘hard look’ cannot be outlined with rule-like precision. At the least, however, it encompasses a thorough investigation into the environmental impacts of the agency’s action and a candid acknowledgment of the risks that those impacts entail.” <i>Nat. Audubon Soc’y v. Dep’t of Navy</i>, 422 F.3d 174 (4th Cir. 2005). This superficial analysis at this issue in the DEIS is far from a hard look. For instance, the DEIS states: “Organic matter contained in peat also constitutes a large reservoir of mercury, but this mercury is strongly bound to the organic material. Disruption of peat deposits, such as proposed excavation and stockpiling of peat at the Mine Site, resulting in oxidation and decomposition of the peat may increase the mobility of the stored mercury.” DEIS 4.1-123. However, this is where the analysis ends. The agencies never attempt to determine how much mercury will be mobilized from this wetland and peat destruction, where this released mercury will go (i.e., which water bodies would be impacted), the odds that this mercury will become mercury methylation, what organisms or aquatic species will be impacted by this additional mercury. By ignoring all of these issues, the agency has failed to take the requisite hard look.</p>	WR4E,WE1,WE2
19394	<p>However, the DEIS fails to analyze the impacts to water quality from the local deposition and run-off of metal emissions. The failure to analyze these impacts renders the DEIS inadequate. <i>Motor Vehicle Mfrs. Ass'n</i>, 463 U.S. at 43. It included metals in its air quality analysis, and should have also included them in its local deposition and water quality impacts analysis. Given the amount of metals this project will emit, such as nickel, it is unconscionable that the agencies have not performed this analysis. It is quite possible that deposition of metallic emissions will lead to the conclusion that water quality standards in nearby water bodies will be violated. Without this information and analysis, it is impossible for the agencies to fully address the environmental consequences associated with the NorthMet Project.</p>	WR3M
19395	<p>Second, the DEIS’s discussion of how to mitigate or deal with this mercury release is inadequate. Like other elements in an EIS, an agency must discuss mitigation measures in sufficient detail to ensure there has been a fair evaluation of environmental consequences. <i>Robertson v. Methow Valley Citizens Council</i>, 490 U.S. 332, 352 (1989). The agency must take a hard look at these mitigation measures. See, e.g., <i>Neighbors of Cuddy Mtn. v. U.S. Forest Serv.</i>, 137 F.3d 1372 (9th Cir. 1998). Courts will find an EIS inadequate when it does not adequately discuss mitigation measures or does not discuss mitigation measures it should have discussed. See, e.g., <i>Environmental Defense Fund v. Froehlke</i>, 473 F.2d 346 (8th Cir. 1972) (failure to include land acquisition as mitigation measure for impact of channelization project on migratory fowl); <i>Oregon Nat. Res. Council v Harrell</i>, 52 F.3d 1499 (9th Cir. 1995) (remanded to consider additional mitigation measures); <i>Friends of the Earth v. Hall</i>, 693 F.Supp. 904 (W.D. Wash. 1988) (questioning mitigation measures). The DEIS states that to address this mercury release, “PolyMet proposes to place the excavated peat in either the Category 1 and 2 waste rock stockpile or the Overburden Storage and Laydown Area. Drainage from these stockpiles would be considered process water, which would be collected, possibly treated at the WWTF, and either pumped to the Tailings Basin for reuse/ultimate disposal (Years 1-11) or to help in the flooding of the mine pits (Years 12-65). The WWTF is not predicted to be very effective in removing mercury,” DEIS 4.1-123. “Since the WWTF is not expected to be very effective and effluent concentrations are predicted to remain above the Great Lakes Initiative standard of 1.3 ng/L, mercury removal prior to release (i.e., Tailings Basin seepage and West Pit overflow) would be important.” <i>Id.</i>; see also DEIS at 4.1-128. The DEIS then goes on to state that the tailings basin may remove mercury from the WWTF effluent during years 1-11. <i>Id.</i> Then after year 11, PolyMet would pump the effluent to the East Pit, which would eventually years later be turned into an artificial wetland, which “would be expected to be variably effective in removing total mercury.” <i>Id.</i> This analysis of mitigation measures does not represent reasoned decisionmaking that is reflective of a hard look analysis. Noting that the selected options would be variably effective at mitigating the impacts does not constitute a hard look. See, e.g., <i>Friends of the Earth v. Hall</i>, 693 F.Supp. 904 (W.D. Wash. 1988) (questioning mitigation measures). For instance, the DEIS does not discuss whether stockpiling peat will actually increase the methylation rate. All soil sequesters mercury. The inorganic mercury in the peat stockpile has a high potential to mobilize and methylate. The DEIS should have discussed the environmental consequences of stockpiling peat with regards to the methyl mercury burden of the already polluted aquatic system. In addition, the DEIS should have addressed ways to mitigate the methyl mercury problem associated with the stockpiles. For instance, perhaps the stockpile should be capped.</p>	WR4C,WR4E,WE2,WE3,W



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| 19395 | Finally, to mitigate this wetland loss, PolyMet proposes to replace this loss of wetlands with artificially constructed wetlands in Aitkin and Pine Counties. 4.2-36 – 4.2-37. The Aitkin mitigation site is located within the Mississippi River-Brainerd watershed. The Hinckley wetland mitigation site (which is located in Pine County) is within the Snake River watershed. Id. The lost wetlands, which consist mostly of peat lands that are better sequesters of mercury, are located in the St. Louis watershed. The NorthMet Project proposes the destruction of hundreds of acres of peat bogs, which means that hundreds of acres of mercury sequestering surface will be lost to the St. Louis watershed. Since the mitigation efforts involve the creation of artificial wetlands in a different watershed, these impacts will be permanent. The DEIS never discusses how this mitigation measure is slated for a different watershed, so that it will not alleviate mercury release impacts in the St. Louis Watershed. A watershed cannot be managed for mercury this way and expect it to ever be delisted for mercury contamination. Moreover, the DEIS does not disclose whether the newly created artificial wetlands will be peat lands, which sequester mercury better than wetlands. Since Aitkin and Pine Counties have disproportionately less peat bogs, this is likely to be the case. The DEIS did not take a “hard look” at this mitigation measure. At a minimum, the DEIS should have considered replacing the lost wetlands and peat lands with wetlands in the Lake Superior watershed. In addition, the DEIS should have considered a 1-for-1 peat bog replacement. See, e.g., Environmental Defense Fund v. Froehlke, 473 F.2d 346 (8th Cir. 1972) (failure to include land acquisition as mitigation measure for impact of channelization project on migratory fowl); Oregon Nat. Res. Council v Harrell, 52 F.3d 1499 (9th Cir. 1995) (remanded to consider additional mitigation measures); Friends of the Earth v. Hall, 693 F.Supp. 904 (W.D. Wash. 1988) (questioning mitigation measures). The impacts to the St. Louis watershed are aggravated by the fact that the proposed project’s ionic mercury and mercury attached to particles, which are the most chemically reactive, will be deposited locally, DEIS Figure 4.6-1, shows that the prevailing winds will deposit those species disproportionately within the Lake Superior watershed. The DEIS did not look at the total direct impacts of this mercury problem for the St. Louis watershed, which it should have done.   | WE2,WE3 |
| 19396 | Despite this over arching goal of replacing lost function in the same watershed, the agencies only analyzed with detail in the DEIS two mitigation sites that are located in different watersheds than the NorthMet Project. PolyMet proposes to replace this loss of wetlands with artificially constructed wetlands in Aitkin and Pine Counties. DEIS at 4.2-36 – 4.2-37. The Aitkin mitigation site is located within the Mississippi River-Brainerd watershed. The Hinckley wetland mitigation site (which is located in Pine County) is within the Snake River watershed. Id. The lost wetlands, which consist mostly of peat lands that are better sequesters of mercury, are located in the St. Louis watershed. Such a wetland mitigation analysis is inadequate. It is inadequate for several reasons. First, the agencies should have required PolyMet to detail what would be the lost function from these destroyed wetlands. Next, the agency should have had PolyMet determine if the mitigation wetlands would replace this lost value, in quantity and function. The wetlands which will be destroyed by the NorthMet Project serve a variety of functions that were not evaluated. For instance, these wetlands provide habitat for a number of wetland species, including lynx, wolves, moose, and a number of bird species. These species are not found as far south as the proposed wetland mitigation sites, so the proposed mitigation wetlands simply cannot replace this lost value. In addition, when PolyMet performs its wetland functional analysis, it should be sure to include an analysis of the wetlands that will be created on site. PolyMet is proposing to construct wetlands on-site after closure. These wetlands will serve a water treatment function. It is doubtful that wetlands, which receive mine waste discharges and serve as a passive treatment system will serve the same aquatic function as the destroyed wetlands. Second, the DEIS’ treatment of wetland mitigation was inadequate because it allowed PolyMet to rebuff federal standards that off-site mitigation should be located in the same watershed, without a detailed analysis concerning why such watershed replacement was not possible. The National Research Council reported that while as a nation we may have halted the loss of wetland acreage, we have by no means halted the loss of wetland value and function. <sup>35</sup> The new Corps rules were supposedly designed to change this so that the wetland permitting process actually identified the specific values and functions that were being lost and designed mitigation geared specifically to replace those losses. The Corps needs to require PolyMet to redo its wetland mitigation analysis so that at least some of the mitigation projects actually compensate for the functions and values lost. | WE3     |

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Comment ID	Comment Text	Theme Codes
19397	When preparing a DEIS, an agency must include all direct effects and their significance, along with means to mitigate adverse environmental impacts. See 40 C.F.R. § 1502.16(a) & (h). The purpose of NEPA is to “ensure[] that important effects will not be overlooked or underestimated only to be discovered after resources have been committed . . .” <i>Robertson v. Methow Valley Citizens Council</i> , 490 U.S. 332, 349 (1989). Further, publication of a draft EIS serves an informational role. <i>Id.</i> The EIS “gives the public the assurance that the agency ‘has indeed considered environmental concerns in its decisionmaking process.’” <i>Id.</i> , quoting <i>Baltimore Gas &amp; Electric Co. v. Natural Resources Defense Council, Inc.</i> , 462 U.S. 87, 97 (1983). Here, however, the DEIS only makes general geotechnical statements and concludes that “[g]eotechnical stability will be further analyzed during permitting when final facility designs will be available.” DEIS at 4.13-1. The DEIS is thus deficient in its analysis of pertinent direct environmental effects, and this deficiency does not allow the public to ascertain whether the agency has taken the required “hard look” at possible effects of the project.	GT1
19398	The DEIS acknowledges that the embankments are unstable in saturated conditions, stating “[r]eview of the proposed NorthMet Tailings Basin preliminary design geotechnical stability analysis indicates the perimeter embankments would be stable for unsaturated conditions, but have a low margin of safety for stability for saturated or static liquefaction conditions.” DEIS at 4.13-2 (internal citation omitted). Further information and analysis is required as to whether the upstream type of construction; both existing and proposed, is the proper type of tailings dam for this project site.	GT1
19399	Additionally, the DEIS proposes lined cells to store hydrometallurgical waste to be built on top of existing taconite tailings in cell 2W. DEIS at 3-33. The DEIS acknowledges that Cell 2E is unstable, stating, “[t]here are also layers of loose saturated slimes (fine silty tailings) within the LTVSMC stored tailings material that extend from the central portion of Cell 2E northward and connect with the perimeter embankment, which are subject to liquefaction under certain conditions and therefore may create instability of the perimeter dam.” DEIS at 4.13.-1. The DEIS does not, however, state whether cell 2W is also unstable; stating only that “. . . it is unknown if the slimes layer exists under the facility.” DEIS at 4.13-2. Without this information relating to the stability of cell 2W, the agencies and the public may not accurately assess the potential for contamination from the hydrometallurgical waste.	EOO
19400	While the two facilities are certainly not the same, this accident highlights the environmental consequences that can occur when an agency fails to adequately assess geotechnical stability. DEIS should still seek to provide all the relevant information related to both the existence of slimes and to whether the type of construction proposed is proper, in order to avoid any potentially catastrophic collapses that would result in significant water pollution and possible devastation of a community.	GT1
19401	In addition to the significant issues found with the tailings storage facilities, the waste rock stockpiles also offer cause for concern because a slope stability assessment has not been completed. The DEIS states, “[p]roposed heights and slope angles in the preliminary waste rock stockpile designs are within typical mine engineering practice, however a slope stability assessment has not been completed. Further design and analysis would occur during permitting to ensure that the proposed construction meets acceptable design standards.” DEIS at 4.13-2. The geotechnical stability of these waste stockpiles is incredibly important and the agencies must present information related to the stability for public review. If reasonably complete information is not included, “neither the agency nor other interested groups and individuals can properly evaluate the severity of the adverse effects.” <i>Robertson</i> , 490 U.S. at 352. As noted above, the ability to assess the adverse effects is a large part of the NEPA process, and because of this omission this DEIS is inadequate.	GT1
19402	The DEIS does not state whether water quality predictions took account of these inadequacies. For instance, the DEIS does not state whether the efficacy of the proposed liner is reflected in the “high liner leakage” scenario. DEIS at 4.1-75. If it was not included than the leakage potentially could be even greater than assumed in high liner leakage scenario. The DEIS must disclose whether this information was evaluated in its environmental consequences review. In addition, the DEIS should state whether the prediction of environmental consequences accounted for this slope instability.	EOO

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Comment ID	Comment Text	Theme Codes
19403	Lack of a viable reclamation plan and closure cost estimate is a major flaw in the EIS. The cost alone, however, is not the only area of concern. Another problem that has plagued mine reclamation plans is a complete failure to accurately predict environmental consequences associated with mine closures. A recent study showed that although 100% of the mines they studied had predicted compliance with all applicable water quality standards, in fact, 76% exceeded water quality standards and 64% of the time the mitigation measures did not work. Alan Septoff, Predicting Water Quality Problems at Hardrock Mines-A Failure of Science, Oversight, and Good Practice, 1 (2006) (attached hereto) [hereinafter Predicting], quoting Jim Kuipers & Ann Maest, Comparison of Predicted and Actual Water Quality at Hardrock Mines. This failure to accurately predict and then subsequently manage water quality impacts can result in significant negative impacts; on water quality, environmental health, and the costs that tax-payers have to shoulder. Predicting at 1. Based on the wide disparity of the EIS's submitted by the mines and the actual results, agencies must make improvements in the prediction and prevention of impacts to water quality and other resources. Id at 2. The DNR should have examined the reports that show a massive disconnect between EIS's claiming to have "minimal water impact" and the reality of the water quality after the mine closed. As there is an uncertainty in water quality predictions, DEIS 3-54, 4.1.-53, 4.1-60, etc., the DNR should have been extremely conservative in their assessment of potential reclamation costs.	PD3,PD4
19403	As part of this analysis, the DEIS should have addressed these recent scientific reports showing a higher likelihood of unpredicted contamination in projects that have the potential to create acid rock drainage and that are situated near ground or surface waters. 93% of the mines surveyed in Ann Maest and Jim Kuipers Study that were near groundwater and had an elevated potential for acid drainage exceeded water quality standards. Predictions at 3. 85% of the mines near surface water exceeded water quality standards. Id. The most ominous fact, however, is that of all of the sites that did develop acid drainage, 89% predicted in their EIS that they would not. Id. The disparity between the predicted and actual water quality exceedences is an important aspect of the problem, and should have been discussed in the reclamation plan and included in the DEIS specifically with regards to the financial assurances that the company would provide.	PD3,PD4
19403	Typically mine closure and post-closure costs run in the tens to hundreds of millions of dollars. Many of the measures that will be taken to avoid environmental and public health impacts require adequate financial assurances and/or bonding. When there are inadequate financial assurance measures taken, there is a significant potential impact to the public health, the environment, and taxpayers. That is why it is imperative that financial assurances be discussed as a part of the EIS process. The EPA notes that the severity of the consequences posed by hard rock mining is evident in the massive costs associated with the actions needed to protect public health and the environment after releases from these facilities. 74 Fed. Reg. 37,213, 37,217 (July 28, 2009).	PD8
19403	A very important part of the environmental analysis for a mine is evaluating the reclamation plan. The reclamation plan documents not only what the goals for the reclamation of the site will be (i.e. the designed post-closure use), but also what is needed in terms of reclamation methods and financial resources to achieve the reclamation goals. DNR and the Corp's decision not to discuss the reclamation plan in detail or address the best available science with regards to the potential for significant increases in contamination, coupled with the failure to include any financial assurance information renders this DEIS incomplete and inadequate. CEQ regulations require agencies to include all pertinent data in the EIS. An agency must "provide full and fair discussion of significant environmental impacts and shall inform decision-makers and the public of the reasonable alternatives which would avoid or minimize adverse impacts or enhance the quality of the human environment." 40 C.F.R. 1502.1. Moreover, NEPA's implementing regulations state that "a draft statement must fulfill and satisfy to the fullest extent possible the requirements established for a final statement . . . . If a draft statement is so inadequate as to preclude meaningful analysis, the agency shall prepare and circulate a revised draft of the appropriate portion." 40 C.F.R. § 1502.9(a). The actual anticipated cost of closure and the full reclamation plan are items that would inform the public and decisionmakers about the merits or dangers of possible significant environmental contamination from the proposed action. Without this important information, the DEIS is inadequate.	PD5

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<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
19403	<p>Here, the DNR's and the Corps' decision not to include this information is arbitrary and capricious because it is critical to the analysis of the long-term environmental impacts. Due to the importance of financial assurance information, in July 2009, the EPA identified copper mining as a class of facility within the hard rock mining industry that they were going to develop financial responsibility requirements for under CERCLA section 108(b). 74 Fed. Reg. 37,213 (July 28, 2009). The final rules are anticipated in 2011. Research performed by the EPA indicates that hard rock mining is responsible for the pollution of 3,400 miles of streams and 440,000 acres of land. 47 Fed. Reg. at 37,215. Further, the Forest Service believes that approximately 10,000 miles of rivers and other waterways have "been contaminated by acid mine drainage from the metal mining industry." Id. The metal mining industry releases between 1.07-1.5 billion pounds of toxic chemicals annually, which equates to approximately 28% of the total releases by all U.S. industry. Id. The fact that large mines will operate for decades may extend the timeframe for potential toxic releases and exposure to hazardous chemicals. Id. A significant reason for requiring complete financial assurance is the magnitude of the costs that federal agencies, state agencies, and ultimately the taxpayer have to shoulder in cleanup costs. Some mine owners have defaulted on their environmental liabilities associated with their mines, making the cleanup costs borne mostly by taxpayers. U.S. Government Accountability Office, <i>Environmental Liabilities, Hardrock Mining Cleanup Obligations</i>, at 1 (2006) (attached hereto) [hereinafter HMCO]. The average cost of addressing a mining site under the Superfund program is approximately \$22 million per site. U.S. Environmental Protection Agency- Abandoned Mines Land Team, <i>Reference Notebook</i>, at 14 (2004) (attached hereto). As of 2006, there were 63 hard rock mines on the Superfund's National Priority List. These sites are estimated to cost a total of 7.8 billion to remediate, and at least 2.4 billion of this is to be paid by the tax payer, rather than the company that was responsible for the contamination. Id. at 2. The Federal government spent at least 2.6 billion dollars to remediate hard rock mine sites between 1998 and 2007. 74 Fed. Reg. at 37,217. Additionally, while mining operators have provided financial assurances totaling approximately \$982 million for projects located on BLM land, the Government Accountability Office has determined that these assurances fall short of the stated reclamation budgets by approximately \$61 million dollars. U.S. Government Accountability Office, <i>Hardrock Mining, Information on Abandoned Mines and Value and Coverage of Financial Assurances on BLM Land</i>, at 15 (2008) (attached hereto). This shortfall, however, does not account for the potential for the reclamation costs to be significantly higher than originally estimated. The potential burden to the taxpayer is obvious, and as such reclamation costs and financial assurance instruments need to be discussed in the DEIS. The importance of this information to be analyzed in the DEIS can be shown by many regional EPA offices negatively rating EISs that do not contain this information. For example, EPA Region 10 has already promulgated standards for reviewing EIS's for mining projects. The agency will adversely rate any EIS that does not include adequate and complete financial assurance information. U.S. Environmental Protection Agency Region 10, <i>Region 10 Mining Financial Assurance Strategy</i> (2009) (attached hereto). The agency further states that "[e]nsuring compliance with financial assurance requirements at mineral processing facilities is an OECA national priority for 2008-2010." Id. at 6. In a 2007 comment on an mining related DEIS, Region 9 EPA requested information about financial assurance, stating "EPA believes this information is important in the EIS because the</p>	PD2,PD3
19404	<p>The DEIS should analyze whether this proposed project may have a net negative impact on the local and state economy. This should include analyzing direct costs associated with the project such as increased costs for road maintenance, operating the health, safety and environmental protection systems necessary for mining; supporting training and research and development for the industry; and providing various tax breaks and subsidies. This should include analyzing external costs such as increased costs associated with healthcare, lost productivity resulting from injury and health impacts, water treatment caused by surface mining, water infrastructure to replace damaged wells, limited development potential due to poor air quality, and social spending.</p>	SE3

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Comment ID	Comment Text	Theme Codes
19404	The DEIS' treatment of socioeconomic issues is inadequate. The DEIS acknowledges mining communities, compared to other parts of Minnesota, are characterized by poor socioeconomic conditions including higher levels of poverty and lower education rates. DEIS at 4.10-4 – 4.10-8. The DEIS, however, stops there and never attempts to analyze whether the proposed project would continue that trend of poor socioeconomic conditions. Instead, the DEIS claims that the proposed mining project would have a positive impact on the economy of St. Louis County and the region, primarily through the creation of jobs and the generation of tax revenue. DEIS at 4.10-26; see also DEIS at 4.10-15. However, its analysis is incomplete and ignores important aspects of the problem. For instance, the discussion of socioeconomics must analyze whether there are any detrimental aspects of mining economies. Socioeconomics cannot be reduced to the amount of money and jobs the project will ostensibly bring to the area but rather most consist of a robust economic analysis. It is imperative that the agencies look into the negative economic aspects of this project because a number of recent studies on mining have found that mining has an overall negative impact on state and local economies. For instance, a study on the impact of coal mining on the Kentucky state budget concluded that “the industry actually costs more than it brings to the state.” <sup>39</sup>	SE3
19405	The DEIS should also examine if there are additional economic impacts from the lost potential for jobs and other economic benefits from industries that are incompatible with surface mining both in the short- and the long-term. The very process of mining, concentrating, and refining the metal ores creates relatively permanent environmental damage, such as huge open pits, massive waste piles, extensive settling ponds, heavy metal pollution, acid mine drainage. <sup>44</sup> These reduce the attractiveness of minedover areas to new residents and businesses, making it difficult for mining areas to diversify their economies. <sup>45</sup>	SE4
19406	The dramatic effects of surface mining on the landscape and ecosystems render the land unusable for certain industries that could otherwise employ residents in an ongoing basis. Surface mining permanently limits the opportunities for new jobs in other incompatible sectors, such as sustainable harvesting of timber or tourism and recreation. The DEIS should, thus, analyze what are the lost opportunity costs.	SE3
19407	The expectations of increased employment are often based on the illusion that mining will provide long-lasting and continuously profitable employment. Studies demonstrate that not only are mining communities often less profitable than their counterparts relying on other industries, but also that the profits garnered are short-lived and followed by a period of high unemployment. <sup>46</sup> Professor Freudenburg of U.C. Santa Barbara and Lisa J. Wilson of the Watershed Research and Training Center used four criteria to analyze studies detailing the economic trend of numerous mining communities. <sup>47</sup> They ensured that the studies they utilized were performed over a significant period of time and that they provided quantitative assessments of the impacts of mining activities. <sup>48</sup> They looked only at studies which took into account at least one of the following attributes: incomes, unemployment rates, and poverty rates. <sup>49</sup> They ensured that only nonmetropolitan areas were included, so they were not influenced by uniquely metropolitan economic statistics. <sup>50</sup> While the conclusion notes that the immediate effects on income ranged mostly from neutral to positive; the analysis of poverty, unemployment and the overall trend was overall very negative. <sup>51</sup> The DEIS should analyze additional studies, including this one, to ensure that the agencies have taken a “hard look” at the socioeconomic impacts of this project.	EOO,SE3
19408	Although the DEIS acknowledges that a large portion of the St. Louis population, and its current source of income, comes from its retirement age residents, DEIS at 4.10-1 – 4.10-5, the DEIS never analyzes whether these individuals will want to remain in St. Louis with the proposed development. If these residents do not want to remain, the community could lose a large source of its income. As Professor Power notes in his report, as real earnings in St. Louis County decreased, other sources of earnings throughout the county increased. <sup>54</sup> In particular, from 1983 to 2000, earnings from Social Security payments and Medicare reimbursements increased by \$91 million. <sup>55</sup> The retired population within St. Louis county contributes a large portion of earnings into the local economy, and an increase in mining would likely bring about a decrease in retirement-related revenue because mining causes a reduction in the natural beauty and serenity of any area it takes place in, immediately reducing the appeal to prospective retiree residents. In order to take a hard look at the socioeconomic impacts, the DEIS must analyze how this project will impact the flow of retirement-related income into Iron Range communities.	SE3

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Comment ID	Comment Text	Theme Codes
19409	The DEIS also ignores the volatility of the mining industry and simply assumes that the operating jobs will continue uninterrupted for 20 years. DEIS at 4.10-15. However, this assumption does not account for volatility of metal prices and increased environmental regulation, which may impact PolyMet’s decision regarding how long to operate the plant. The economic benefits of the mining industry relies on multiple uncontrollable factors. Primary among these factors is the internationally competitive nature of mining. The price and demand for metal and metal ores fluctuates on a global scale, often causing developing countries producing at a lower cost to see a higher and more consistent demand for materials. <sup>56</sup> In addition, mining is continuously undergoing technological advances, often requiring a smaller workforce than previously needed, leaving many out of work. <sup>57</sup> It is generally in the company’s best interest to employ as few as possible to cut costs while using technological advances to ensure increased production.	SE3
19410	Finally, the DEIS treatment of socioeconomic impacts with regard to closure of the NorthMet mine is inadequate. Regarding mine closure the DEIS states that “[u]nless new industry is developed in the East Range area prior to completion of these activities, it is assumed that 95 percent of working-age people formerly employed by the NorthMet Project would need to secure alternative local employment or would leave the area after this time.” DEIS at 4.10-16. The DEIS should have analyzed whether this project will permanently limits the opportunities for new jobs in other sectors incompatible with surface mining, how long it will take this community to recover from such an economic lose, whether there are mitigation measures that could address these impacts. The DEIS discussion of socioeconomics needs to include a discussion of the impacts of relying on a cyclical industry as the major economic driver of a community.	SE3
19411	In the DEIS, DNR and the Corps did not analyze the health impacts associated with air pollution, including particulate matter emissions. Instead, the agencies compared the air emissions to the National Ambient Air Quality Standards (“NAAQS”) and the state standards. DEIS at 4.6-13 – 4.6-17. The agencies concluded that, since the emissions were below these thresholds, the project’s air emissions would not have a significant effect. DEIS at 4.6-17. This analysis is not adequate and does not constitute a “hard look” under NEPA. First, as discussed above, particulate matter is a nonthreshold pollutant, meaning that any exposure above zero will have adverse health impacts. See American Trucking Associations, 175 F.3d 1027; see also 62 Fed. Reg. 38,652. Therefore, reliance on the NAAQS standards would not inform an agency about possible adverse health impacts associated with these emissions. Instead of only looking at the NAAQS and MAAQS, the agency must take a hard-look at the health and environmental impacts associated with particulate matter emissions to determine if the project’s emissions will have a significant impact. See, e.g., Uprose v. Power Authority of State of New York, 729 N.Y.S.2d 42, 46-47 (N.Y.A.D. 2 Dept. 2001) (environmental analysis that assumed all PM10 emissions were PM2.5 and compared to NAAQS was not sufficient “hard look” for an EIS because PM 2.5 is a nonthreshold pollutant). A hard look would entail determining if the air emissions associated with this project would lead to a significant increase in premature mortality, aggravation of respiratory and cardiovascular disease lung disease, decreased lung function, asthma attacks, and certain cardiovascular problems such as heart attacks and cardiac arrhythmia. The agencies should consider the studies that exist documenting the health concerns cited and other appropriate studies. <sup>60</sup> Such an analysis is especially required for particulate matter. The review for compliance with NAAQS shows that the expected 24-hour PM 2.5 predicted total ambient impact (plus the background) is 34 micrograms, which is just under the 35 microgram per cubic meter NAAQS ambient standard for PM 2.5. Given that PM 2.5 is a nonthreshold pollutant and that the NorthMet Project’s emissions are just under the NAAQS, the agencies must undertake further analysis before concluding that there are no significant public health impacts associated with these emissions.	AQ4,AQ6
19411	Second, it is known that older populations are more susceptible to the adverse health impacts associated with particulate matter, including premature mortality, aggravation of respiratory and cardiovascular disease lung disease, decreased lung function, asthma attacks, and certain cardiovascular problems such as heart attacks and cardiac arrhythmia. <sup>72</sup> Fed. Reg. 20,586 (April 25, 2007). There have been other studies that have provided compelling evidence that fine particle concentrations well below the national standard are harmful to the cardiovascular and respiratory health of our elderly citizens. <sup>61</sup> Although the DEIS acknowledges that the NorthMet project would be located in an area that has a very high elderly population, DEIS at 4.10-1 -4.10-5, the agencies never analyze the increased health risks to this segment of the population associated with these air emissions. This simply does not meet NEPA’s “hard look” requirement.	AQ6

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<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
19413	<p>In the DEIS, DNR and the Corps did not analyze the health impacts associated with air pollution, including particulate matter emissions. Instead, the agencies compared the air emissions to the National Ambient Air Quality Standards (“NAAQS”) and the state standards. DEIS at 4.6-13 – 4.6-17. The agencies concluded that, since the emissions were below these thresholds, the project’s air emissions would not have a significant effect. DEIS at 4.6-17. The agencies, however, did not compare the sulfur dioxide emissions with the new standards proposed by EPA. The agencies need to correct this analysis to compare the sulfur dioxide emissions with the new NAAQS standards that EPA is about to promulgate, otherwise the agency has failed to take a hard look at the environmental consequences of this proposed action. See, e.g., <i>Uprose v. Power Authority of State of New York</i>, 729 N.Y.S.2d 42, 46-47 (N.Y.A.D. 2 Dept. 2001). Once the Corps and DNR have performed this analysis, they will determine that the NorthMet Project will lead to a violation of the newly proposed NAAQS standard for sulfur dioxide. The DEIS states that the NorthMet Project will emit 293 ug/m3 for the 1-hour averaging time. DEIS at 4.6-17, Table 4.6-10. When you convert 293 ug/m3 to parts per billion you get 110 parts per billion. This is over the proposed new sulfur dioxide NAAQS of 50 and 100 parts per billion (“ppb”) measured over 1-hour. 74 Fed. Reg. at 64,810.</p>	AQ6
19414	<p>As discussed above, DNR and the Corps completed its air emissions impact analysis by comparing the NorthMet air emissions to the NAAQS and the state standards. DEIS at 4.6-13 – 4.6-17. Under this analysis, the agencies determined that the 24-hour PM 2.5 predicted total ambient impact (plus the background) is 34 micrograms, which is just under the 35 microgram per cubic meter NAAQS ambient standard for PM 2.5. In addition, the agencies determined that the Class II PSD Increment for 24-hour PM 10 for the project (plus the background) was 29 micrograms, just below the 30 microgram Class II PSD increment threshold. The agencies, however, did not provide the air quality modeling data for public review. Without this information, it is impossible to determine if the PM 2.5 emission inventory was sufficient and complete. For instance, the DEIS states that PolyMet will use the LTV taconite crushing equipment for NorthMet ore crushing and grinding. DEIS at 4.7-8. However, taconite does not have similar mineralogy to Duluth Complex material and crushing releases significant particulate matter. Without the modeling information, it is impossible to know whether the taconite crushing equipment emissions were inventoried and whether those emissions were assumed the same as with the taconite crushing or were updated to reflect the material that would be crushed in the NorthMet Project. Withholding this information has essentially precluded the public, including the Sierra Club, from effectively commenting on this analysis. The agencies must provide the air quality modeling data and allow for additional public comment. In addition, the agencies do not disclose whether condensable particulate matter was included in addition to filterable particulate matter in its air emission estimates. If the air emission estimates did not include condensable particulate matter, then the air emissions analysis is inadequate and the agencies determination that the Class II PSD Increment for 24-hour PM 10 and the NAAQS for 24-hour PM 2.5 were not violated is wrong. Withholding this information has essentially precluded the public, including the Sierra Club, from effectively commenting on this analysis. The agencies must provide the air quality modeling data and allow for additional public comment.</p>	AQ4,AQ8

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<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
19415	<p>In the DEIS, DNR and the Corps conclude that the NorthMet Project does not need to comply with the Prevention of Significant Deterioration Requirements (commonly referred to as the “PSD Program”) of the Clean Air Act because the “emissions from the Project are below ‘major source’ thresholds for the PSD program.” DEIS at 4.6-4. This is inaccurate. The 258,648 tons/year of carbon dioxide that the new NorthMet Project would emit far exceed the EPA’s proposed major source threshold for greenhouse gases of 25,000 tons/year.<sup>69</sup> Therefore, PolyMet is required to obtain a PSD permit for this project, which contains a Best Available Control Technology (“BACT”) emission limit for carbon dioxide. Such a limit is required by the Clean Air Act, as explained below. The Clean Air Act’s Prevention of Significant Deterioration (“PSD”) program applies to major new sources of air pollution. Among other requirements of the PSD programs, the Act imposes stringent emission limits on new major sources of air pollution based on the emission limits that would be possible if the “best available control technology” were incorporated into the design and construction of the facility. 40 C.F.R § 52.21(j)(2), App. H. See also 42 U.S.C. § 7479(3). The Clean Air Act defines “best available control technology” as follows: The term “best available control technology” means an emission limitation based on the maximum degree of reduction of each pollutant subject to regulation under this Act emitted from or which results from any major emitting facility, which the permitting authority, on a case-by- case basis, taking into account energy, environmental, and economic impacts and other costs, determines is achievable for such facility through application of production processes and available methods, systems, and techniques, including fuel cleaning, clean fuels, or treatment or innovative fuel combustion techniques for control of each such pollutant. 42 U.S.C. § 7479(3) (2009), App. E (emphasis added). A requirement for a facility to obtain a PSD permit with a BACT emission limit is triggered when a facility’s emissions will exceed a major source threshold for a pollutant “subject to regulation” under the Clean Air Act. 42 U.S.C. § 7475(a)(4); see also 40 CFR § 52.21(b)(50) (2007). While there has been an ongoing debate regarding whether GHG emissions, including carbon dioxide, are “subject to regulation” under the Clean Air Act, that debate will end in March 2010. In May 2009, EPA issued proposed rule to regulate GHGs from mobile sources under Title II of the CAA. 74 Fed. Reg. at 24,007 (May 22, 2009). EPA stated that it expects to finalize these final regulations in March 2010. 74 Fed. Reg. at 55,295 (“the light-duty motor vehicle rule, which EPA recently proposed and expects to promulgate by the end of March 2010”), 55,296 (“March 2010, when we expect PSD and title V requirements to be triggered for GHG emitters”). In addition, EPA has publicly announced that “it is EPA’s position that new pollutants become subject to PSD and title V when a rule controlling those pollutants is promulgated (and even before that rule takes effect). Accordingly, as soon as GHGs become regulated under the light-duty motor vehicle rule, GHG emissions will be considered pollutants ‘subject to regulation’ under the CAA and will become subject to PSD and title V requirements.” 74 Fed. Reg. at 55,300. Therefore, any major source of GHG that commences operation after March 2010 will have to obtain a PSD permit under the Clean Air Act. There is no dispute that the NorthMet Project will emit CO<sub>2</sub> and that these emissions will far exceed the EPA’s proposed major source threshold for greenhouse gases. NorthMet has stated that its direct CO<sub>2</sub> emissions (or more specifically its “carbon dioxide equivalent” (CO<sub>2</sub>-e) emissions) will be 258,648 CO<sub>2</sub>-e tons/year. DEIS at 4.6-31. These emissions exceed EPA’s proposed major source threshold for greenhouse gases of 25,000 tons/year. 74 Fed. Reg. at 55291.</p>	AQ3,AQ4A



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Comment ID	Comment Text	Theme Codes
19416	<p>The environmental review process under NEPA provides an opportunity to review the effect of agency action on the creation of greenhouse gas emissions and other climate change issues, such as the destruction of carbon sinks or decreasing the efficiency of carbon sinks. DNR and the Corps have failed to comply with NEPA because its analysis only addressed a limited subset of issues related to climate change. First, the DEIS does not address cumulative impacts of the NorthMet Project in light of climate change. The DEIS states “The potential impact of the NorthMet Project is evaluated only based on emissions of greenhouse gases from the project on its own and in combination with offsite emission generation. There are not analytical or modeling tools to reliably evaluate the incremental impact of a project’s discrete greenhouse gas emissions on the global and regional climate. In addition, there are no analytical and modeling tools to reliably evaluate any cascading impacts, cumulative effects, from a particular project’s greenhouse gas emissions on natural ecosystems and human economic systems in a given state or region.” DEIS at 4.6-32 (emphasis added). After claiming that there are no reliable modeling tools, DNR and the Corps completely shirk their obligations to examine impacts to effected resources (such as wetlands and wildlife) from climate change, including past, present and reasonably foreseeable future projects. For instance, although the DEIS acknowledges that the state of Minnesota has set a goal of reducing greenhouse gas emissions to a level at least 80% below 2005 levels by 2050, DEIS at 4.6-30, it does not address whether the NorthMet Project’s GHG emissions (258,648 CO<sub>2</sub>-e tons/year) will significantly impact the states ability to achieve that goal. It does not determine whether the incremental impact of this project, when considered with other past, present, and reasonably foreseeable future projects, will impact this state declared goal or any other possible impacts. In fact, the DEIS completely fails to determine whether the project will have a significant impact on the environment in light of climate change. DEIS at 4.6-28 – 4.6-33. Instead, the agencies simply make general statements regarding possible risks and then propose reclamation and mitigation activities to offset some of the impacts. DEIS at 4.6-32. The agencies never officially make a significance determination. In violation of NEPA, this perfunctory analysis consists solely of the conclusory opinion of agency personnel and provides nothing more than a general statement about some risk and ways to possibly mitigate those risks. See <i>Klamath- Siskiyou Wildlands Ctr.</i>, 387 F.3d at 996 (“NEPA documents are inadequate if they contain only narratives of expert opinions.”); <i>Ocean Advocates v. U.S. Army Corps of Engineers</i>, 402 F.3d 846, 869 (9th Cir. 2005); <i>Friends of the Earth, Inc. v. U.S. Army Corps of Eng’rs</i>, 109 F.Supp.2d 30, 42 (rejecting EA’s brief discussion with no analysis). It falls well short of the “hard look” that NEPA requires and fails as an assessment of the cumulative impacts. <i>Anderson v. Evans</i>, 371 F.3d 475, 486 (9th Cir. 2004); <i>Ocean Advocates</i>, 402 F.3d at 869. Climate change is the classic example of a cumulative problem; emissions from numerous sources combine to create the most pressing environmental and societal problem of our time. <i>Ctr. for Biological Diversity v. Nat'l Highway Traffic Safety Admin.</i>, 538 F.3d 1172, 1217 (9th Cir. 2008). Indeed, “[o]ne of the most important environmental lessons that has been learned is that environmental damage often occurs incrementally from a variety of small sources. These sources appear insignificant when considered individually, but assume threatening dimensions when considered collectively with other sources with which they interact.” <i>Communities for a Better Env’t v. California Resources Agency</i>, 103 Cal.App.4th 98, 114. (Cal. App. 2002). As the Ninth Circuit stated in <i>Center for Biological Dive</i></p>	AQ3

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Comment ID	Comment Text	Theme Codes
19417	The second way that its climate change analysis is insufficient is that the DNR and the Corps did not use climate change as an additional screen to determine if impacts to certain resources would be significant. For instance, the analysis did not address the combined effects of the NorthMet Project with the weakened physical condition and declining reproductive fitness of the Canada Lynx caused by global climate change. While the DEIS generally discusses global climate change as something that may affect “forest ecosystems, water resources, other unique ecosystems, agriculture and human health” it doesn’t take this analysis to the next level. DEIS at 4.6-28 – 4.6-33; see also DEIS at Section 4.4. For instance, the DEIS never examines how climate change is affecting the Canada Lynx, its habitat, or that of its primary prey, the snowshoe hare. DEIS at Section 4.4. The record reflects no analysis of whether or how the weakened condition and reduced habitat and prey capacity caused by climate change combine with the impacts of disturbance and harassment caused by the NorthMet Project to harm the lynx. Id. In addition, although the DEIS acknowledges that “Minnesota’s forested areas could decrease by 50-70%” it never overlays this information onto its wildlife significance analysis. For instance, it never determines whether this lose of forested lands, in conjunction with other known impacts such as corridor degradation, would lead to a significant impact on the Canada Lynx or other wildlife. See DEIS at 4.6- 29 and DEIS Section 4.4. This is not a sufficient analysis. So while the DEIS claims that the NorthMet Project will not significantly impact the Canada Lynx, see, e.g., DEIS at 4.4-32, it reached that conclusion based on a limited analysis that excluded overlaying climate impacts on top of the other impacts. See, e.g., Grand Canyon Trust v. Fed. Aviation Admin., 290 F.3d 339, 345 (D.C. Cir. 2002) (“[E]ven a slight increase in adverse conditions that form an existing environmental milieu may sometimes threaten harm that is significant. One more factory . . . may represent the straw that breaks the back of the environmental camel.”) (quotation omitted). This is not sufficient under NEPA.	AQ3
19418	NEPA’s implementing regulations mandate that an EIS discuss “possible conflicts between the proposed action and the objectives of Federal, regional, State, and local (and in the case of a reservation, Indian tribe) land use plans, policies and controls for the area concerned.” 40 C.F.R. § 1502.16. Here, the DEIS does not discuss how the NorthMet Project conflicts with the Endangered Species Act, Clean Water Act, the National Forest Management Act, the Organic Act, and other related laws.	G5A
19419	The NorthMet Project will unquestionably result in the destruction or adverse modification of critical habitat for the endangered Canada Lynx. First, the DEIS explicitly states that the NorthMet Project will destroy 1,454 acres of critical lynx habitat. DEIS 4.4.-10. Further, as discussed in the Wildlife section, supra, this project will significantly degrade critical habitat for the Canada Lynx by negatively impacting two of the lynx’s travel corridors, which are listed as critical habitat. (Specifically, the NorthMet Project will adversely impact travel Corridor 11, and completely destroy Corridor 12. Barr Report at 56.) This is a violation of ESA § 7(a)(2), which prohibits such destruction and adverse modification. 16 U.S.C. § 1536(a)(2). Nowhere in the DEIS does DNR or the Corps address the NorthMet’ Project’s conflict with this essential federal law. This is inadequate under NEPA. 40 C.F.R. § 1502.16.	WI1
19420	As discussed in detail above, the NorthMet Project’s Tailings Basin will discharge pollutants to surface water via a hydrological connection with groundwater. For at least two of these constituents, mercury and aluminum, these point source discharges would cause or contribute to the violation of water quality standards. <sup>70</sup> Thus, PolyMet would not be able to obtain a NPDES permit for these discharges. 40 C.F.R. § 122.4(i). Nowhere in the DEIS does DNR or the Corps address the NorthMet’ Project’s conflict with the Clean Water Act. This is inadequate under NEPA. 40 C.F.R. § 1502.16.	WR3I
19421	Since the DEIS ignores the fact that this project is locate on Forest Service lands, it never analyzed whether this project was in compliance with various statutes that govern national forests, specifically the Organic Act and NFMA.	PD4,CPLU3

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Comment ID	Comment Text	Theme Codes
19422	Prior to statehood, Minnesota was comprised of approximately 18.6 million acres of wetland. Minnesota Board of Water and Soil Resources, Wetlands Regulation in Minnesota, 3 (2003). Currently, Minnesota only has about half of that, approximately 9.285 million acres, remaining. Minnesota Department of Natural Resources, <a href="http://www.dnr.state.mn.us/wetlands/index.html">http://www.dnr.state.mn.us/wetlands/index.html</a> . The Minnesota Legislature adopted a policy of promoting no net loss of wetlands. See Minn. Stat. § 103A.201, subd. 2(b). Minnesota courts have also expressly held that the state has a strong policy devoted to wetland protection. See, e.g., Application of Christenson, 417 N.W.2d 607, 615 (Minn. 1987) (“[v]anishing wetlands require . . . protection and preservation”); Application of Central Baptist Theological Seminary, 370 N.W.2d 642, 649 (Minn. Ct. App. 1985) (“[w]etlands provide a unique natural ecosystem because they are capable of supporting a greater diversity of life than other habitats.”); County of Freeborn by Tuveson v. Byrson, 243 N.W.2d 316, 322 (Minn. 1976) (wetlands “are something to protect and preserve.”). The DNR estimates the total direct wetland impacts at 854.2 acres, DEIS 4.2- 9, and an indirect wetland impacts at 667.9 acres, for a total predicted impact of 1,5221.1 acres. DEIS 4.2-24. The DEIS has not proposed to replace in quantity or quality these impacted wetlands. Nowhere in the DEIS does DNR or the Corps address the NorthMet’ Project’s conflict with the Minnesota Protection laws. This is inadequate under NEPA. 40 C.F.R. § 1502.16.	WE3,WE4
19422	For the above stated reasons, the Sierra Club recommends that the DNR and the Corps reject the Polymet project or substantially revise the DEIS to address these deficiencies and provide the public with an opportunity to review and comment the document.	G10
19422	The mere fact that our State of Minnesota is even considering the swap of precious waterways and wilderness areas for jobs is incomprehensible to anyone with an understanding of the consequences of copper mining. The long-term, significant pollution threat, served up by PolyMet Mining, is a poor bargain for the short-term employment gain. Copper mining has a terrible reputation for trashing its immediate and downstream environment. Historically, copper mining has always been a rape of the land; has always contaminated rivers and lakes; has always left behind pollution and lasting damage for others to clean up. No amount of money can undo the damage and restore the mine vicinity and downstream environment to its original condition. Look to other states with mining, and you’ll find wasted land, and limits to other economic opportunities, in mining’s tracks. Look to our own state and you’ll find many environmental mistakes made with past mining ventures. The risks of PolyMet’s mining proposal far outweigh any rewards gained by job creation. All the years of environmental growth and all the future generations negatively impacted by the inevitable waste of the land, far exceed the few years of benefit the jobs will provide. We must refuse to sell our environmental health for short-term economic gain (neither ours, Canadian owned Poly- Met’s, nor it’s stock holders). Future jobs will always be created and economies will always improve, while damaged, fragile ecosystems, far too often, cannot be recovered. We must keep Minnesota clean and environmentally healthy for ourselves and for our future generations. We must not sell one of Minnesota’s most valuable resources - our natural world, which distinguishes us from most other states. The pain is simply not worth the gain. The grandeur of our Northland is too precious to risk damaging. It is through our protection of our land that we will distinguish ourselves from citizens of many other states.	G2A
19422	I have been employed on the proposed Polymet plant site and am concerned about legacy pollution from taconite mining and the probability of more serious pollution likely to result from opening up a sulfide ore body in Minnesota’s wetlands.	G9
19424	p. 1-6 "Section 401 Water Quality Certification/Waiver. Waived by default in May 2006" The DEIS should address why the Water Quality Certification was waived and if the MPCA will waive its authority in future regulation of Polymet	RFI
19426	p. 2-6 "The amount of financial assurance..." The DEIS should address the recent historical documentation of the failure of the State of Minnesota to use available statutes to require adequate financial assurance. (Reserve & LTV)	PD4
19427	p. 2.8 "...availability of new information related to potential impacts..." (2.3.4) The DEIS should address the probability that the permitting of Polymet would lead to a cascade of permits for other development in the Duluth complex. (As Duluth Metal's Rick Sandri puts it, Polymet is the snowplow and Duluth Metals is the car behind the plow. [Minnesota Public Radio, April 21, 2009 as reported in Mining Minnesota-News]) The DEIS should have an evaluation of probable effects after Polymet plows through the EIS process.	G8C

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**Comment ID    Comment Text    Theme Codes**

- 19427 p. 2-8 "Issues Incorporated into EIS After Scoping" The EIS should incorporate a study of why the mining industry has failed to sustain prosperous communities on the Iron Range even when those communities are almost surrounded by active mining operations. (Virginia, MN. Minntac Mine, Minorca Mine, United Taconite Mine.) G8
- 19428 p. 3.3 "The peat would be removed and stockpiled..." The DEIS does not adequately describe the disposition of peat as it applies to carbon sequestration. AQ3
- 19429 p. 3-11 "In areas where peat is present, seepage would be prevented by compressing the peat..." Peat compression did not prevent seepage at Minntac tailings pond and Dunka LTV site. (Minntac Schedule of Compliance, November 15,2007. Dunka Variances) PD10
- 19430 p. 3-48 "Closure Cost Estimate" This section should fully address financial assurance. Recent failures of the State of Minnesota to have adequate financial assurance (Reserve and LTV) should be reason to inform the public about those failures and of the likelihood that non-ferrous mining corporations will wield the same political power that created earlier failures. (Regulatory Capture) PD3,PD4
- 19430 p. 3-12 "...limiting the oxidation of the sulfide minerals..." DEIS should address the leaching of metals at neutral Ph. (Tempel, Regina N. Oxidation Kinetics of Arsenic-sulfide Minerals at Neutral Ph, 2004) PD2
- 19431 p. 3-51 "No Action Alternative" The Purpose and Need of the Project did not document any long term economic benefits. There is no assurance of long term prosperity but if the project goes forward there is documentation of long term economic and environmental liabilities. Mining rebates and subsidies should be documented as obvious supporting evidence for the No Action Alternative. ALT8
- 19432 p.3-56 "Table 3.2-2 TBM-7" Proposed use of paper mill residue should initiate a base line study of endocrine disruptors in the plant site and mine site watersheds so that added endocrine disruptors from mitigation measures can be properly assessed. Endocrine disruptors may be synergistic so a multi- generational fathead minnow test should be conducted and results included in the DEIS. PD8
- 19433 My main personal concerns with the Draft Environmental Statement (DEIS) are that it does not include an analysis of the long term economic consequences of a mining project as would be predicted by an economist familiar with the broadly accepted theory of the Resource Curse and the DEIS does not address endocrine disruptors which have been given serious consideration by Minnesota's legislature and scientific community. My wife and I have a special interest in endocrine disruptors being we were never blessed with children. We hope to protect future generations from being damaged by minerals and compounds associated with mining in Minnesota. Failure to even mention the Resource Curse or endocrine disruptors suggests that this DEIS was crafted to be defensible by mining proponents rather than to be informative for the public. SE3

**Sender Last Name:**    Schultenover    **Submission ID:** 3191

- 732 I ask for the following: 1. A time extension of 30 to 45 days for review of the EIS. 2. More public meetings in more places to gather input. The current schedule is too limited. 3. That the public meetings include the option for citizen statements and discussion in the open meeting. Thank you PRO6

**Sender Last Name:**    Schumacker    **Submission ID:** 3507

- 3777 DONT MESS UP OUR LAND! EOO

**Sender Last Name:**    Schwain    **Submission ID:** 3512

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
3781	I urge further study on this matter. I believe the following excerpt from the DEIS is important: " In some cases the results of the deterministic modeling and the Uncertainty Analysis conflict, which makes it difficult to draw firm conclusions (Table 4.1-48). Nickel, for example, is predicted by the deterministic modeling to meet groundwater evaluation criteria in the West Pit. The Uncertainty Analysis, on the other hand, suggests that the deterministic modeling predictions underestimated nickel concentrations in the West Pit. Although the conservatism of some of the assumptions used in the Uncertainty Analysis can be argued, it is clear that the Proposed Action would exceed groundwater evaluation criteria for at least several solutes (i.e., antimony, manganese, nickel, and sulfate along several flow paths), even when accounting for high liner leakage rates and assuming natural attenuation by sorption. As indicated in Table 4.1-45, some of the waste rock stockpiles have the potential to leach solutes to groundwater for long periods (i.e., over 2,000 years), so these effects would be significant (RS74A, Barr 2008). " If the DEIS "can not draw firm conclusions" we can not in proceed with a clear conscience. The long-term (2000 year) potential consequences of this plan far exceed the short-term (20 year) economic benefits in my opinion. Thank you for you careful study of this matter.	EOO,G7B,G8B
<b>Sender Last Name:</b> Schwartz		<b>Submission ID:</b> 2396
2887	As a citizen of Minnesota I am concerned about the PolyMet sulfide mining project proposed on 6,700 acres of public land in the Superior National Forest. It appears to me that there will be short-term economic gains with massive long-term problems. I am primarily concerned that there will be environmental damage to surface and groundwaters in northern waters. I am firmly in opposition to this type of mining in Minnesota.	EOO,G7A
<b>Sender Last Name:</b> Schwarze		<b>Submission ID:</b> 3105
1287	Require resolution of tailings basin geotechnical stability and seepage issues identified by the Tribes and the U.S. Environmental Protection Agency.	GT2
1879	Require detailed and cumulative impacts of potential mercury increases in fish as related to the PolyMet project and other nearby pollution sources, including mercury methylation as well as discharge and emissions. All lakes in the White Iron Chain of Lakes currently have mercury advisories for fish consumption, and this is an area of vital importance to members.	WR5C,FM1,FM3,AQ4B,AQ
3502	Include cumulative air and water quality effects on lakes and rivers from all sources, including other mines. This EIS may set the standard for all water quality impacts analysis, and good cumulative impacts analysis is critical to protect water quality in the White Iron Chain of Lakes.	WR5A,CR1,AQ4B
3503	Include future development of sulfide-mining by companies already doing exploratory drilling in the analysis of cumulative effects. (Tribal position)	G9
3504	Require financial assurances in the EIS before any permitting process gets underway. (U.S. EPA position)	PD4
<b>Sender Last Name:</b> Scofield		<b>Submission ID:</b> 306
320	I am writing this letter in support of the Polymet Mining's NorthMet Project. It is my understanding that Polymet will be a 0 discharge plant in terms of water and thus there will not be any contamination of the local watershed. It is also my understanding that Polymet has spent over 20 million dollars for the EIS in order to provide an environmentally sound project. Polymet will produce these metals in an environmentally sound way and generate significant economic activity in a depressed part of our state. There was a copper mine in the upper peninsula of Michigan that is no longer operating. It is in a very pristine area as it was when it was operating and is still after having been closed for many years. These plants can operate in harmony with nature under the current rules. In my view, due to the current rigorous environmental regulations in the State of Minnesota, the environmental risk is very small yet the reward to the state is very large. I strongly encourage you to grant Polymet the permits required to make this project a reality.	EOO

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Comment ID	Comment Text	Theme Codes
3130	If you are counting votes for this PolyMet deal, then please count my vote as “against” the PolyMet deal going forward. However, I am pessimistic when situations such as this PolyMet deal arise. Politicians will always claim credit for providing jobs for their faithful, and this PolyMet deal will prove this out. Minimally, I hope that PolyMet is required to set aside more than enough money to clean up the future messes it will no doubt create, both short-term and long-term.	EOO,G4
<b>Sender Last Name:</b> Scott		<b>Submission ID:</b> 3677
1	A stability analysis has been performed and is presented in the following document listed in DEIS Section 7.0 References: Barr Engineering Company (Barr). 2009. “Preliminary Geotechnical Evaluation, Flotation Tailings Basin.” GT01, Draft 02. March 18 A portion of the Preliminary Geotechnical Evaluation specifically addresses the structural stability of the basin and more specifically addresses the topic of liquefaction by way of the slope stability analysis performed using Liquefied Undrained Shear Strength Analysis (USSA liquefied) tailings strength parameters. The results of the analysis show slope stability safety factors within values accepted regionally for tailings basin dam construction.	EOO
2	Minnesota Rules, Chapter 7050 does not define wild rice waters as all waters where wild rice is found. Minn. Rule 7050.0224 indicates that wild rice waters within the Lake Superior Basin have been identified and listed as such in Minn. Rule 7050.0470, subp. 1. The Partridge River is not listed as discussed on p. 4.1-47 of the DEIS. In this and in other footnotes, the Tribal cooperating agencies have suggested that the numerical sulfate standard of 10 mg/l strictly applies to any water body where wild rice happens to be growing, regardless of the amount of wild rice present or the actual use of the water body for wild rice cultivation or harvesting. While PolyMet understands and respects the cultural importance of wild rice for the Tribal cooperators, it disagrees with their interpretation of the MPCA’s rules, which are the source of the relevant water quality requirements. The meaning of these rules may be an issue that must ultimately be resolved in permit proceedings, but PolyMet believes that the scope of the water quality standards applicable to wild rice waters is not nearly so broad as suggested by the Tribal cooperators. The MPCA’s water quality rules set forth two standards for Class 4 waters relevant to wild rice --- a narrative standard, prohibiting the material impairment or degradation of wild rice waters, and a numerical sulfate standard of 10 mg/l, “applicable to water used for production of wild rice during periods when the rice may be susceptible to damage by high sulfate levels.” See, Minn. Rule 7050.0224, subps. 1 and 2. The 1997 rulemaking, which added the narrative standard to the rule, also designated twenty-four specific water bodies within the Lake Superior Basin as “wild rice waters.” These water bodies with “current and/or historic stands of wild rice” were identified from a list of 124 lake and river segments located within the 1854 Ceded Territory and ranging over three different watersheds that had been submitted to the MPCA by the Fond du Lac Band. According to the Statement of Need and Reasonableness (SONAR) for the 1997 rule, only wild rice waters within the Lake Superior Basin were ultimately designated as wild rice waters by the rule, because the scope of the rulemaking was narrowed to that watershed. The SONAR indicated that the designation of any additional wild rice waters “would be considered in future rulemakings . . .” Thus, within the Lake Superior Basin, the waters to which the narrative and numerical wild rice water quality standards apply have been limited by rule to those water bodies that have been specifically designated as wild rice waters. None of the water bodies designated as wild rice waters is located downstream from the project, and thus none should be impacted by project operations. Even if could be argued that the pre-1997 numerical sulfate standard continues to apply to a broader group of waters within the Lake Superior Basin than those specifically designated --- a position that does not seem to be supported by the 1997 SONAR --- the applicability of that numerical standard is still limited to waters “used for the production of wild rice . . .” This language strongly suggests that as originally adopted, this agricultural standard was intended to apply only to wild rice beds that are actively harvested or under active cultivation, and not to any water body where wild rice happens to be found, however minimal the amount. Again, none of the downstream water bodies that may be impacted by the project meet this criterion. Moreover, the MPCA rule states that the numerical sulfate standard is merely to be used “as a guide” in determining the suitability of waters for the production of wild rice and other listed uses, and does not specify that the standard must never be exceeded.	WR1E,WR4F

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Comment ID	Comment Text	Theme Codes
3	Other reasonably foreseeable projects in the area will also affect eight of the 13 wildlife travel corridors (DEIS 4.4.5.3). And the list of reasonably foreseeable projects does not include additional likely mining projects like Duluth Metals, Franconia, Encampment Minerals, and others. The cumulative impacts on these corridors is not adequately analyzed by the DEIS.	WI5
4	My wife and I own lakefront property south of Ely. We rely on local groundwater for drinking and all household needs. We rely on surface water, and its attributes such as wild rice and edible fish, for recreation and as a scenic resource. We rely on the recreational, non-industrial character of the area for part of our income. We have serious concerns about the impacts of Polymet Mining’s proposed NorthMet project. This letter provides our comments on the NorthMet project Draft Environmental Impact Statement (DEIS). The DEIS is incomplete and unacceptable due to errors, misleading and unsubstantiated assertions, and omissions. The problems with the DEIS are not limited to the proposed NorthMet project; the project and DEIS will set a number of precedents for mining in northern Minnesota, so the DEIS must be evaluated in that context. The project should not move forward with permitting or any other activities until Polymet resolves the DEIS’s deficiencies. The Tribal findings have already addressed many of the errors, unsubstantiated assertions, and omissions in the DEIS. We generally support the Tribal conclusions, and will not repeat those findings. We will focus on additional deficiencies that make the DEIS unacceptable.	G8,G11
5	This is arguably the most important part of the NEPA process, yet the Band’s request to be a cooperating agency was not honored for over one year after our original request to the USACE St. Paul District office. Tribal concerns were not fully identified during the state-led scoping process, nor when the Scoping Decision Document was issued, because the federal lead agency did not conduct its federal trust responsibility to the tribal governments to include them “at the earliest possible point” in the EIS process. While the Minnesota Environmental Policy Act (MEPA) considers scoping to be essentially concluded with the issuance of the Final Scoping Decision Document, NEPA does not consider scoping complete until the EIS analysis is complete. This disconnect between the state and federal environmental review process created a substantial disadvantage for the Band in our ability to elevate tribal concerns early in the scoping process of this EIS. It is the Tribal cooperating agencies position that additional consultation and evaluation is needed to determine the degree of impact on the 1854 Ceded Territory as a result of this project. Although groundwater hydrology and impacts to groundwater, Cultural Resources, and impacts to wild rice were "incorporated" after scoping, cumulative effects for a number of resources were not added. To adequately determine impacts and mitigation strategies a greater understanding of groundwater hydrology at the site is required. In addition, impacts resulting from groundwater drawdown and inundation cannot be determined without additional data. Consultation is ongoing with the USACE regarding Cultural resources and impacts to wild rice.	PRO1
6	Tribal cooperating agencies disagree that the amount of ore that could escape from rail cars would be “small.” Taconite pellets currently litter most of the railroad right of way between the plant site and the proposed mine site, confirming that ore can and does spill from the gaps along the side door. Second, fugitive dust escaping through these gaps is also a concern. These very small particles have the potential to cause contamination of soils and wetlands that are located along the rail route, as evidenced by ongoing contamination issues at the Flambeau Mine in Wisconsin. Tribal cooperators are unsure how ore debris can be visually distinguished by rail track maintenance crews from other rocks and ore that litter the embankments. In addition, spillage of ore pieces into the wetlands and creeks that are located along the rail line could not be easily identified and recovered. It is reasonable to assume that some acid drainage and metal leaching would occur along the waterbodies located along the rail line.	PD5
7	Hydrometallurgical Residue Cell Design and Operations”: It is the position of the tribal cooperators that this section should describe expected leakage rates during operations as well as the long-term effectiveness of the liner system. Given that the applicant has not proposed any long-term maintenance of this system, these parameters should be described in this section and taken into account in sections of the EIS that predict long-term surface and ground water quality. “Hydrometallurgical Residue Cell Closure”: It is the position of the tribal cooperators that this section should describe expected leakage rates during operations as well as the long-term effectiveness of the cover system. Given that the applicant has not proposed any long-term maintenance of this system, these parameters should be described in this section and taken into account in sections of the EIS that predict long-term surface and ground water quality.	PD2

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8	It is the position of the tribal cooperating agencies that the existing Closure Plan is insufficient to allow an adequate assessment of post-closure impacts. The Proposed Action has changed significantly since the development of the Closure Plan, and additional detail is needed to appropriately inform post closure impacts, since those impacts depend on the specific plans and methods used to close the mine. For example, the conclusions of the West Pit Lake Uncertainty Analysis indicate that "some of the waste rock stockpiles have the potential to leach solutes to groundwater for long periods (i.e., at least 2000 years)." Water quality of the leachate would "exceed USEPA primary MCL's and MDH Health Risk Limits." In order to adequately assess the environmental impacts of the Proposed Action, additional detail on the specific environmental impacts of this leachate and information about the remediation activities that would be needed to avoid damage to surrounding waters should be included in the Closure Plan.	PD7
9	Mine Pit - East/Central Pit Category 4 Foot Wall Cover: It is the position of the tribal cooperating agencies that this section should describe the long-term effectiveness of the geosynthetic membrane that is proposed to cover the Virginia formation rock wall. Given that the applicant has not proposed any long-term maintenance of this system, expected long-term leaching rates should be described in this section and taken into account in sections of the EIS that predict long term surface and ground water quality.	PD3
9	West Pit Filling: It is the position of the tribal cooperating agencies that this section should acknowledge that the pit lake will remain at the site in perpetuity and will exceed water quality standards, and should clearly discuss its status as a "water of the state."	PD2
10	The Proposed designs of the waste rock stockpiles are consistent with those employed throughout the Minnesota Iron Range in similar, if not nearly identical, geotechnical and hydrogeologic settings. These designs have proven to be effective and stable for over 50 years. As such the waste rock stockpiles stability is not expected to be problematic. The addition of the stockpile liner systems and in particular the stockpile subgrade preparation that must precede liner construction will only serve to improve stability of the stockpiles. Existing evidence and subgrade improvement plans notwithstanding, it is routine for stability analysis to be performed and submitted as part of permitting, affording sufficient opportunity for further public review and comment. However, preliminary analysis can be provided for the FEIS to document the basis for conclusions regarding stockpile stability.	EOO
11	Analysis of rock buttressing to increase the geotechnical stability of the northern slope of tailings basin Cell 2E has been provided in conjunction with the submittal of the Barr Engineering Company (Barr) 2009 "Preliminary Geotechnical Evaluation, Flotation Tailings Basin." The analysis clearly predicts the success of the buttressing approach. Buttress material will be obtained from existing waste rock and/or overburden stockpiles near the tailings basin. As such, any impacts on the environment should be near neutral as compared to existing conditions. Further, since it is inevitable that certain things will not be known before operations begin, it is common practice to employ a design-build approach (a.k.a. the Observational Approach) to allow the design to be periodically reviewed and modified to optimize the design based on observations made throughout the life of the tailings basin, rather than based on data obtained and assumptions made only prior permitting and construction.	EOO
12	Proposed designs of the waste rock stockpiles are consistent with those employed throughout the Minnesota Iron Range in similar, if not nearly identical, geotechnical and hydrogeologic settings. These designs have proven to be effective and stable for over 50 years. As such the waste rock stockpiles stability is not expected to be problematic. The addition of the stockpile liner systems and in particular the stockpile subgrade preparation that must precede liner construction will only serve to improve stability of the stockpiles. Existing evidence and subgrade improvement plans notwithstanding, it is routine for stability analysis to be performed and submitted as part of permitting, affording sufficient opportunity for further public review and comment.	EOO



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13	<p>During development of the preliminary design for the Hydrometallurgical Residue Facility cells, the MDNR and PolyMet specifically discussed the design of the cell cover system and the potential need for long term management or potentially management in perpetuity of liquid recovered from the cell drainage collection system. This drainage would result from the small amount of infiltration that could occur through the single geomembrane barrier component of the cell cover system that was initially proposed, while being prevented from escaping the cell by the composite liner system. To minimize the infiltration to the maximum extent practicable, PolyMet subsequently proposed supplementing the cover systems' geomembrane barrier layer with an underlying geosynthetic clay layer. This composite cover system design exceeds regulatory design requirements for industrial solid waste management facilities and designs normally implemented in the State of Minnesota, minimizes the potential for future infiltration by providing a final cover system with performance matching or exceeding the performance of the liner system, and will thereby minimize and likely eliminate long term drainage management requirements after operating water is removed from the cell. The capability of the proposed composite cover system to virtually eliminate infiltration and thereby eliminate the need for long term pumping and water treatment is evidenced by the composite cover performance computations presented in Appendix I of PolyMet Technical Design Evaluation Report RS28T (Barr, 2007), which show zero inches of infiltration through the cover at closure. Perpetual maintenance of liner systems is not required. After liner construction, the liner is covered with the hydrometallurgical residue and thereafter is never again open to the environment; it is protected by the overlying layer of residue. Access to the liner therefore becomes unnecessary. This is the case for all permanent lined solid waste management facilities – once the liner is covered with the site-specific waste being disposed of, the liner is permanently protected, requires no maintenance, and is never again accessed. Similar to liner systems, the barrier layer components (i.e., geomembrane, geosynthetic clay) of final cover systems are also permanently covered with protective soil layers to prevent future damage from animals, hail storms and other natural events that might otherwise cause harm to the barrier layer component of the cover system. Since the barrier layer is protected, its hydraulic barrier function remains intact long term and no maintenance to the barrier layer of the cover system is required. Maintenance of the soil components of the cover system above the final cover system barrier layer is required, particularly during the first several years after completion of cover construction. During this time period cover vegetation is still becoming established and it is common for occasional erosion repair and reseeded to be required until a dense stand of vegetation is established. In the long term, little to no maintenance of the final cover system is required, particularly for sites where an open meadow type end use is envisioned, such as with the Hydrometallurgical Residue Facility cells.</p>	ALT8

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14	A stability analysis has been performed and is presented in the following document listed in DEIS Section 7.0 References: Barr Engineering Company (Barr). 2009. "Preliminary Geotechnical Evaluation, Flotation Tailings Basin." GT01, Draft 02. March 18 The analysis presented in the Preliminary Geotechnical Evaluation was based on review of historic geotechnical information for the tailings basin and on the performance of additional geotechnical exploration in 2007 specifically in support of the DEIS and future permitting. The slope stability safety factors determined from the additional exploration and analysis have previously been presented and are summarized as follows: Slope Stability Analysis Slope Stability Safety Factor Target Minimum Factor of Safety for Year 20 Proposed Conditions Section F Section G Section N ESSA ~1.5 2.63 2.86 3.22 USSA peak ~1.3 1.64 1.63 1.88 USSA liquefied ~1.05 1.055 1.06 1.11 In all cases the slope stability safety factors met or exceeded the target values. In the event that higher slope stability safety factors are desired by PolyMet for the USSA liquefied case and/or if performance monitoring during the life of the tailings basin shows slope stability safety factors lower than anticipated, the slope can be buttressed to improve safety factor values as follows: Slope Stability Factor of Safety with Varying Buttress Height Top of Buttress Elevation (feet) Section F Section G Buttress Height (feet) Factor of Safety Buttress Height (feet) Factor of Safety 1535 48 1.06 31 1.06 1540 53 1.09 36 1.07 1545 58 1.11 41 1.09 1550 63 1.12 46 1.10 1555 68 1.13 51 1.12 1565 78 1.17 61 1.15 The geotechnical analysis presented as part of the Preliminary Geotechnical Evaluation clearly demonstrates the viability of the proposed rock buttress approach and the increased slope stability safety factors that result. Use of buttressing is a common approach to improving slope stability and adjustments can be made to the design of the buttress if monitoring performed throughout the life of the proposed 20-year project shows a need for increased buttressing, thereby mitigating associated risks. It should also be noted that in the context of a tailings basin whose configuration (i.e., dam height, dam construction status, seepage condition) changes throughout its life, the geotechnical evaluation of the dam is ongoing. The stability conditions are continually evaluated as performance monitoring data is gathered and analyzed. Therefore, preparation of definitive and final slope stability analyses prior the initiation of the project is not possible and not prudent. It is imperative that the ongoing performance of the dam be monitored throughout the projected 20-year life of the project and for some period of time thereafter, that adjustments to the dam design be made as needed to maintain targeted slope stability factors of safety, and that facility permits accommodate this required flexibility.	EOO
15	There are numerous methods that could be used to mitigate water quality of the West Pit during pit filling (an approximate 45 year period) and many of these methods are described on pages 4.1-166 and 4.1-167. As stated in DEIS (page 4.1-167), if these mitigation measures were not successful at improving West Pit water quality to applicable discharge limits at the time of overflow, the West Pit overflow structure could be altered to route flows to the WWTF for treatment before discharge until the overflow would meet applicable discharge limits. Treatment at the WWTF (if needed at all) is not expected to be required long-term as pit wall oxidation would be negligible once the West Pit is completely flooded, thereby significantly reducing solute loadings to the pit lake.	EOO
16	There are numerous methods that could be used to mitigate water quality of the West Pit during pit filling (an approximate 45 year period) and many of these methods are described on pages 4.1-166 and 4.1-167. As stated in DEIS (page 4.1-167), if these mitigation measures were not successful at improving West Pit water quality to applicable discharge limits at the time of overflow, the West Pit overflow structure could be altered to route flows to the WWTF for treatment before discharge until the overflow would meet applicable discharge limits. Treatment at the WWTF (if needed at all) is not expected to be required long-term as pit wall oxidation would be negligible once the West Pit is completely flooded, thereby significantly reducing solute loadings to the pit lake.	EOO
17	As noted in the response to Footnote 3 (p. 3-10), this comment ignores the significant time and effort that PolyMet and the permitting agencies have made to develop this project 'with the end in mind' of preventing long term impacts or the need for long-term post closure activities.	EOO

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18	It is correct that much of the area north of the Tailings Basin is fully saturated, with the water table at or very near the ground surface. In these areas, there would be very little aquifer recharge. However, approximately 30% of the area between the toe of the Tailings Basin and the power line to the north is composed of upland area, where recharge would be occurring. The 0.3 inches per year recharge rate referenced in the DEIS represents the average over the entire area (both upland and wetland) north of the Tailings Basin which is made up of zones where no recharge is occurring and zones where recharge is occurring. This rate is less than 5% of the regional average annual recharge rate for this part of the state (Delin and Falteisek, 2007, USGS Fact Sheet 2007- 3002).	EOO
19	In PolyMet’s review of the July 31, 2009 PDEIS it was suggested adding a clarifying sentence that said, “[The USEPA primary drinking water standard] is the maximum allowable amount of a contaminant in drinking water that is delivered to the consumer, reflecting required water quality after treatment.” This sentence was not incorporated into the published DEIS.	WR3I
20	Our members also share a deep concern for water quality, biodiversity, wetland conservation, land use, and many other types of environmental factors that would be negatively affected by the proposed PolyMet Mine. Our analysis of the DEIS has revealed a number of major deficiencies in the DEIS and the potential for enormous harm to the environment and natural resources from the Proposed Project. We do not believe that the Proposed Project should proceed unless and until all of the deficiencies are addressed and mitigation measures are in place to fully deal with all of the potential environmental harms.	G8
21	6. The DEIS fails to analyze surface ownership of the lands needed for the Proposed Project. The federal government owns the surface lands needed for the open pits of the Proposed Project. These lands are managed by the U.S. Forest Service as part of Superior National Forest. The lands were acquired by the federal government under authority of the Weeks Act, and it is the federal government's legal opinion that these lands cannot be used for open pit mining. Yet the DEIS fails to address or analyze the surface ownership issues, options for how these issues might be resolved, or environmental impacts for any such alternatives. The Proposed project cannot move ahead with a resolution to this issue, so it is astounding that the DEIS did not address this issue and fully analyze the impacts from the options. This is a major failing of the DEIS, and must be corrected in the Final EIS.	PD8,CPLU4
22	7. The DEIS fails to analyze any alternatives to open pit mining. The DEIS looked at only one option for mining the minerals in the Proposed Project area: open pit mining. The Proposed Project envisions the excavation of three open pits at the Mine Site. Other options, such as underground mining, were never considered. These other options would have significantly different environmental impacts, and perhaps less severe environmental impacts than open pit mining. Yet no other option to open pit mining was considered in the DEIS, so the public has no opportunity to evaluate other options and their associated environmental impacts.	PD4
23	8. The DEIS fails to adequately analyze impacts of increased sulfates on wild rice. The PolyMet Mine will result in enormous sulfate releases that will exceed the state standard for wild rice, which is sensitive to sulfates. These sulfates will likely eliminate wild rice in the Partridge and Embarrass Rivers, and diminish the famous wild rice beds in the St. Louis River estuary near Duluth, which is 100 miles away from the mine. Wild rice is a key food source for many species of waterfowl, and plays an important role in the culture and diet of Native Americans. 6 Minnesota has established a Wild Rice Standard limiting sulfates to 10 mg/L to permit wild rice to thrive. (Minnesota Rules 7050.0224). This standard was established based on research by Minnesota biologist John B. Moyle, who established the relationship between wild rice and sulfates in the 1940s. In 1944, Moyle wrote in the Journal of Wildlife Management, "No large stands of rice occur in waters having a sulfate content greater than 10 p.p.m., and rice generally is absent from water with more than 50 p.p.m." (Journal of Wildlife Management, 1944, Vol. 8, pp.177-184.) Mr. Leonard Anderson, in his comments on the DEIS, has extensively documented the presence and quality of wild rice stands on the Partridge, Embarrass, and St. Louis Rivers, and correlated the presence and health of these stands with sulfate levels. The League endorses his comments, his analysis, and his recommendations on wild rice and sulfates. The DEIS did not adequately analyze impacts of the increased sulfate levels on wild rice in the Partridge, Embarrass, and St. Louis Rivers. This failure must be rectified in the Final EIS.	WR1E,WR4F

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<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
24	9. The DEIS fails to adequately analyze increased mercury methylation and mobilization from the Proposed Project. Increased levels of sulfates leached from the PolyMet Mine will increase mercury accumulated in fish tissues, causing harm not only to the fish but to animals and people who eat the fish. The DEIS did not adequately analyze the potential impact of the mine on mercury levels in downstream waters and fish. The discussion of methyl mercury is one of the most significant inadequacies in the PolyMet DEIS and one of the greatest threats should the Proposed Project move ahead as proposed in the DEIS.	WR4B,AQ6A
25	a) Inadequate analysis of mercury sequestration in peat bogs. The proposed mitigation, to replace these wetlands with artificially constructed wetlands in Aitkin and Pine Counties, will result in substantial mercury impacts to the Lake Superior watershed. This wetland mitigation proposal should therefore be rejected through the Section 404 permit process with the U.S. Army Corps of Engineers.	WE3,WE8
26	b) The DEIS admits that the Mine Site would result in an increase of 7-42% in the export of methyl mercury into the watershed, which would be transported down the Partridge River to Colby Lake, both water bodies of which already have prohibitively high mercury in fish tissue.	WR4B,FM1,FM5
27	c) No TMDL (Total Maximum Daily Load) process has yet started let alone implemented for the St. Louis River watershed as required by Section 303 of the federal Clean Water Act, despite the listing of these water bodies as impaired by mercury currently. The addition of mercury from the Proposed Project makes it unlikely that this mercury contamination could ever be remedied.	WR4B
28	d) The DEIS fails to adequately address the significance of sulfate releases and their impacts on increased methylation of mercury. The sulfate-reducing bacteria that produce methyl mercury require carbon, water, sulfate, and mercury. The huge increases in sulfates by the Proposed Project will increase the methylation of mercury in the Partridge, Embarrass, and St. Louis Rivers, including the St. Louis River estuary. (See Compeau, G.C. and R. Bartha, "Sulfate-reducing bacteria: Principal methylators of mercury in anoxic estuarine sediment," Applied and Environmental Microbiology, 1985, Vol. 50, pp. 498-502.)	WR4B
29	10. The DEIS fails to adequately analyze the impacts to wildlife corridors impacted by the Proposed Project. The PolyMet mine will obstruct at least two of the remaining 13 corridors where wildlife can cross the 120 miles of the Mesabi Iron Range. These corridors are important not only for mammals like moose and wolves but also for the northward migration of the deciduous forest and all its components in the face of climate change. The DEIS ignored the mine's impact on wildlife corridors.	WI5
30	11. The DEIS fails to adequately analyze the unstable tailings basin that the company plans to utilize for the Proposed Project. PolyMet proposes to use an existing mine tailings basin for the disposal of its tailings and toxic materials, but the stability of the tailings basin has been a serious concern since the project was first proposed, and has resulted in multiple designs. The DEIS acknowledges the potential for basin structural failure: "The NorthMet Tailings Basin and hydrometallurgical residue facility embankments would have a low margin of safety due to fines and underlying soils in the existing LTVSMC Tailings Basin" (S-10). The DEIS and PolyMet have failed to address the safety issues, indicating instead that "further design and analysis would occur during permitting ..." (4.13-2). Failure of the basin would result in serious and long-lasting contamination. A complete stability analysis and acceptable basin design should be a part of the Final EIS. Before any of Poly Met's tailings are deposited on top of existing tailings, existing structural deficiencies must be resolved. The tailings basin will contain extremely hazardous waste materials. An appropriate design is critical, and should be identified in the DEIS.	GT1

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**Theme Codes**

- 30 1. The Draft EIS fails to describe or analyze impacts of the proposed action on the wilderness character of the BWCAW. The Boundary Waters Canoe Area Wilderness (BWCAW) is a federally designated wilderness area protected by Congress. The BWCAW was an original unit of the National Wilderness Preservation System. It is the most heavily visited wilderness in the national wilderness system. People from all over the nation, and indeed from all over the world, come to visit the area because of its wilderness character. The Wilderness Act, 16 U.S.C. § 1131, et seq., governs the administration of the Boundary Waters Canoe Area Wilderness. Section 4(b) of the Wilderness Act imposes on the federal government a fundamental duty to protect the wilderness character of designated wilderness, above all other purposes for which an area may be established: Except as otherwise provided in this Act, each agency administering any area designated as wilderness shall be responsible for preserving the wilderness character of the area and shall so administer such area for such other purposes for which it may have been established as also to preserve its wilderness character. Except as otherwise provided in this Act, wilderness areas shall be devoted to the public purposes of recreational, scenic, scientific, educational, conservation, and historical use. 16 U.S.C. § 1133(b) (emphasis added). The agency's duty to preserve wilderness character is non-discretionary. Nothing in the Wilderness Act allows an agency to avoid that duty and authorize the degradation of the wilderness character of a designated area. The Boundary Waters is also governed by the Boundary Waters Canoe Area Wilderness Act of 1978, which aims, in part, to "protect[], enhance[], and preserv[e]" the "natural values" of the BWCAW. 92 Stat. 1649 § 1 (1978). The federal agencies that manage wilderness use four qualities of wilderness in their analysis of wilderness character. The four qualities are "untrammled," "undeveloped," "natural," and "solitude or a primitive and unconfined type of recreation." See Peter Landres et al, Keeping It Wild: An Interagency Strategy to Monitor Trends in Wilderness Character Across the National Wilderness Preservation System, Gen. Tech. Rep. RMRS-GTR-212. The analysis of impacts from the proposed project on the wilderness character of the BWCAW is not addressed in the DEIS. 2 At least several types of impacts to wilderness character must be analyzed. These include but should not be limited to noise and sound impacts from drilling, blasting, processing, etc.; impacts on the night sky from lights associated with the project; and impacts on air quality. Sound and noise impacts to wilderness character are much more sensitive than the common noise standards cited in the DEIS at Table 4.7-3. In a recent court case dealing with impacts to wilderness character of the BWCAW, the federal court found: On the other hand, agency activity that results in noise that is louder, more constant, more frequent, or of a different quality, is more likely to degrade the wilderness character from its present condition and thus violate § 4(b). See Izaak Walton League v. Kimbell, 516 F. Supp. 2d at 990. As such, any noise from new mining operations heard within the Boundary Waters has the potential to degrade wilderness character, and such impacts must be thoroughly analyzed to comply with NEPA. The Final EIS for the PolyMet Mine must analyze impacts on the wilderness character of the BWCAW. If this analysis shows impacts to wilderness character, the Proposed Project must not move forward.
- 31 2. The Draft EIS fails to adequately analyze impacts of the proposed action on haze and visibility in the airshed above the Boundary Waters Canoe Area Wilderness. Both the Boundary Waters Canoe Area Wilderness (BWCAW) and Voyageurs National Park are classified as Class I areas under the federal Clean Air Act. As such, both areas fall under the Clean Air Act's Prevention of Significant Deterioration (PSD) program. 42 U.S.C § 7472. The "Class I" status provided to Voyageurs National Park and to the BWCAW meant, among other things, that existing visibility impairment would have to be eliminated. 42 U.S.C. §§ 7491-92. Both the US. Forest Service and National Park Service testified before the Minnesota Pollution Control Agency in November 2009 that the State's Regional Haze State Implementation Plan (SIP) will not result in meeting the ultimate goal of haze reduction by 2064. Despite this testimony, the agency approved the Revised Regional Haze SIP on December 15, 2009, and sent the plan on to the federal Environmental Protection Agency (EPA). EPA has yet to decide whether to accept the Minnesota SIP. The DEIS, page 4.6-55, admits that even the interim goal of haze reduction set for 2018 will not be met with the Proposed Project. The DEIS is silent on whether with the additions of pollutants from the Proposed Project that the ultimate goal can be achieved by 2064. This failure to adequately analyze these impacts must be corrected. The Final EIS for the PolyMet Mine must more adequately analyze impacts on visibility and haze in the BWCAW, the contribution of the Proposed Project to the projected failure to reach the interim haze goal for year 2018, and the impacts of the Proposed Project on achieving the ultimate elimination of haze by year 2064.

G5,G8

AQ9

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<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
32	3. The DEIS fails to fully analyze the waste rock piles from the Proposed Project that will contaminate run-off water for up to 2,000 years. The DEIS, Table 4.1-45, shows that water run-off from the waste rock piles generated by the Proposed Project will be contaminated for up to two millennia. Mines that cause such lengthy contamination and/or require perpetual treatment should not be permitted. It is unlikely that PolyMet Mine corporation will still be in existence in 100 years from now, let alone for 2,000 years. The DEIS does not examine how mitigation measures such as liners, etc., will still be operating after 2,000 years.	WR2D,WR3I
33	The DEIS also fails to properly examine how financial assurance will be in place to cover contaminated run-off for up to 2,000 years. The DEIS also fails to properly examine how water treatment will be conducted for up to 2,000 years. These glaring shortcomings must be corrected in the Final EIS.	EOO
34	4. The DEIS fails to adequately analyze the West Pit's discharging of polluted overflow water at year 65. 4 The DEIS, page 4.1-113, predicts that the West Pit will begin overflowing at year 65, and discharging heavy metals such as arsenic, cobalt, selenium in excess of water quality standards (according to one analysis in the DEIS) or cobalt, copper, and nickel in excess of water quality standards (according to another analysis). Both analyses predict high sulfate concentrations as well (DEIS 4.1-113). Minnesota should not allow pollution of its waters with heavy metals and high sulfates. Sulfate pollution also exacerbates mercury methylation, which increases bioaccumulation in fish tissues, making them unsafe to eat. The DEIS fails to adequately analyze the environmental impacts and possible mitigation measures for the overflow of the West Pit in year 65. The DEIS fails to adequately analyze the financial assurance needed to respond to the overflowing of these contaminated waters. The Final EIS must analyze these problems.	EOO,WR3A,WR3I
35	5. The DEIS fails to adequately analyze all of the impacts related to the destruction of more than 1,500 acres of wetlands. The Proposed Project would cause direct and indirect impacts to over 1,500 acres of wetlands. Most of the wetlands that will be impacted at the mine site are peatlands. Peatlands have been identified as one of the best terrestrial environments for sequestering carbon, a contributor to global warming.	WE2
36	The destruction of 1,000 acres of peatlands would result in a two percent increase in Minnesota's overall carbon dioxide emissions. The DEIS acknowledges that "project facilities and operations would result in additional greenhouse gas (GHG) emissions in the Arrowhead region" (S-10).	AQ3
37	The peatlands at the proposed mine site have been identified as high quality wetlands in federal and state inventories. The peatlands represent habitats that are increasingly rare on the landscape, and should be protected from destruction. Reports commissioned by the Minnesota Legislature and by Governor Pawlenty call for the protection of peatlands because of their ability to capture and secure carbon. Minnesota needs to heed these recommendations and halt any further destruction of these valuable habitats.	WE1

*Alphabetical by sender's first name*

<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
38	<p>The first concern is that I have found no suggestion that a Generic EIS may be needed for sulfide mining projects in northern Minnesota. PolyMet's NorthMet Project is anticipated to be the first of several proposals for sulfide mining of precious metals in northern Minnesota. At least two other proposed mine projects have been made public: Duluth Metals and Antofagasta's "Nokomis Project" near Birch Lake and the Kawishiwi River, and Franconia Minerals' "Birch Lake Project" at Birch Lake. I understand that there are numerous mining exploration permits to search for precious metals in the Duluth Complex rocks. I understand that if ore containing small percentages of precious metals is found, mines would be proposed which would presumably utilize similar sulfide mining processes to extract precious metals from the rocks. A Generic Environmental Impact Statement (GEIS) is a specific form of environmental review that can be used to study certain types of projects not adequately reviewed on a case-by-case basis. The authorization for conducting alternative forms of environmental review, such as a GEIS, is found in Minnesota's Environmental Policy Act, MS 116D.04, Subd. 4a. Specific criteria for determining the need for a GEIS and the unit of government most appropriate to oversee its preparation, and the general process and content of a GEIS are identified in Minnesota Rules, part 4410.3800. Although only the Minnesota Environmental Quality Board (EQB) is authorized to order a GEIS, any person or government body may request the EQB to consider the preparation of a GEIS. I suggest that MN DNR and US ACE ought to be requesting the EQB to order a GEIS for sulfide mining in northern Minnesota. According to Minnesota Rules, part 4410.3800, a GEIS may be ordered by the EQB to study types of projects that are not adequately reviewed on a case-by-case basis. Subpart 5 lists twelve criteria to be considered in determination of the need for a GEIS. I think at least nine of the twelve criteria are relevant to sulfide mining projects in northern Minnesota. Those criteria are listed below: A. if the review of a type of action can be better accomplished by a generic EIS than by project specific review; B. if the possible effects on the human environment from a type of action are highly uncertain or involve unique or unknown risks; C. if a generic EIS can be used for tiering in a subsequent project specific EIS; D. the amount of basic research needed to understand the impacts of such projects; E. the degree to which decision makers or the public have a need to be informed of the potential impacts of such projects; G. the potential for significant environmental effects as a result of the cumulative impacts of such projects; H. the regional and statewide significance of the impacts and the degree to which they can be addressed on a project-by-project basis; K. the need to explore issues raised by a type of project that go beyond the scope of review of individual projects; and L. the need to understand the long-term past, present, and future effects of a type of action upon the economy, environment, and way of life of the residents of the state.</p>	G10
39	<p>My second concern is that numerous position statements and comments submitted by the tribal cooperating agencies have not been adequately addressed in the DEIS. The tribal cooperating agencies have a multitude of well-reasoned arguments and differences of opinion with the content and conclusions in the DEIS. I counted 262 such position statements and comments in the footnotes to the DEIS. When the environmental review process for the NorthMet Project began, I was pleased to learn that tribal agencies representing Minnesota Chippewa tribes covered by the 1854 Treaty had seats at the table in the DEIS process. However, when I first looked at the DEIS, I was very disappointed that the differing opinions of the tribal cooperating agencies were relegated to footnotes in a smaller font than the rest of the DEIS document. It seems that the preparers of the main text of the DEIS are not adequately familiar with or respectful of the treaty rights reserved for the Ojibwe/Chippewa tribes in the 1854 Treaty. The 1854 Treaty is federal law. When the land in the NorthMet Project area was ceded to the United States, the Ojibwe chiefs who agreed to the treaty wisely reserved rights to hunt, fish, and gather in the ceded lands. If the MN DNR and US ACE do not address the position statements of the tribal cooperating agencies, it seems that both MN DNR and US ACE would be vulnerable to lawsuits aimed at protecting tribal treaty rights reserved in the 1854 Treaty. It seems to me that in the face of huge state and federal deficits and difficult economic times, it would not be prudent to allow our state and federal agencies to be vulnerable to such treaty rights litigation. Out of respect for the position statements and comments submitted by the tribal cooperating agencies, I have compiled the 262 footnotes from the main document of the DEIS, and I put them in a 12-point font that matches the main text of the NorthMet DEIS document. This compiled set of DEIS footnotes is 35 pages long. I have attached a copy of this compilation to this message. I ask that the MN DNR and US ACE please address all of these position statements and comments before issuing a final EIS.</p>	G10

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
40	When we are not in our Ely home, we rely on the income it provides when we rent it for short-term vacation rentals. Our customers rent our cabin because of the peace, the clean environment, the recreational opportunities, and the non-industrial character of the area. The NorthMet project threatens these values, and therefore our ability to rent the property and to sustain our income. The recreational values that NorthMet threatens include viewing lakes and rivers with wild rice, catching fish that can be eaten, and enjoying natural, unpolluted air and water. Some of the nearby lakes already have warnings about mercury in fish, so even a small incremental impact from Polymet could eliminate recreational fishing for edible fish. Degrading these scenic and recreational resources threatens our income. The Ely area and many of its businesses, such as our cabin rental, have invested and worked hard for many years to create a reputation and an image of a clean, unpolluted, non-industrial, relatively noise-free recreation area. Degrading even the “Ely image” or the “Ely brand” threatens those investments and their economic benefits. The DEIS addresses only the purported positive benefits that the mine would bring, namely jobs during the mine’s operational period. The DEIS is deficient in ignoring mining’s well-documented history of long-term, negative impacts on communities.	SE4
41	The DEIS is deficient in addressing cumulative impacts of the NorthMet project and other exploration and mining. The United States Forest Service (USFS) is currently considering applications for dozens of additional exploration and mining projects, as described in the Federal Hardrock Minerals Prospecting Permits Project (FHMPPP) ( <a href="http://www.fs.fed.us/r9/forests/superior/projects/prospecting.php">http://www.fs.fed.us/r9/forests/superior/projects/prospecting.php</a> ). The NorthMet project must identify, analyze, and discuss mitigations for the cumulative impacts of NorthMet in the context of these other proposed activities. The impacts include, but are not limited to, air and water quality (e.g., sulfate and mercury impacts on plants and animals, acid drainage, etc.), traffic and noise, and socioeconomic impacts..	G8C
42	Our property is almost adjacent to USFS land. The DEIS mentions a land exchange between NorthMet and USFS, but the DEIS gives no information on the land to be exchanged. This exchange land becomes part of the NorthMet project. The DEIS is not complete if it does not describe in detail the location, extent, and character of these exchanged lands. How might these lands, potentially adjacent to our property, be impacted by future exploration and mining on USFS land, such is in the FHMPPP?	PD1
43	The DEIS analyses impacts primarily over a 5-mile radius from the project site (e.g., Figure S-2). The environmental and socioeconomic impacts will occur over a much larger area. If DEIS is to claim credit for mitigations as far away as Aitkin and Hinckley (e.g., Table III-1, page S-19), it must also address impacts over a similar area. The impacted area includes our cabin south of Ely, and other nearby areas where natural and non-industrial characteristics are the foundation for their recreation-based economy.	CR1
44	The DEIS mentions “legacy cleanup responsibilities” (page S-21), and there are many other monitoring, maintenance, and potential remediation requirements that will continue for a very long time after the mine stops operations. Guaranteeing geotechnical stability of the tailings dam is just one aspect of this long-term requirement. Polymet must make financial provisions for these, well before the end of its operations. The DEIS implies that taxpayers are to fund these NorthMet obligations.	PD3,PD4
45	This letter is in support of the Draft Environmental Impact Statement prepared by the State of Minnesota and various federal agencies on the proposed NorthMet mining and processing Project of PolyMet Corporation. I have read the entire document and have found it to be comprehensive in addressing the issues and alternatives for the proposed NorthMet mine and operation. From my review and in discussions with my staff, the effort put forth by the various State and Federal agencies, in conjunction with PolyMet and the myriad of consulting specialists, demonstrates the range of topics identified and addressed, including the recommendation of best practice alternative solutions in order to minimize and/or mitigate environmental impacts from the project. Duluth Metals therefore recommends that the State and Federal agencies proceed in a prudent, yet timely manner to complete their review of the draft comments and proceed with the Final Environmental Impact Statement on the Project.	EOO
46	I am submitting these comments on behalf of Kristin Henry for the Sierra Club. Please confirm receipt. A hard-copy of the comments and a digital copy of the attachments will follow via FedEx overnight mail.	RFI



*Alphabetical by sender's first name*

<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
47	The tribal cooperating agencies were highly dissatisfied with the lead agencies' attempt to edit or eliminate the tribal alternative position statements in the draft of the EIS that would be released for public review, and with their initial intent to prevent the tribal cooperators from conducting a final review of the DEIS before it was published. Fond du Lac and Grand Portage both formally invoked the dispute resolution process provided in the MOU for the PolyMet EIS cooperating agencies. For the record, Fond du Lac is not satisfied that our positions are presented in the DEIS as we intended them to be, and we do not believe that our status as a cooperating agency has been fully afforded. We attempted to bring specific expertise on issues of tribal concern to this EIS process, and engaged with other federal agencies (USEPA, USGS) to bring better science and analysis to bear in the process, but our efforts have been largely dismissed. The potential for this project to create significant adverse impacts to reservation and treaty-protected resources is of grave concern to Fond du Lac, and we take this opportunity to repeat our positions on flawed analyses and conclusions, lack of supporting data, EIS inadequacies, and new issues identified in our review of this draft document.	G8
48	Clearly, a federal land exchange process is a connection action, in that the Project cannot proceed unless the exchange is legally completed, and the exchange itself depends upon the larger action for justification. EPA Region 5 comments on the July 2009 draft of the EIS explicitly point out that the requisite EIS process for the federal land exchange should be conducted within this EIS process, as they are connected actions: "EPA finds it difficult to consider the U.S. Forest Service (USFS) land exchange as a separate action. Based on the interpretation of its authorities, USFS maintains that a land sale or transfer must occur for the applicant to access the mineral body, currently on public land. The PDEIS indicates that effects of land transfer will be addressed in a separate analysis prepared by the USFS. We further note that some direct impacts to tribal uses are related to the transfer of public land out of the Ceded Territory. We question how assessing the impacts of the connected action can be deferred to a separate analysis. (Kenneth Westlake, U.S. EPA to U.S. Army Corps of Engineers (August 25, 2009)). The Project is proposed to be sited on approximately 6,700 acres of United States Forest Service lands within the Superior National Forest (SNF). These lands are also within the 1854 Ceded Territory, where the Fond du Lac, Bois Forte and Grand Portage Bands retain usufructuary rights under the Treaty of LaPointe (1854). The SNF lands proposed for exchange (and permanent removal from public management), contain high quality forested wetlands and peat bogs that lie within the Lake Superior basin, as well as vegetation communities and wildlife habitat for species of prime importance to Band members exercising their treaty-protected hunting, fishing and gathering rights. Since the location of the proposed non-federal land has not yet been identified, it is simply not possible to evaluate the environmental characteristics of the land, the value of the land to the public or the impacts of the proposed land exchange on cultural resources. The DEIS acknowledges that there could be an impact on cultural resources due to the loss of access to public lands for tribal use due to the land exchange. There remains substantial disagreement between the lead agencies' discussion of this issue in the DEIS, and the position of the tribal cooperating agencies, who have consistently raised concerns about potential environmental, cultural and economic impacts of a land exchange on tribal treaty resource use within the Ceded Territory. The tribal cooperating agencies have noted that, since land exchange is based on monetary value, not acreage, there could be a permanent net loss of public lands within the Ceded Territory. Additionally, "there could be other types of losses based on the natural resources found on the original versus exchanged lands." (DEIS 4.9-2, Appendix D, Tribal Positions on July 2009 PDEIS)	PD1
49	The Minnesota Pollution Control Agency, under its delegated water quality standards authority, has a responsibility to ensure that a proposed action (in this case, the issuance of a USACE §404 wetland permit) is consistent with the state's water quality standards through its §401 certification process. The MPCA waived this certification responsibility by default when the permit application was publicly noticed in 2005. It is the Band's position that the USACE should reissue notice of the §404 permit application, and that MPCA should evaluate the §404 permit application under its Section 401 certification process, because the Project design has significantly changed since the initial public notice of the permit application, and because of the massive scale of wetland impacts and potential for degradation of aquatic resources of national importance. The DEIS for the U.S. Steel Keetac Taconite Mine Expansion Project indicates that MPCA will be conducting a §401 certification on the USACE §404 permit for that project; this project certainly warrants the same scrutiny.	EOO,WE4

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
50	Fond du Lac’s position is that financial assurance should be fully explored in the DEIS, and EPA review comments on earlier drafts also strongly recommend that it be included in the DEIS: “The PDEIS does not include information on financial assurance. EPA recommends including financial assurance information because one key component to determining the environmental impacts of a mine is the effectiveness of reclamation and closure activities. EPA has found the amount and viability of financial assurance are critical factors in determining the effectiveness of closure and reclamation and therefore the significance of environmental impacts. EPA has recognized the importance of disclosing financial assurance in EISs in the “National Hardrock Mining Framework (September 1997)” developed by several EPA national water, waste, and enforcement offices (Kenneth Westlake, U.S. EPA to U.S. Army Corps of Engineers (August 25, 2009)). There is a high potential for very long-term or perpetual treatment, maintenance and monitoring needed for the Project. Because of its experience in expensive remediation actions for many defunct or bankrupt sulfide mines, EPA Region 9 has strongly urged other Regions over the past several years to require financial assurance disclosure in the NEPA process. New national rules for financial assurance are under development by EPA, because “Given the history of adverse environmental effects resulting from some hard rock mines, and the expenditure of public funds used in some cases to address environmental problems caused by mining, EPA believes it is necessary to analyze these factors in the DEIS” (from InsideEPA.com, Tuesday, August 25, 2009). Fond du Lac has strongly recommended that the lead agencies keep adequate financial assurance considerations ‘front and center’ during the EIS process. The Band requested technical assistance from EPA Headquarters and the National Hard Rock Mining Team, and specifically requested that agency experts conduct a workshop for the Project EIS lead agencies, cooperating agencies, and the company on financial assurance considerations for the PolyMet project. The Band hosted this workshop in November 2008, which was attended by representatives of the DNR, USACE, MPCA, the US Forest Service, PolyMet, and tribal cooperating agencies. Unfortunately, it appears that the lead agencies are choosing to disregard the recommendations of the EPA on this matter, instead relying upon the state’s own untested regulations and guidelines somewhere ‘down the road’ before issuing the permit to mine.	PD4
51	Tribal cooperating agencies note that under the proposed project, the Wastewater Treatment facility will need to treat water for hundreds or thousands of years to avoid contamination to the Partridge River, and that the CPS would need to operate for hundreds or thousands of years in conjunction with the WWTF.	PD1
52	In the “Waste Rock Cover and Liner Systems” section, Fond du Lac notes that this section should describe expected leakage rates as well as the long-term effectiveness of both the liner and cover systems. Given that the applicant has not proposed any long-term maintenance of these systems, these parameters should be described in this section and taken into account in section of the EIS that predict long term surface and ground water quality.	PD4
2471	Please accept these comments on the PolyMet Mining Corp. NorthMet mining project Draft Environmental Impact Statement. I have grave concerns about this project's potential impacts on Minnesota's natural resources and public health. Tourism is an important industry for Minnesota, and for those of us who live here, the protection of our pristine natural environment, especially in the northland, is critical to our ability to enjoy what little is left of our spectacular wildlife, trees, lakes and rivers. Sulfide mining would be the kiss of death for much that we hold dear. I cannot express, strongly enough, how deeply I oppose the opening of our state to this project. The money and jobs this project would bring would not begin to compensate for the attendant losses, which would last far beyond the life of the mine. The PolyMet DEIS describes serious environmental issues associated with this proposed mine. These issues should be addressed and resolved before this mine is approved by the U.S. Army Corps of Engineers and the Minnesota Department of Natural Resources.	G2,G11

**Sender Last Name:** Scoville

**Submission ID:** 2495

*Alphabetical by sender's first name*

<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
3029	Please accept these comments on the PolyMet Mining Corp. NorthMet mining project Draft Environmental Impact Statement. I have serious concerns about the safety of this project and its potential impacts on Minnesota's natural resources. Although PolyMet describes its proposed mining operation as "state of the art," it remains for them to prove that this system has been used elsewhere and closed without serious environmental consequences. Previous PolyMet sulfide mines have caused serious environmental problems. Yet, they too were undoubtedly "state of the art" for their time.	EOO
<b>Sender Last Name:</b>	Scuffy	<b>Submission ID:</b> 1090
1194	I am writing you in regards to the Poly Met Mining, Inc North Met Project to give my full support to the project. I feel that the Poly Met project would be a huge economic benefit to the iron Range and also for the state of Minnesota. The job opportunities alone that would be created from this project would be a plus for families that live and want to stay in Northern Minnesota. I do not feel that the good people of PolyMet Mining would want to have a mining process that would have a significant affect on the environment considering that they and there families live here as well, not to mention the tight leash the pollution agencies have on the mining industry already. I have been a resident of northern Minnesota for 36 years and I can't see this mining process being any worse than other mining taking place across the Iron Range. I feel this project needs to succeed.	EOO
<b>Sender Last Name:</b>	Seckinger	<b>Submission ID:</b> 368
408	p. 3-58 "Table 3.2-2 TBM-25" Consideration of underground mining should not have been eliminated. Consideration of underground mining in the Duluth Complex has been optimistically evaluated by other mining corporations. (Franconia Minerals, birchlakeproject.com)	ALT8
<b>Sender Last Name:</b>	Seifert	<b>Submission ID:</b> 3509
49	130 jobs = 2000yrs of pollution. It is not a formula that makes any sense. Politically it doesn't even cut it. Has PolyMet made any guarantee that a certain percentage of locals will be employed? No. Will American companies be benefiting from the minerals removed? No. PolyMet is a shell company with no real assets. It appears from minimal research that PolyMet is part of a huge Canadian mining conglomeration. There is no guarantee that PolyMet itself will even emerge as the true operator of the NorthMet project. There is nothing to stop PolyMet from pushing through this permitting process and selling the entire approved proposal off to the highest bidder. Even if PolyMet emerges as a upstanding mining operator, the costanalysis falls far short of logical. 130 jobs for maybe 20 years. Realistically, the only significant benefit to the community will be in short term construction jobs. Local people will be hired and let go upon completion of the treatment works and other facilities. Taking into consideration that mining, like any industry, strives for automation, the proposed 130 will likely be 1/2 that by the time the project is up and running. Nothing in the DEIS even mentions that if the price of copper drops significantly, the project will shut down. Are we Minnesotans willing to open our precious northern lands up to sulfide mining in exchange for a few short-term jobs? The answer should be no.	SE3,SE7
3695	The DEIS fails to address significant issues. The most troubling to me are the expectation of a successful land exchange without identification and public comment prior to the permitting phase. Particularly given that land exchanges need to be based on market value. The proposed PolyMet project sits on land that has enormous market value because of the mineral rights. Any proposed land exchange would need to include this increased market value in the exchange analysis. Given this, it is very unlikely that appropriate land would be found within the same watershed. If acceptable land is not identified within the state, the land exchange would fail. Even the EPA realizes that the land exchange process needs to be incorporated into the EIS. It is not some insignificant hurdle to jump through. This entire project is predicated on the completion of a land exchange. It is an absolute failing on the part of DNR and the Corps to not identify and address the land exchange complete in this DEIS.	PD1,PD3

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
3696	Another area of major concern to me is the lack of financial assurance. Sulfide mining has proven to be an absolute disaster in terms of long-term clean up costs. In reality, there is no true "clean up". Sulfide mining leaves a tremendous environmental, social and economic void. PolyMet will be no different. Without bankruptcy-proof financial assurance up front, the project should not move forward.	PD4
3761	I am deeply opposed to this proposed mining operation. I do NOT believe that it supports sustained job creation. Most importantly, it will have permanent negative impacts on our most valuable resource, water. I love northern Minnesota, I love the BWCA. These treasures need to be protected.	EOO,G7
3779	The cumulative impact analysis is silent on the other sulfide projects just waiting for PolyMet's approval. It is no coincidence that Duluth Metals' partnership with Antofagasta occurred just a month after the DEIS was published. Franconia Minerals is also waiting in the wings. Non-ferrous mining should not be approved in MN; or at least not until successful, long-term mining operations with minimal environmental degradation has been demonstrated elsewhere. PolyMet is the worst form of non-ferrous mining- open-pit. There is no reason at this time to allow open-pit sulfide mining in MN. The cost is too high and potential payoff too low in comparison to the economic and environmental waste.	G8C,G9
<b>Sender Last Name:</b> Seiler <span style="float: right;"><b>Submission ID:</b> 1626</span>		
2041	These concerns about safe water go far beyond the boundaries of States. Every US citizen should be afforded good quality water for drinking and recreation. Haven't we done enough damage to the environment? Isn't it time to be responsible citizens in all manners of existence - in personal and business life.	EOO,G7B
<b>Sender Last Name:</b> Seitz <span style="float: right;"><b>Submission ID:</b> 193</span>		
188	As a lifelong Minnesota citizen, one who values the state for its vast natural resources, most notably clean WATER, I have serious concerns about the safety of this project and its potential impacts on Minnesota's natural resources.	G7
1064	The DEIS also acknowledges that the project would cause direct and indirect impacts to more than 1,500 acres of wetlands, most of which at the mine site are peatlands. Peatlands have been identified as one of the best terrestrial environments for sequestering carbon, a contributor to global warming. The DEIS acknowledges that "project facilities and operations would result in additional greenhouse gas (GHG) emissions in the Arrowhead region" (S-10). Because peatlands at the mine site have been identified as high quality wetlands in federal and state inventories; and because the peatlands represent habitats that are increasingly rare on the landscape, these wetlands should be protected from destruction. Also, reports commissioned by the MN State Legislature and by Governor Pawlenty call for the protection of peatlands for their ability to capture and secure carbon. Because of this overwhelming evidence, Minnesota must heed these recommendations and halt any further destruction of these valuable habitats.	WE2
1123	The DEIS acknowledges the potential for loss of critical habitat for gray wolves and Canada lynx because the project is in designated critical habitat for these protected species. There would also be an increased risk of vehicle strikes for both species. Because this habitat was designated for the lynx and wolf to prevent further population declines, Minnesota should not permit the diminishment of habitats for these species.	WI1
1297	Please consider extending the comment period on the Polymet DEIS. As the first proposed sulfide min in Minnesota, I think there are so many issues to consider before safely moving forward.	G10
1328	It is my understanding that PolyMet proposes to use an existing mine tailings basin for the disposal of its tailings and toxic materials – but that the basin already has stability issues making it unsafe. Any failure of this basin to hold its contents would result in long-lasting and serious contamination. PolyMet must complete a stability analysis of the basin and devise an acceptable design before being able to proceed with this project.	GT2

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
3244	Concerning impacts on water quality, I understand that the water leaching from waste rock piles at the site is expected to exceed water quality standards for up to 2,000 years. This is unacceptable to me. It is unreasonable to expect that mining companies will be able to maintain water treatment facilities for that amount of time and it is an unfair burden to pass on to future generations of Minnesotans who will inevitably be left to pay for these operations.	EOO
3245	In addition, the DEIS predicts contaminated waters to be discharged from the mine site into the Partridge River after the mine's closure, as well as tailing's basin discharges high in sulfate concentrations. High sulfates turn mercury into forms that make fish dangerous to consume. It is unacceptable to proceed with a mine that already predicts these kinds of pollution outcomes.	EOO,WR4B
3700	Additionally, it will be all but impossible to calculate sufficient financial assurance for a mining operation that is going to require such long-term care. We must have financial assurance from this proposed mine, a point which is lacking serious exploration in the DEIS.	PD4
3782	THE POLYMET DEIS DESCRIBES SIGNIFICANT ENVIRONMENTAL ISSUES ASSOCIATED WITH THIS PROPOSED MINE. These issues must be resolved before this mine is approved by the Minnesota Department of Natural Resources and the U.S. Army Corps of Engineers. As this is the first proposed sulfide mine in Minnesota, it is IMPERATIVE that we proceed with utmost caution and carefully plan for the future: for our state, our natural resources and for the generations - plural - of residents that will be affected by our actions today. I urge you to think more broadly than what short-term special interests and a handful of jobs will bring to the state and consider the longlong- term effects of what sulfide mining will truly bring to our state. I will be carefully watching the actions of the Minnesota DNR and expect that all of my above points, and all of those points raised in the DEIS, will be properly addressed in the EIS and be fully and completely resolved before any further action on this or any sulfide mine is taken.	G2,G10

**Sender Last Name:** Seliskar

**Submission ID:** 1078

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|------|---|-----|
| 1182 | I am sending this letter to express my support for PolyMet Mining's NorthMet Project. I believe the PolyMet project will create jobs and revenue that will benefit the entire state of Minnesota. I also think that we have the technology and the ability to prevent environmental disasters. I also think that the state of Minnesota has the ability to oversee and detect any environmental contamination and the power to ensure cleanup should any environmental damage occur. As a person with a family who lives, works, and plays in Northeast Minnesota I feel that this EIS is a good foundation on witch to build this project and I strongly support it. Domestically producing these metals makes much more sound environmental and economic sense so lets permit this mine and get the jobs we need in this state. | EOO |
| 1563 | I am in support of the PolyMet Mining project. PolyMet can produce these metals in an environmentally sound manner and create hundreds of stable jobs that can support families. Based on the documentation outlined in the DEIS, I am confident that impacts to the air and water will be minimal. As a person who lives, works and plays in Northern Minnesota, I understand the need to ensure a safe environment project. Let's get on with a project that will do nothing but enhance the Iron Range.  | EOO |
| 1593 | I am in support of the PolyMet Mining project. PolyMet can produce these metals in an environmentally sound manner and create hundreds of stable jobs that can support families. ased on the documentation outlined in the DEIS, I am confident that impacts to the air and water will be minimal. As a person who lives, works and plays in Northern Minnesota, I understand the need to ensure a safe environment project. Let's get on with a project that will do nothing but enhance the Iron Range. Thank you for your cooperation.   | EOO |

**Sender Last Name:** Senker

**Submission ID:** 3183

*Alphabetical by sender's first name*

<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
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724	I spend a lot of my time during the summers in the Boundary Waters and am concerned about the proposed mining project. I am writing you to suggest the following: 1. Extend the current EIS review period by 30-45 days. 2. Increase the number of public meetings in more places to obtain additional input. 3. Include an option for citizen statements and discussion during public meetings. Thank you for taking the time to read this e-mail, Etienne Senker	PRO6
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<b>Sender Last Name:</b> Seppi	<b>Submission ID:</b> 360
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398	I would like to first of all write to you in support of the Northmet Project Polymet Hoyt Lakes, Mn. As a business and residential homeowner in Virginia and Hibbing, Mn, I have seen the local economy be heavily dependent on the mining sector. We have attempted to diversify but ultimately return to our mining facilities to insure our economic survival. We are presently experiencing a new era of mining with the DRI nuggets and hopeful non ferrous mining. We are confident the extraction and production of these metals will be conducted in an environmentally friendly manner. We can enjoy the beauty of the lakes plus the positive economic impact Polymet will provide to northern Minnesota. We support the Polymet project and the economic impact it will provide to northern Minnesota and the entire state of Minnesota. We do have to remember that job creation has to be conducted hand in hand with a business plan that assumes a healthy clean environment for our children in the future. I have confidence in Polymet officials that their business plan is pro environment with 2010 technologies. Let's support the project.	EOO
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<b>Sender Last Name:</b> Severson	<b>Submission ID:</b> 2854
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9	The narrative pertaining to the “no-action” alternative in regard to socioeconomic consequences seems to be excessively short. This alternative assumes that the socioeconomic conditions on the eastern Mesabi Range will continue to deteriorate at the current rate. This assumption does not take into account that many of the communities in this part of Minnesota are “holding on” in the hopes that the PolyMet project will come to fruition. We believe that conditions will plummet if this project and other pending Cu-Ni projects are not allowed to proceed. The narrative also states that some of the taconite mines are conducting exploration efforts in anticipation of expanding. While this may be true to some degree, some of these exploration efforts are also aimed at extending known reserves. This should also be explained in the “no-action” alternative.	ALT1
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3150	Waste Rock Characterization – there is virtually no discussion regarding the battery of tests that PolyMet has conducted over the last five years in order to determine when, and to what degree, the waste rocks and tailings materials will generate acid mine drainage (AMD). Furthermore, there is no mention of the consultations they had with experts in the AMD field to determine the most environmentally safe way to dispose of their waste products. We feel that a document of this magnitude should provide to the public a short 1-2 page narrative that at least discusses what PolyMet has done regarding their waste characterization test work. While it would be impossible, and probably unnecessary, to discuss in detail all of this characterization work we feel that the public should be informed of the types of test work that have been conducted and that PolyMet takes the AMD potential very seriously.	PD2
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<b>Sender Last Name:</b> Sharp	<b>Submission ID:</b> 3136
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3506	Please, No Mines in this area. This is beautiful treasured land. Let's keep it that way. Lisa Roth Sharp	EOO
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<b>Sender Last Name:</b> Shattich	<b>Submission ID:</b> 3397
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*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
3687	Sp, this proposal aims to fix out mining economy for the next 20 years. The companies proposing operations are from Canada, so the money will ultimately leave not only MN, but the U.S. too. What will revive the mining economy when these become exhausted? I do not believe the forthought has been extended far enough into the future on this matter. The proposed operations are not only dangerous to NE Minnesota's environmet, but also absurd to be thought of, to solve any long term problems we will face.	G1,G2
<b>Sender Last Name:</b> Shaw		<b>Submission ID:</b> 3536
3799	I am a out of state resident but own a second home in northeastern Minnesota. I am fully against this type of mining or any additional mining in the area. I could have purchased my property in Michigan or Wisconsin but chose northern Minnesota because it is the last true wilderness left in the upper Midwest. I may not be able to vote in local elections, but I pay Minnesota property taxes and support local businesses and of pay my share of sales tax. There are many of us whose voices are not heard and sometimes even ridiculed. Before retirement I was active in the mining business for a major mining equipment manufacturer. I have seen Copper mining and processing all over the world. I do not want it as my neighbor. This short term gain would be a long term disaster. T Shaw	EOO
<b>Sender Last Name:</b> Shepard		<b>Submission ID:</b> 1189
1304	I am concerned that the level of financial assurance required of PolyMet will be insufficient. Ongoing water treatment required by extensive pollution is not acceptable. The value of waters impacted by the mine and of the wilderness surpass the value of the mine.	G4A,G7B
3868	Dear Mr. Arkley, I am regular visitor and summer wilderness guide to the BWCA. For the sake of all the local communities and the watersheds that would be effected by the pending mining projects. I implore you to do whatever you can to give a voice to concerned Minnesota residents, such as myself. I fear for what long-term negative impacts these projects could have. Thank you so much for your support. Sincerely, Anna Shepard	G2
<b>Sender Last Name:</b> Sherman		<b>Submission ID:</b> 3449
3218	PolyMet acknowledges that some acidified water will escape and enter lakes, streams, wetlands, and rivers in the region. Their assurance that safe drinking water standards will be met only addresses one designated use for water. Ecosystem services will most certainly be impacted. It would destroy thousands of acres of wetlands and forests, put endangered species at risk and place the burdens of environmental harm disproportionately on Indian tribes who have rights to the land that would be most impacted. It is likely that the PolyMet project would increase mercury levels in fish and adversely affect wild rice growing downstream. The DEIS is inadequate in many ways. The information on current water quality problems and the polluted site that will be used for dumping wastes from the processing plant is inadequate. The DEIS ignores real historical impacts of local mines, rather than admitting the risks of the project, and contains no proof that either the public interest in Superior National Forest land or tribal interests in treaty lands will not be irreparably harmed. I oppose the PolyMet project because it is likely that the mine and processing plant will pollute Minnesota's precious waters for hundreds or thousands of years to come and have serious impacts on the environment, human health and tribal rights. I agree with the tribal cooperating agencies and the U.S. EPA that the DEIS is incomplete and does not demonstrate that the proposed mining and processing operations could be done without harming the environment and tribal resources and without putting taxpayers at risk for substantial ongoing cleanup efforts that would be needed at such a massive disturbance of sulfide rock. The tribes and the EPA have pointed out many inadequacies of the PolyMet DEIS.	WR1E
3668	PolyMet sulfide mining project. Sulfide mining, which would be new to MN, has a long history of environmental problems and the current technology available to address the impacts isn't adequate. Often, taxpayers have been stuck with the clean-up costs. The PolyMet DEIS provides no financial assurance to protect taxpayers in the event that PolyMet company goes out of business, leaving seeps and wastes behind.	PD4

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
<b>Sender Last Name:</b> Sherpa		<b>Submission ID:</b> 3384
3674	NorthMet Project is a big project. Advantage- electronic recycling is the best idea, which we can use in our own country. As people need more metal. Disadvantage- It pollutes the ecosystems. It's said that MN is known as 10,000 lakes but due to any negative reason the state is not going to be known because of this and all the other lake [illegible] can be stopped if the lake are polluted.	G7
<b>Sender Last Name:</b> Shexpa		<b>Submission ID:</b> 3333
3626	NorthMet Project – PolyMet Mining, Inc., is doing a great job. More people should be aware of the environmental protection + pollution. I encourage more of these works.	EOO
<b>Sender Last Name:</b> Shinner		<b>Submission ID:</b> 2259
2669	The PolyMet sulfide open-pit mining project proposed on public land in Minnesota's Superior National Forest would harm the environment and has not been properly studied in the Draft Environmental Impact Statement (EIS). The Indian Tribes who looked carefully at the PolyMet mine and the draft EIS have already commented that the studies of water pollution, wetlands, mercury in fish, wild rice, endangered species, financial risks and perpetual pollution from the sulfide mine are inadequate. Before any permits are even considered, all of the additional analysis recommended by the Indian tribes must be done. The United States Environmental Protection Agency also said that the draft EIS is inadequate because it doesn't explain what lands would be exchanged for the 6,700 acres of public forest lands that would be taken by the mining company and because there is no assurance that the public won't end up paying the costs for pollution. The gaps in the EIS found by the U.S. EPA must be filled to protect the public. Sulfide mining would be new to Minnesota. Acid mine drainage has occurred in nearly every mine of this type, polluting water and leaving taxpayers to bear the costs. Destruction of forests and wetlands can harm endangered species and increase global warming, while mercury and sulfate pollution of water create risks to wild rice, ecosystems and human health. Please stop the PolyMet mine unless the company can prove in the EIS that it won't harm the environment. As a start:	EOO,G4A,G8
<b>Sender Last Name:</b> Shippar		<b>Submission ID:</b> 2257
2667	Minnesota Power has reviewed the draft EIS for the Polymet Northmet project and commends the Minnesota Department of Natural Resources (MNDNR) as the Responsible Governmental Unit (RGU) and the U. S. Army Corps of Engineers (USACE) for their thorough environmental review of this Project. The planning, public communication and input associated with the review of this project will significantly and appropriately advance the environmental assessment process to the benefit of all Minnesotans. Minnesota Power recognizes the significant positive socioeconomic impact to the region resulting from the Northmet Project, which will be reusing an existing facility to process the area's native minerals. This project will bring growth and revitalization to the Eastern Mesabi Range, which was economically devastated by the closure of LTV Steel Mining Co. in 2001. Minnesota Power appreciates the efforts of MNDNR and USACE in their comprehensive review process and looks forward to the completion of the Northmet permitting process. Minnesota Power believes that a thorough and exhaustive review process requires key parties asking the right questions to provide a framework and mechanism for ensuring that responsible stewardship of our precious resources is maintained. Minnesota Power supports this project and looks forward to a successful completion of this process and the eventual start of the Northmet Project.	EOO,G6
<b>Sender Last Name:</b> Shirley		<b>Submission ID:</b> 2917



*Alphabetical by sender's first name*

<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
3248	I have spent the last 6 years working in the BWCA and Lake Superior. Respect and preservation of the surrounding watershed and land holds not only an intrinsic value, but an economic one as well. While the creation of such a mine will create jobs in the short-term, the lasting effects of the mine will not only hold environmental impacts, but will create a significant loss of jobs in the tourism industry, which will sustain long after the mine has ceased to exist. The PolyMet DEIS describes significant environmental issues associated with this proposed mine. In light of these issues this mine should not be approved by the Minnesota Department of Natural Resources and the U.S. Army Corps of Engineers.	G1,G2C,G11
<b>Sender Last Name:</b> Shoden		<b>Submission ID:</b> 228
234	I am writing to you to give my full support to the Polymet project. The Iron Range, as well as the State of Minnesota, will greatly benefit economically. We need this project to succeed! I personally know some of the Polymet employees, and know how they feel about the environment. They will do everything humanly possible, to minimize any affect, the project would have on the environment. I totally trust these people, who also have families and live on the range.	EOO
<b>Sender Last Name:</b> Shrode		<b>Submission ID:</b> 1656
664	PolyMet proposes to use an existing mine tailings basin for the disposal of its tailings and toxic materials in an already unstable basin. Failure of this basin to hold its contents would result in long-lasting and serious contamination. PolyMet must complete a stability analysis of the basin and devise an acceptable design before proceeding. The PolyMet DEIS describes significant environmental issues associated with this proposed mine. These issues must be resolved before this mine is approved by the MN DNR and the U.S. Army Corps of Engineers. Lake Superior is seriously stressed. It is beyond reproach to further imperil this inland sea for a short term, unsustainable and destructive industry.	GT2
992	I understand that the water leaching from waste rock piles at the site is expected to exceed water quality standards for up to 2,000 years. It is unreasonable to expect that mining companies will be able to maintain water treatment facilities for that amount of time. It is an unfair burden to pass on to future generations who will be left to pay for these operations.	PD2,PD4
1902	from the mine site into the Partridge River after the mine's closure, as well as tailing's basin discharges high in sulfate concentrations. High sulfates can turn mercury into forms that make fish dangerous to consume. It is unacceptable to proceed with a mine that already predicts these kinds of pollution outcomes.	FM1
2097	Regarding: PolyMet Mining Corp. NorthMet mining project Draft Environmental Impact Statement. I am a visitor to the areas and do not want them affected. It is not acceptable to risk national forest and other areas by claiming that the mining is not IN the Boundary Waters. One cannot seriously believe that the "exploration" in Birch Lake is not having an effect on that environment, much less active mining and its long term after effects.	G2A
2098	This moves beyond the environmental impact issue into area economics. This is a dangerous, short sighted economic solution to an area that has green and sustainable answers at their doorstep. Rather than further degrading the recreation and tourism opportunities and experiences and the local businesses, now is a prime opportunity to plan for promoting citizen access to and protection of wilderness areas and the businesses that facilitate such activities. We are being told that "green industry" is the future. Now is the time to step up to the plate and put the money where the mouth is. If it may be thought that because I don't live in the affected area that I don't know what it is like to suffer economic depression, our long time family business is being destroyed by an imminent domain process that is putting three people who support families and the community out of work. We will be making hard changes in our lives. We certainly are not going to sell out our environment for a job; it may very well be the key to our personal future.	EOO,G11

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
3111	I expect them, the U.S. Army Corps of Engineers and any other involved agency to stand up against this proposal. Concerning impacts on water quality, I understand that the water leaching from waste rock piles at the site is expected to exceed water quality standards for up to 2,000 years. This is unacceptable to me. It is unreasonable to expect that mining companies will be able to maintain water treatment facilities for that amount of time and it is an unfair burden to pass on	EOO
3112	from the mine site into the Partridge River after the mine's closure, as well as tailing's basin discharges high in sulfate concentrations. High sulfates can turn mercury into forms that make fish dangerous to consume. It is unacceptable to proceed with a mine that already predicts these kinds of pollution outcomes.	EOO,WR4B
3113	It is my understanding that PolyMet proposes to use an existing mine tailings basin for the disposal of its tailings and toxic materials – but that the basin already has stability issues making it unsafe. Any failure of this basin to hold its contents would result in long-lasting and serious contamination. PolyMet should complete a stability analysis of the basin and devise an acceptable design before being able to proceed with this project.	WR2D
3527	I have seen the dead environments in Montana. It is not acceptable in any way to risk national forest and other areas by claiming that the mining is not IN the Boundary Waters. One cannot seriously believe that the “exploration” in Birch Lake is not having an effect on that environment, much less activemining and its long term after effects. I am a volunteer for the DNR frog calling survey and I am trying to assist in identifying at-risk areas and make a	G2
3528	Minnesota Department of Natural Resources and the U.S. Army Corps of Engineers. This moves beyond the environmental impact issue into area economics. This is a dangerous and short sighted economic solution to an area that has green and sustainable answers at their doorstep. Rather than further degrading the recreation and tourism opportunities and experiences and the local businesses, now is a prime opportunity to plan for promoting citizen access to and protection of wilderness areas and the businesses that facilitate such activities. We are being told that “green industry” is the future. Now is the time to step up to the plate and put the money where the mouth is. Lake Superior is already seriously stressed. It is beyond reproach for further imperiling this inland sea for a short term, unsustainable and highly destructive industry.	G1,G2,G11
3579	to future generations of Minnesotans who will inevitably be left to pay for these operations. Additionally, it will be all but impossible to calculate sufficient financial assurance for a mining operation that is going to require such long-term care. In addition, the DEIS predicts contaminated waters to be discharged	PD4

**Sender Last Name:** Shuck

**Submission ID:** 3712

1	The Draft EIS also fails to include moose in its discussion of the few remaining wildlife corridors in the region, and in its cumulative impacts assessment for wildlife and wetlands impacts. As noted by the Tribal cooperating agencies, the Minnesota wildlife advisory committee studying the decline of the moose population in northeastern Minnesota has recommended preserving wetlands as sanctuaries for moose from heat stress, and the yet PolyMet is proposing the largest direct wetland fill ever permitted in this region, with the proposed wetland mitigation located outside of the St. Louis River watershed and 1854 ceded territory. The proposed project will thus clearly contribute to cumulatively significant effects on the state's moose populations and Tribal harvest in the 1854 ceded territories, which the Draft EIS has failed to assess or disclose.	WI2,G3,CR1,CR4
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*Alphabetical by sender's first name*

**Comment ID    Comment Text** **Theme Codes**

1 Additionally, the Draft EIS cumulative effects analysis is inadequate by failing to consider cumulative impacts to bird species, which are currently in decline due to habitat losses and fragmentation. See e.g., Lind, J; Danz, N.; Jones, M.T.; Hanowski, J.M.; 2001 Annual Update Report: Breeding Bird Monitoring in Great Lakes National Forests 1991-2001 (NRRI 2001); Birds Of Conservation Concern, 2002 (identifies species and subspecies and populations of birds "in need of additional conservation action"; follows up and expands on a 1995 list of migratory nongame birds that are likely to become candidates for ESA listing without additional conservation actions. The report identifies species that are of the highest priority for conservation efforts and attempts to include all species thought to be at risk in order to focus conservation attention on them "well in advance of a possible or plausible need" for ESA protection); available on line at <http://migratorybirds.fws.gov/reports/BCC2002.pdf>

WI5

2662 This letter will serve as official notification that I support PolyMet Mining. Based on the extensive documentation as outlined in the DEIS, I am confident that impacts to the air, water or land will be minimal, if any. I believe that PolyMet will produce these metals in an environmentally sound way and generate significant economic activity in a depressed area. Unfortunately, after 9 years of service, I lost my job with LTV Steel in 2001, when LTV permanently dosed. For several years I struggled to support my family, picking up jobs wherever I could. In 2005, I was hired by PolyMet and have worked at the Hoyt Lakes site since then. With the PolyMet Mine, hopefully soon, in the construction phase and in actual operation, these job opportunities would bring hope to others who are still struggling from LTV dosure and others seeking employment as well. I have lived in this area all of my life and I am obviously concerned about our environment, not only for myself but for my family as well. I am also an avid sportsman, especially enjoying hunting and fishing. I am very interested in maintaining a healthy natural environment, not only for my own enjoyment but for the enjoyment of future generations. As a person who lives, works and plays in the area, I understand the need to balance use of resources like minerals and preservation of resources such as water and air. I feel this EIS lays the proper groundwork for developing an environmentally and economically sustainable project.

EOO,G2

**Sender Last Name:**    Sikora

**Submission ID:** 3608

3883 As a college student, I spent my summers fishing in and around the Boundary Waters/Quetico Provincial Park/Shebandowan Lake area ...on both sides of the border...and always by canoe. The abundance of small mouth bass in the area was the target and the results were always spectacular. I still spend time in the area, with both my father and son...and can honestly say the fishing is still fantastic. Given my love of the outdoors coupled with my interest in engineering, my field of study at University was Metallurgical Engineering with a specialization in Hydrometallurgy. Upon graduation, I had the good fortune to work for several mining companies that were focused on non-ferrous extractive metallurgy. I strongly believed then, as I still believe today, that hydrometallurgy is the best approach for a harmonious existence between extractive metallurgy and the environment. Non-ferrous minerals [chalcopyrite, chalcocite, pentlandite, bornite,...] can be separated and reduced without damaging the environment. The technology and approach, as detailed in the DEIS, works. PolyMet Mining has clearly done their homework with respect to protecting the environment. In addition, the NorthMet Project will bring much-needed jobs to the Hoyt Lakes area and allow young families to return and enjoy the great fishing and hunting, while providing them with the financial security to raise their families. The project should be allowed to proceed as quickly as possible and bring back those young families to the area. Self-interest groups should not be allowed to side-track/delay the project any longer. People need jobs. America needs a secure and domestic source of nickel [rather depend on foreign entities that, at times, can appear to be so hostile]. It's time to get going!

EOO

**Sender Last Name:**    Simberg

**Submission ID:** 295

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
309	I am writing in support of the PolyMet Mining Project. PolyMet has taken the time and expense in working with federal and state regulatory agencies on their draft Environmental Impact Statement. I urge you to let the decision to approve this EIS stand on its own merit. Mining of copper, nickel and platinum is not conducted today as it was thirty and forty years ago. Fears of environmental damage based on past practice is unfounded. If today's PolyMet EIS passes all regulatory agency scrutiny, then the project must be allowed to move ahead. PolyMet must not be hindered by fears from the past nor standards above and beyond today's requirements. I know several key PolyMet employees. They are outstanding Northeast Minnesota citizens who will provide economic development critical to the future of our region, and be excellent stewards of our environment. I have four adult sons. Three of which relocated to the Minneapolis-St. Paul area to find gainful employment. Their hearts are still in the Iron Range. PolyMet has the potential to provide opportunity and a life style they, and scores of others, deserve close to home. Thank you for your prudent and timely action on this important matter.	EOO
<b>Sender Last Name:</b> Simmons		<b>Submission ID:</b> 1355
162	Extend the comment period beyond Feb 3	PRO6
1582	I understand that even the engineers designing this project project that acidified mine wate storage areas will begin to leak into ground and surface water in about 60 years. How can this be acceptable? No amount of develpment or temporary mining jobs is worth turning the Arrowhead into the hydrologic equivalent of the wasteland around Sudsbury, Ontario.	EOO,G7A
1583	Just because a dirty-process mining company finds it currently economic to mine these deposits is no reason to allow it to happen now. Leave the deposits in the ground until there is a clean way to mine them, if there ever is.	EOO
<b>Sender Last Name:</b> Simpkins		<b>Submission ID:</b> 2345
2818	The PolyMet DEIS describes significant environmental issues associated with this proposed mine. These issues should be resolved before this mine is approved by the Minnesota Department of Natural Resources and the U.S. Army Corps of Engineers. This looks like a case of short term gain and long term disaster. Are you willing to clean up the mess?	G4,G6
<b>Sender Last Name:</b> Sink		<b>Submission ID:</b> 3451
3731	I urge the DNR to support legislation that requires copper mining in Minnesota be held to the strictest standards in regards to contamination of water and land and clean-up procedures. The desire for copper and even need for copper must be weighed against the common good. Does our rock contain a high enough percentage of copper to warrant such large-scale disruption? To risk the health of local populations or threaten the watershed in the area? I argue that it is not worth it if our rock is not copper-rich, no matter what the price of copper on the market today.	G2,G5,G7
<b>Sender Last Name:</b> Skaer		<b>Submission ID:</b> 3706
1	More indirect impacts to wetlands have also not been quantified. As noted in the relevant Tribal Position, ore dust will spill from rail cars and be deposited in wetlands adjacent to the rail line.109 But no analysis of any type has been conducted to determine if such impacts would be significant. Other alternatives (e.g. underground mining) that would pose less harm to high quality wetlands, and may be less damaging to aquatic resources, were not adequately considered.	WE2
<b>Sender Last Name:</b> Skinner		<b>Submission ID:</b> 3299

*Alphabetical by sender's first name*

<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
3593	I am a resident of St. Louis Park, MN and an undergraduate at Carleton College in Northfield, MN. The BWCAW has been an important part of my life for as long as I can remember, and my family and I take long canoe trips up there every summer. The importance of such a unique and peaceful facet of our state's identity cannot be understated, and any mining operation that threatens the area in the future should not be allowed the opportunity to jeopardize this precious region and its surrounding areas. The NorthMet project would set a dangerous precedent along with posing an environmental risk. Do not let this go forward.	EOO,G2
<b>Sender Last Name:</b> Skoog		<b>Submission ID:</b> 240
250	I think granting a permit to Polymet is a poor idea. To call this a jobs project is very misleading. 10 to 12 other states have tried this mining, and they have not been able to find a real answer for the waste. Putting it in big liner then treating the waste water for the next 100 years is not a sound solution. I oppose this and hope you consider the toxic runoff that will make its way into our waters.	G7B
251	Why was there a drilling barge on a lake near Ely?	EOO
<b>Sender Last Name:</b> Skraba		<b>Submission ID:</b> 36

*Alphabetical by sender's first name*

**Comment ID    Comment Text**

**Theme Codes**

32 Thank you. My name is Roger Skraba. I'm the mayor of Ely. I'm here to support the PolyMet project. It will be a business incubator for our community. We look at it, the City of Ely is like a commerce center. We draw people from Isabella, Babbitt, Tower, Ely, and we're hoping, if a lot of folks come and start businesses around the area and more people live -- not specifically in Ely, but in Babbitt or Aurora, they're going to gravitate towards Ely, so we're going to benefit some from the business from that. We're also hoping we can pick up a few of the employees, because they want to live in our environment, they want to live next to the woods and work on the other side of that ridge, and that's something that I think needs to be addressed. As -- as mayor of a city, gateway to the Boundary Waters Canoe Area Wilderness, we are pretty particular about what goes in our water, and this project is on the other side of our watershed. This is on the Lake Superior watershed, not into the Nelson River watershed. All our water goes up to Hudson Bay, down the Nelson -- Lake Winnipeg to the Nelson River. We're -- the city council has sent me to make a presentation, and we are confident that it will not pollute our watershed. I have been -- I did read the -- not the whole EIS, but a bunch of the EIS, and I'm confident that PolyMet has met and -- and exceeded the standards that the DNR and PCA, Minnesota Pollution Control Agency, has set. I am -- I'm impressed at their desire to work with everyone involved in the permitting process, from what I've seen, on -- on the -- on the property itself, where the water is going to go, how they're going to contain it, how they're going to treat any of the runoff with a wastewater treatment plant to keep the sulfides out and they're going to cover -- they're going to put a blanket underneath, they're going to put a blanket on top, you know, a cover, so we're not going to get the leaching. They're going to try. It's -- it's good to see. I think everyone is aware of what can happen. And they're going to mitigate as -- to the point of when, if it is an issue, it will be brought forth and they'll have to deal with it. The good thing about the sulfide in this project is that it is a low sulfide. It's not high. It's in the small percentages. And from the -- from the stuff that I've read and learned about, it takes a long time for that sulfide, long in the time of nine months to a year to two years, for it to really react, and -- and it won't be in the air that long, most of the sulfide they're using. Again, I think the -- the biggest -- the biggest issue that our council sees are -- are the jobs that are going to come, the economic development. Our downtown is pretty -- is starting to go away, and -- and I'm not desperate, I'm not here desperately -- it's not like I'm here, this is the last savior. I'm saying this is one of the straws in the big pile that makes a -- a -- a community. Or it's part of the fabric of our community. Mining's always been in Ely, Minnesota. The miners -- that's why Ely is where it's at. 1888 we started, and it was because of the iron-ore mining and the timbering, and so we -- we have a history of mining, and I hope -- I hope that we can help contribute to this next level of mining. And I -- and I think I -- I have to state that the permitting for Franconia or Duluth Metals is separate from the PolyMet mining permit. PolyMet is PolyMet, and I sit on the St. Louis County planning commission and we give out conditional use permits, and each one is unique to itself. And I truly believe that with this permitting process, and I'm -- I'm -- I'm impressed to see what -- the process that we're going through now, getting the information. Where it goes from here, I -- I don't know. I don't know where you guys take this information, how you compile it, and what you do with it. But it -- it is a -- it's a process that, so far, I've been impressed with, what you guys have done. I'm -- I don't feel

EOO,G10

*Alphabetical by sender's first name*

**Comment ID    Comment Text** **Theme Codes**

2607 MR. SKRABA: Hi. My name is Roger Skraba, I am Mayor of Ely, Minnesota, and I was asked to come down here and testify in favor of the PolyMet DEIS from the City Council of Ely. It was a unanimous decision. We are here to talk about a couple of things. One of the main things I want to bring up is the PolyMet project is on the other side of the Laurentian Divide, so the watershed from this project does not interfere with the Boundary Waters in any way. As far as air pollution goes, it has 90 percent less air pollution than the taconite mining that was formerly, so the air pollution issue isn't as big of an issue as a lot of folks are led to believe. It will bring in hundreds of thousands of dollars of taxes in the long run for the whole area, northern St. Louis County, Babbitt, Ely, the Taconite Tax Relief Area. That is one of the advantages. We need commerce in our area businesses. Ely is a hub, is a business hub in the area right now. We are hoping that if the PolyMet project gets permitted and people start living in the Range that they will come to Ely for an evening of meals or to shop and then find out how quaint and beautiful it is and live there. That is my goal. My goal is get more residents so we can lessen the tax burden on everyone else. Sorry to sound like a businessman, but that is what we've produced that program to do right. Our population could use a little hit. We could use a few more people. The PolyMet process that they are talking about using is a proven process. It's not new. All parts of it have been used in other places successfully in the world. It's fortunate that this EIS calls out this process and investigates it. From the information that I have read and that I have gathered, I am going to find it hard to believe that the government can prove that it isn't a safe way, and I look forward to the government scrutinizing this because that is part of the process. What else do I want to talk about? The PolyMet project will bring in approximately 400 new jobs, up to they are talking about like 500 spinoff jobs from different manufacturing. Whether or not Ely is successful in getting the raw copper that will be produced on the plant to make wire or to make copper tubing or to make anything out of the copper, whether Ely is successful or any other communities are, the fact that the potential is there is what we are excited about. Our communities could benefit from it directly or indirectly. As far as our concern about polluting the Boundary Canoe Area Wilderness, again it's on the other side of the Divide, the watershed goes the other way. Each project, whether it's PolyMet, Duluth Metals or Franconia, they are all stand-alone projects. They are all different. The PolyMet project is on the other side of the Laurentian. The Franconia and Duluth Metals are on this side, and they in themselves will be scrutinized even more because if they do pollute that pollution does enter the watershed and does affect our commerce and the way we will be viewed as a world-class place to come. Ely is known worldwide. You can go anywhere, pretty close anywhere in the world and say Ely, Minnesota, somewhere and someone is going to say I have been there or I have a friend that goes there. We don't want to ruin that, and I am here to make sure it doesn't get ruined. The Council sent me to support this, and I hope that PolyMet is successful in their process. Thank you.

G1,G6,G11

**Sender Last Name:** Sloan

**Submission ID:** 2979

3358 Please accept these comments on the PolyMet Mining Corp. NorthMet mining project Draft Environmental Impact Statement. I have VERY SERIOUS concerns about the safety of this project and its potential impacts on Minnesota's natural resources. If Minnesota does not have its natural resources, what are we as a state? That's what makes this place worth living in.

EOO

3359 The PolyMet DEIS describes significant environmental issues associated with this proposed mine. These issues should be resolved before this mine is approved by the Minnesota Department of Natural Resources and the U.S. Army Corps of Engineers. This is very important to the citizens of Minnesota and of the United States.

EOO

**Sender Last Name:** Smith

**Submission ID:** 24

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
22	My main comment about this would be that Minnesota has some of the best environmental standards in the world right now, and I'm really frustrated by all the delays in this project. When I came to speak at the draft, I was actually employed. Now I'm unemployed, and I'd really like to see this process move along. I think it's taking way too long, and even this delay now on the draft for a longer comment period, to me, it just -- it's been five years. It's time to get this project going so the people that live up in this area can work. And there's a lot of areas in the world where these projects are done and they aren't done with even close the environmental standards that we have here, and why not do it and do it with the best environmental standards around. It's time to get the project going.	EOO,G10
1253	Is this mining project worth the cost of ruining MN's most untouched region? Is it worth destroying the enviroment by polluting the crystal clear water with toxic run off? When it is gone you can not bring it back to it's original state. Please listen to the people of MN who last year voted to protect it clean water.	G7C
1558	Additional comments: My family is from northeastern MN. Currently, we live in Texas but we spend our summers in MN, while I work. We plan to live there in retirement. It is hard to believe that you would allow this type ,of mining in NE MN when there have been no prior sulfide mining that has proven safe for the environment. Jobs are not worth destroying our environment. Please do not allow this mining to be done in my home country.	EOO,G11
2345	I want to express my concerns on the minning project. I hold an opinion of a nature enthuseist as well as a member of a community with a demand for a perservation of the natural environment. Most citizens in Minnesota are passionate about wildlife and the enjoyment we recieve from our memorize and futures to come here. I for one, am aware the potential threat of many surrounding ecosytems for many years to come. It saddens me to think that one day my grandchildren will not be able to experience the true beauty of the boundary waters.	EOO
3198	THERE COULD BE NO GREATER MISTAKE THAN TO ALLOW PLYMET TO GO FORWARD WITH THIS PROJECT. WILL YOU ALLOW GREED TO OVER-RIDE RATIONAL BEHAVIOR AND COMMON SENSE. OUR BOUNDARY WATERS AND JOINING AREAS ARE OUR GREATEST NATURAL RESOURCE. NOT POLY-MET AND WHAT THEY CAN GRAB. I WANT TO KNOW WHO IS GETTING PAID OFF BY THIS NOW! THIS PROJECT SHOULD NOT GO THROUGH. PERIOD!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!! AS IF THE ARMY CORPSE EVER DOES ANYTHING RIGHT ANYWAYS.	EOO
3504	I live 2000 miles from the canoe country, but I have been going to Ely for 30 years, taken 57 canoe trips into the Quetico/Superior, have introduced a dozen Arizonans to that area, and sponsor 3 scholarships at Vermilion Community College every year, for wilderness studies. Leave this wilderness alone. I've seen Sudbury, Ontario, and what nickel mining does to the environment. The Arrowhead region is a national treasure; please treat it as such. Michael Smith Tucson, AZ	EOO

**Sender Last Name:** Smolich **Submission ID:** 3714

1	Water quality within the St. Louis River watershed has already been degraded by past and present mining activities. Additional discharges of sulfate, mercury and other metals will contribute to the cumulatively significant effects on water quality in the St. Louis River watershed. As noted by the Tribal cooperating agencies, an Antidegradation Analysis for the Lake Superior Basin must be conducted for several contaminants in addition to mercury, and the results of this analysis must be included in a revised DEIS.	WR5A
2623	I'd just like to say that ever since the LTV closure, we need jobs to support our schools, support our community, support local businesses, maybe attract some satellite industries. Like I said, it's very important for the city, as a whole, to have a project like PolyMet on the east end of the Iron Range. Everything that I've read, their environment -- I believe they'll do this in an environmentally-friendly way. And basically, that's -- you know, we got to keep our new school full, and fill up some houses and build some new houses, and small towns are going to die off. I mean, it cost more to run your waste water and your water plants, and if you don't have people to support them, I mean, your small towns are just going to go away. So that's, basically, all I got to say. And thanks for having this forum down here.	EOO



*Alphabetical by sender's first name*

**Comment ID    Comment Text** **Theme Codes**

**Sender Last Name:**    Sobanja

**Submission ID:** 3610

3885 As part of the public comment period currently underway regarding the draft EIS for the PolyMet project, the Cook County Board of Commissioners would like to express its appreciation for the thorough review process that has been conducted to identify and mitigate any significant negative environmental impacts. After meeting with Barr Engineering consultant Brad Moore, and considering Mr. Moore's background with the MN DNR and MPCA, the Cook County Board of Commissioners understands that there would be minimal negative impacts to the ground water or air quality in Cook County, that the EIS adequately addresses the impacts to and needs of the mining and processing sites as well as the impacts to surrounding counties, and that proper technologies are in effect to mitigate environmental concerns going forward into the future. Having said that, and understanding the positive economic and social value this project brings to northeastern Minnesota, both short and long-term, the Cook County Board of Commissioners supports the EIS as the proper tool to use for mitigation on the PolyMet project.

EOO

**Sender Last Name:**    Solberg

**Submission ID:** 339

41 Sulphide oxidation is catalyzed by a bacteria, named Thiobacillus ferroxidans. Without that bacteria the oxidation would be much, much slower (it's in the thesis, the reactions are described in the appendix). In nature, that bacteria is present everywhere. If you take fresh tailings, however, directly from the flotation processes, and bring them to the laboratory for leaching studies, the bacteria may not be present in the tailings. That may be the explanation for the difference in oxidation rate between field studies and laboratory studies. Has there been long term field studies with the tailings? It's very important, because that's the natural conditions, the real scenario for the tailings, with the bacterias present. I searched the DEIS and found nothing on field studies concerning the tailings - only wild rice.

WR1E

139 My name's Greg Solberg. I'm not for the mine, I'm not against the mine. I'm pretty sure I'm not going to stop the mine, so I want to be on the side, the middle guy. I want to -- I don't want to listen to all the mining stuff and I don't want to delve into the environmentalists who think we're going to die tomorrow. I want to know the truth, and since it's probably going to happen, let's just make sure we do it right the first time. And I have this research thesis I got from a Swedish grad student that I'd like someone to look at, and that's really all I have. That was quick and easy. I'm concerned because I own 120 acres just south of Sudan, which is 20 to 25 miles north of the proposed mine, so it's kind of in my backyard or -- backyard, more or less. So I'm concerned and, you know, just -- I'm a north -- it's my dream, my 120 acres, I've got that, and I've started planning a log cabin. I just wanted to own a little piece of this earth, have a log cabin since I was about five, so -- and so, you know, this is a concern, but as long as they do it right, it maybe isn't. That's all.

EOO

360 I spoke with a few people from the DNR and PolyMet at the Blaine discussion and have some real concerns that the tailings will not be handled correctly.

G2D

361 I gave an oral comment, left a copy of the attached research, and want to make sure you guys have this in your hands as well. Please read this!!! Here's a link just in case: [http://diss-epsilon.slu.se:8080/archive/00001874/01/Kappan\\_Avhandling\\_nr\\_08.88.pdf](http://diss-epsilon.slu.se:8080/archive/00001874/01/Kappan_Avhandling_nr_08.88.pdf) I'm not trying to stop the mine - I have no say in the matter. Since it will go through, I want to be assured that things will be done right the first time. Also, I really think you guys would be better off leaving the politicians behind - their BS is not helping your cause. At the very least, sit them down and teach them. Well, that's my opinion anyway.

G14

**Sender Last Name:**    Solitis

**Submission ID:** 3697

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
1	I am writing on behalf of myself, my two sisters and my family to comment on the Draft Environmental Impact Statement (DEIS) for the NorthMet Project (Polymet Mining, Inc.). Our family has canoed, fished and hunted in the BWCAW and the Superior National Forest for nearly 50 years. We are concerned that this project will result in a significant loss of publically owned forest and wetland habitat, and that it will degrade the water quality of the Partridge, Embarrass and St. Louis River watersheds. We eat the fish and game, consume the wild rice and drink the water from this area. As proposed, this project has the potential to significantly impact the natural resources of this fabulous land of forests, lakes and rivers, and to further contaminate the food and water we obtain from it. I am a science and math teacher for junior and senior high students at the Cloquet Christian Academy. I have taught there for 22 years. My husband works as a wildlife biologist. We have raised three daughters and all of them loved to go camping and fishing, especially in the canoe county of northeast Minnesota. As young girls in our teens, my two sisters and I attended Widjiwagon YMCA camp near Ely. This is where we learned about canoe camping and fell in love with the BWCAW. We still go on canoe trips together every year in the Boundary Waters. This land is important to us. As citizens of this great state we depend on the Department of Natural Resources (DNR) to protect Minnesota's lands and waters. In your publication, A Strategic Conservation Agenda 2009-2013 Part 1: Strategic Directions, published in May of 2009, you describe your mission and conservation strategies for the future. Following are some of the statements made in this document that relate to this mining proposal: • DNR's mission is to provide for commercial uses of natural resources in a way that creates a sustainable quality of life. • DNR's goal is to conserve and enhance natural lands, habitat, water resources and watersheds and to provide healthy fish and wildlife populations. • Mining and reclamation are planned to ensure environmental integrity while producing important mineral products. • Prevent the conversion of forest, and protect peatlands and wetlands to mitigate the effects of climate change by sequestering carbon. • Expand the sustainable woody biomass supply to meet the state's renewable energy goals. • Seek to improve land and water health at local, landscape and watershed scales. • Apply regulatory tools to conserve water supply and promote land and water-use practices that protect water quality. I am encouraged by these statements from the DNR which represent a strong conservation agenda. Your document lays out a good strategy for sustainable use of our natural resources. However, I am very disappointed that the DEIS for the NorthMet project, prepared by the same DNR, falls far short of accomplishing what you claim to be your own agenda. As citizens, we all need and use the minerals that would come out of this mine. The economy could certainly use the jobs it would provide. To be responsible citizens, we also need to know the real costs and risks of copper-nickel mining, so an informed decision can be made. If mining proceeds, it must be done in a way that protects our environment, and is an ecologically sustainable form of land use. This DEIS does not clearly identify all the environmental costs and risks of this proposal, especially the cumulative impacts. The project does not meet environmental standards, nor provide a sustainable approach to mining. The greatest concern about the Polymet mine is the impact to water quality due to pollution from heavy metals, sulfates and mercury. These serious concerns are being raised by many people and I fully agree with them. However, the project will also have a huge impact on public forest lands, wildlife habitat and land use. My comments focus on these issues which include the destruction and degradation of a significant	G2
2	As mentioned in the discussion of Section 3.1.5.3 "Management of Process Waste Products," the type of dam construction used for both the existing taconite tailings and proposed flotation tailings impoundments is upstream-type construction, which is the most unstable of the dam construction types. This fact is reflected in the discussion of the long term stability risks for the tailings impoundments themselves, and has implications for the stability of the hydrometallurgical tailings storage facilities which will be built on top of existing tailings impoundment 2W.	GT1
3	Recommendation: A thorough testing program for verifying the target permeabilities of the various subgrade barriers should be required. If testing indicates that the specified permeabilities are not being reached, then corrective measures should be required.	PD11
3	• Monitoring of the sedimentation ponds discharge is recommended as part of any NPDES/SDS permit. (DEIS, p. 4.1-110)	WR1A
3	• There is some uncertainty as to whether the West Pit overflow would meet the Great Lakes Initiative standard for mercury and additional analysis of this issue is recommended. (DEIS, p. 4.1-124)	WR3I
4	• It is recommended that groundwater quality downgradient of the Tailings Basin and waste rock stockpiles be monitored on a regular basis to ensure that actual groundwater quality is consistent with model predictions. (DEIS, p. 4.1-172)	WR1B

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
4	• It is recommended that the sulfur concentration and pH of the tailings be monitored regularly to ensure they remain below a specified percent sulfur and above a specified drainage pH to prevent the development of acidic conditions or increased solubility of metals within the Tailings Basin. (DEIS, p. 4.1-172) [Note: It is recommended that the specified level of sulfur be 0.13%, the average tailings sulfur content assumed in the water quality modeling.]	WR1A
4	• It is recommended that the effluent from the WWTF be monitored regularly to ensure the proper level of treatment is being attained as this effluent is an important factor affecting the quality of groundwater seepage from the Tailings Basin (DEIS, p. 4.1-171)	WR2G
4	• Intermediate monitoring locations between these source areas and regulatory points of compliance (e.g., Dunka Road) are recommended to serve as “early warning” of any groundwater quality issues. (DEIS, p. 4.1-172)	WR1B
5	The DEIS notes that the mine site groundwater quality with respect to antimony, manganese, and nickel are predicted to exceed Maximum Contaminant Levels (MCLs) or MDH Health Risk Limits, potentially for the long term at the Mine Site. In particular Sulfate would exceed the groundwater evaluation criteria of 250 mg/L.	EOO
6	3.2: Project Alternatives: Paragraph 3, p 3-50 states that “NEPA requires that a “range of alternatives” must be discussed....This includes all reasonable alternatives which must be rigorously explored and objectively evaluated...” It is questionable whether either the rigor or objectivity of the project alternative analyses meets the intent of NEPA. For example, failure to include in any analyses in this DEIS Northmet data/information regarding Franconia; Duluth Metals; Encampment and Tech Cominco is problematic.	ALT8,PRO2
6	2.3.4: Issues Incorporated into EIS after Scoping: It is noted that the DEIS will have “greater emphasis” on several areas not anticipated at the time of the Final SDD: these include methylation of mercury; fine particulate emissions and greenhouse gas emissions and climate change, among others. The current DEIS provides inadequate information for judging the validity of assumptions and conclusions regarding these critically important issues. (see below)	G2B,G8,AQ3,AQ4,AQ6A
7	Have models used to project methylmercury concentrations included estimates of expected variation in measures under varied conditions? Please clarify.	WR4A
7	4.1.2.4 Mercury Impact Criteria: Note is made of the relationship between sulfate and production of methyl mercury. MPCA (2006) policies relevant to this issue are outlined and recommendations are to “avoid or minimize the discharge of water with elevated sulfate concentrations to methylmercury “high risk” situations.” It is not clear, however, to what extent the Northmet Project incorporates these recommendations into their operating plans. No details are provided and “high risk” is not defined. This should be clarified.	WR1E
7	The goal of transparency should also be advanced by providing detailed information for public review of Project principals: the corporation; staff, collaborators; consultants; affiliated organizations, agencies, and universities who participated in all phases of the Project proposal. There should be public review of potential conflicts of interest and/or disclosures of interest. The relationship between Project funding entities and researchers should be known in full. The DEIS Northmet should provide evidence that science-based data and information from independent research institutions were used in preparing the Project proposal. And the project should provide data regarding the extent to which this Project will impact the growing, collective adverse impacts of human activities in the Arrowhead region of MN.	PRO2
7	Tables such as 4.1-97 (p 4.1-190) and text (eg, p 4.1-189 and 4.1-193), throughout the Draft EIS Northmet, contain measures of mercury and methyl mercury concentrations. Since there are significant methodological issues involving such measurements of mercury, the question is whether the analyses reported reflect recognized causes of and degrees of variation in mercury concentrations. For example, significant daily variations have been noted by researchers: <a href="http://toxics.usgs.gov/highlights/mercury_streams.html">http://toxics.usgs.gov/highlights/mercury_streams.html</a> and <a href="http://toxics.usgs.gov/highlights/metals_variation.html">http://toxics.usgs.gov/highlights/metals_variation.html</a> .	WR1E
7	4.1.3 Environmental Consequences: It is stated: “The mining, ore processing, and tailings disposal operations associated with the Project may cause changes to the quantity and quality of ground and surface water in the Project area.” The word “may” should be changed to “will”.	EOO

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
8	Potential Indirect Wetland Impacts: It is not clear in the DEIS that robust methodology exist to quantify the changes in surface or groundwater flow rates and patterns needed to project wetland impacts from the Project. What specific methodologies have been used and have they been validated?	WE2
9	While wind roses for Hibbing show a north north west through west-northwest direction 25% of the year and south-southeast through southeast 15% of the year, Ely shows a pattern of west westsouth for the months of April through September. (University of Minnesota: <a href="http://climate.umn.edu/wind/windRoseClimatology.htm">http://climate.umn.edu/wind/windRoseClimatology.htm</a> . )Thus, the BWCA which is only 34km or 21 mi from the Project Site would receive winds from the Polymet Project Site for several months of the year. To what extent will this add to the worrisome burden currently being experienced by Class 1 areas BWCA and Voyageurs NP? At BWCA, visibility impairments have been documented for 200 days in a recent year. Has the potential impact of the Northmet Project on BWCA been quantified as part of this DEIS? Has the potential impacts of other mining activities between the Northmet Project Site and the Franconia; Duluth Metals; Encampment and Tech Cominco projected mining sites been quantified as part of this DEIS? These are critical data that must be included in the Final EIS.	AQ4,AQ4B,AQ9
10	The Vegetation and Wetland sections of the DEIS both describe a rich diversity of forest and wetland habitats, most of which are rated as being of high quality. Yet the impact from the loss of such a large area of forest and wetland is dismissed as being not significant. The rationale being used is that although the amount of area destroyed is large, when compared to the rest of the watershed, or northeastern Minnesota, or the whole state, it is minor in comparison. This is an illogical assessment of cumulative impacts. The DEIS should analyze the size of the project's impacts as compared to other development activities that cause permanent loss of forestland, such as roads, trails, housing, cabins, business, industry, and transportation. Then it should assess the cumulative impacts of the mine, these other development activities, and future mining activity, along with the other stress factors that northeastern forests and wetlands are facing such as global warming, growing recreational demand, and expansion of biomass harvesting, invasive species and new insect and disease problems such as the emerald ash borer. Can the argument be made that our forests, wetlands and watersheds will be able to withstand the cumulative effects of all these factors, plus a huge increase in mining activity?	SE3
10	The Wildlife section of the DEIS identifies a rich variety of wildlife species that are located on or near the project site. This list includes many important boreal forest animals including the Canada lynx, gray wolf, great gray owl, three-toed woodpecker, northern goshawk, blackbacked woodpecker, boreal owl, black duck and many others. Based on this list, the project area, especially the Mine site, provide high quality habitat for wildlife. According to Table 4.4-4 this project will destroy about 5 square miles of forest and wetland habitat. An additional area will be indirectly affected. Yet, the DEIS indicates the project will not have significant impact to wildlife because: • Most of them are relatively common species (pg 4.4-1). • They will disperse to other nearby habitats (pg 4.4-1, 4.4-10, 4.4-12, 4.4-15, 4.4-17, 4.4- 20) • The project will not effect their survival at a statewide scale (pg 4.4-12, 4.4-13). It is a well known fact that displaced wildlife cannot successfully relocate into adjacent areas as those habitats are already occupied and at their current carrying capacity. A significant net loss of wildlife will occur, and over much of the 5 square miles wildlife will nearly disappear. The forest and wetland mitigation proposed will do little to replace this wildlife habitat loss. The logic being used is that if the mine project does not threaten the existence of a plant or animal population at a large scale, then the impact is non-significant. This is not a rational approach to assessing impacts. The loss of 5 square miles of quality forest and wetland habitat is obviously significant, especially in the light of the fact that more mines will follow this one. As farmers drained and plowed the wetland and grassland on their individual farms years ago each one could say it was not significant because it was only one farm in a sea of prairie. Yet today over 90% of the wetlands and prairie are gone in most of southern and western Minnesota. The northern forest is a sea of trees today, but if we continue to take 5 square mile bites out of it the losses will add up.	WI2,WI5

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
11	I feel anyone who believes they won't do damage is a fool. Their PR spin doesn't fool me. No mine of this type is safe in wet environments such as NE Minnesota. They don't care about MN, they only care about the profits they'll make exploiting Minnesota's greatest treasure the BWCA. We hold a vast amount of precious, clean water. Water is worth protecting! Plus, if PolyMet and society wants copper so bad, we've got 60 years of copper buildup in our landfills. Everything from computers, electronics, appliances, old vacuum cleaners, etc. Let them go into the recycling business.	EOO
12	• Recommendation: Since reclamation planning poses a significant environmental and economic impact of the mine development, a complete preliminary reclamation plan and cost estimate analysis should be included in the DEIS. The plan should be developed to show the reclamation liability on a year-by-year basis. (see report section 3.1.7.2 Reclamation of Mine Site, Closure Cost Estimate)	PD3,PD4
12	• Recommendation: All Category 2, 3 and 4 waste rock should be backfilled into the mined-out East Pit, and Category 1 waste rock should be used to fill (i.e. top off) all of the remaining room in the East Pit. (see report section 3.2.2 Mine Site Alternative)	PD11
13	The financial burden associated with closing the mine is largely incurred in the first few years of the mine's life. When a mine is developed much of the disturbance takes place in the first few years of operation. As the mine operates the pit will get deeper, and waste piles larger, but the plant area and tailings impoundment will stay largely the same.	PD4
14	Recommendation: All Category 2, 3 and 4 waste rock should be backfilled into the mined-out East Pit, and Category 1 waste rock should be used to fill (i.e. top off) all of the remaining room in the East Pit.	PD11
15	This has the cost advantage of utilizing existing facilities for treatment. However, at closure the treatment systems will be 20 years old, and some capital expense will likely be necessary to replace aged and worn components. This is probably most relevant for the nanofiltration system, which is likely to see heavier use given that it is the polishing system for sulfate, which will be a long term concern in the mine discharge.	PD4
16	Since the DEIS is a document that is tied directly to the state and federal agencies that will be issuing the permits necessary for the mine to operate, it would be reasonable for the public to assume that the agencies can and would require some or most of the mitigation measures described in the DEIS when they issue the permits for the mine. But the way the mitigation measures are described in the DEIS all of the mitigation measures would be voluntary. That leaves this reviewer, and the public, unsure of what the final project will look like and what affects it will actually have.	G2D
17	This reviewer agrees that the major potential source for mercury emissions is from the air exhaust of the autoclaves. This has been a significant problem in the autoclave emissions from gold mines in Nevada, where the mercury content is significantly higher than the mercury content of the NorthMet ore. However, the concern is that high temperature processes like the autoclaves can volatilize mercury, and this mercury must be recovered through mercury capture equipment on the autoclave exhaust. One of the major concerns with these capture systems is ensuring that they are performing as planned. At the present time the State of Nevada is the only regulatory jurisdiction that has mercury air emission standards for mines, and mercury air emission standards for mines are being developed by the USEPA. Under Nevada's standards mercury emissions from autoclaves are mostly monitored only once a year, and are sometimes based only on manufacturer's specifications with no monitoring. Once a year measurements will not provide enough data to ensure statistically reliable measurements of the efficiency of the mercury capture systems.	AQ5,AQ6A
18	As suggested in the DEIS (p. 4.1-172), a monitoring plan should include appropriate monitoring for mercury to ensure that mercury is not leaving the tailings basin via water discharges.	WR4C
19	Recommendation: In order to ensure that the mercury capture systems on the autoclaves are functioning as designed, a monitoring scheme should be required that will provide statistically reliable data on the autoclave mercury emissions.	WR4C,AQ5
19	Monitoring of air mercury emissions from coal-fired power plants on a continuous basis was installed on 16 boilers at coal-fired power plants and used for monitoring operations and compliance reporting. On average these systems operated about 90 percent of the time. The technology for measuring mercury economically and often enough to provide meaningful data is available.	AQ5,AQ6A

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
20	The waste with the most potential to impact water quality is the hydrometallurgical waste, which will be stored in lined cells built on top of existing taconite tailings in cell 2W. If the material on which the hydrometallurgical cells are built is unstable, then the hydrometallurgical cells will also be vulnerable to rupture during a seismic event. It is known that unstable areas exist in tailings cell 2E:	EOO
21	This subgrade will be the only barrier between leachate from the waste rock and groundwater for Category 1 and 2 wastes. Although this waste is not projected to generate AMD, it could contribute to Metals Leaching. Quality control in the placement of the subgrade barrier will be particularly important. Achieving these permeabilities, especially the lower ones, could be difficult unless the subgrade material has significant clay content. Amending this material, once in place, would be time consuming and expensive.	PD2
21	However, it appears that the potential stability of the tailings in cell 2W is not known:	EOO
22	If the slime layers are present under cell 2W, as would be expected, then this poses a risk to the integrity of the hydrometallurgical cells during an earthquake event.	EOO,GT2
23	The long term integrity of both the flotation and hydrometallurgical tailings storage facilities is necessary to protect water quality. However, significant questions still remain to be addressed regarding the long term vulnerability of the waste storage facilities to seismic events. And, in addition to the significant issues outstanding with the tailings storage facilities, there is similar concern for the waste rock piles.	WR2D,GT2
24	"Proposed heights and slope angles in the preliminary waste rock stockpile designs are within typical mine engineering practice, however a slope stability assessment has not been completed. Further design and analysis would occur during permitting to ensure that the proposed construction meets acceptable design standards." (DEIS, p. 4.13-2) As implied in the quote from the DEIS above, analysis of these critical questions is not being conducted as a part of the DEIS. The DEIS indicates that:	GT1
25	Geotechnical stability is too important an issue to leave for analysis until after the mine has been permitted. This is an issue that must be addressed in the DEIS, and is a major flaw of the DEIS.	GT1
26	This concern has been echoed by the tribal cooperating agencies: "... given the lack of confidence in the structural integrity of ... (liquefaction at the plan site, stockpile liner systems stability, stockpile heights and slope angles, tailings basin stability, dam break analysis) ... a risk assessment must be conducted prior to permitting and the results included in the DEIS so that the public can be fully informed about the risks associated with this project." (DEIS, p. 4.13-2) This reviewer strongly concurs with the above conclusion of the tribal cooperating agencies. As discussed, these stability issues should be thoroughly investigated and the issues resolved as a part of the DEIS process.	GT2
27	Recommendation: Geotechnical stability is too important an issue to leave for analysis after the mine has been permitted. These stability issues should be thoroughly investigated and the issues resolved as a part of the DEIS process.	GT1
28	• Monitoring for ore spillage is recommended to determine the effectiveness of mitigation measures. (DEIS, p. 4.1-86)	WR1A
29	• Water quality monitoring should be required to ensure that actual groundwater concentrations are within model predictions. (DEIS, p. 4.1-92)	EOO
29	• It is recommend that PolyMet either provide engineering calculations showing that the West Pit outlet channel would be stable or provide appropriate energy dissipation or erosion control measures prior to discharge to the wetlands. (DEIS, p. 4.1-104)	WE2,WE3
30	• Mercury monitoring is recommended to determine if elevated mercury concentrations are found in the West Pit. (DEIS, p. 4.1-128)	WR4C
30	• Close monitoring of the pH and water quality of collected leachate from these stockpiles is recommended to ensure the effectiveness of the lime treatment. (DEIS, p. 4.1-135)	WR1A
30	• In order to minimize the risk of accidental tears of the underlying geomembrane liner during the removal of the reactive waste rock, a nominal overliner thickness of 24 to 36 inches is recommended. (DEIS, p. 4.1-164)	WR2D

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
31	• The stockpiles should be treated with limestone (in either lump or ground form) to help neutralize the potential for ARD, and to reduce the potential for acidification of groundwater and surface water at the mine site. (DEIS, p. 4.1-165)	WR1A
32	• Treat drainage from the Overburden Storage and Laydown Area as process water at the WWTF. (DEIS, p. 4.1-166)	WR2G
33	• Increase the backfill of the East Pit to allow for a geomembrane cover over the entire exposed Virginia Formation. (DEIS, p. 4.1-166)	WR2D
33	• Expedite flooding of the West Pit. (DEIS, p. 4.1-166)	WR3A
34	It is recommended that such storm water management controls be designed and installed. (DEIS, p. 4.1-168)	EOO
35	Trains consisting of up to twenty 100-ton side dumping ore cars would transport the ore from the Mine Site to the Processing Plant. The cars would have hinged sides that drop down when the cars are tipped at the Coarse Crusher for unloading. Ore could escape the confines of the rail cars during transport. The plan for limiting the escape of ore (with metal contaminants) from the rail cars is to load the cars at the centerline to keep fines from reaching the edge of the car where they would be subject to spillage through the hinge gaps. The likelihood that this procedure will prevent spillage from rail cars is, quite frankly, not good. Unless rail cars are designed to be completely enclosed, there will be spillage and most probably metals contamination along the rail haulage line. Given time, the spillage from the rail cars could be spread from the rail line across a wide area by wind.	PD7
35	• It is recommended that PolyMet investigate alternative sources of relatively inert embankment material to use in lieu of the LTVSMC coarse tailings. Potential (DEIS, p. 4.1-168)	WR2D
35	• It is recommended that PolyMet maintain the seepage collection and pumping barrier on Second Creek during closure. (DEIS, p. 4.1-169)	WR3A
36	• It is recommended that PolyMet establish a permeable reactive barrier (PRB) test cell during mine operations to facilitate the evaluation of alternative construction materials and a range of mass and flow loading scenarios to help define the effectiveness of a PRB for a full-scale treatment of groundwater seepage from the Tailings Basin during closure. (DEIS, p. 4.1-170)	WR1A
37	• Close monitoring of the pH and water quality of collected leachate from the waste rock stockpiles is recommended to ensure the effectiveness of the lime treatment in maintaining a relatively high pH. (DEIS, p. 4.1-171)	WR1A
38	• Monitoring should be conducted to ensure that woody species do not get established in areas where they could damage the stockpile covers. (DEIS, p. 4.1-171)	EOO
39	• It is recommended that the water quality of the West Pit be monitored regularly during closure (i.e., before pit overflow in Post-closure). (DEIS, p. 4.1-171)	WR1A,WR3C
40	3) What are the global and economic factors that could lead to a reduction in the work force below estimates, or a closing of the plant earlier than expected?	SE3
40	I am concerned that while the impacts of a single project may seem negligible, there are multiple projects under consideration in northeastern Minnesota, and that permitting multiple sulfide mining will lead to significant negative impacts on the long-term health of what has been a significant resource for the socio-economic well being of this region—environmental tourism.	G8C,G11
41	4) What will be the fall-out from a precipitous drop in employment, should it occur?	SE3
42	5) What are the trade-offs between jobs created from mining versus growth from tourism based on the unique wilderness and environmental aspects of this region?	SE4
43	6) What financial safeguards will be put in place to provide for future closure and post-closure problems or issues that arise once the original mining company (Polymet in this instance) is no longer actively mining or seeking to expand operations in this region?	PD4

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
44	7) What percent of the revenues coming from this mine will stay in the area or for that matter the United States?	SE7
44	8) What percent of the processed resources will be used to meet domestic use versus shipped across the border to Canada or elsewhere?	RFI
45	9) What concessions is the State of Minnesota and USFS willing to make to facilitate this project (in addition to the proposed land exchange)	RFI,PD1
46	In summary, the DEIS is not able to address some of the less tangible potential impacts of increased mining in this region. Many of the most dynamic, forward-thinking individuals in my community, who have promoted and been recognized on a state-wide level for community-based efforts towards responsible management of our wilderness resources—came to this region because of the unique wilderness and pristine lakes. Our ability as a community to attract such people likely will suffer from extensive mining activities, unless adequate monitoring and regulatory oversight is transparent and functioning on a regular basis. I also am worried about the negative impacts that are outlined in the DEIS regarding short term influxes of workers during construction and the abilities of the local and county agencies to deal with possible related stresses to present infrastructure.	G8
46	10) What are potential long-term health risks to workers at the mine? Long-term health problems caused by taconite mining in the region are just now coming to light. Will the burden of paying for potential unexpected health risks be on individuals, the State (and taxpayers), or the mining company? As noted in the DEIS “Thus, there remains an uncertain level of potential health risk from airborne amphibole fibers for the Project.” The potential exists for the release of amphibole mineral fibers from the proposed operations, which could pose a potential public health risk of uncertain magnitude.	SE5,CR1
47	1) Water quality—The risks associated with the proposed and alternative plans are based on a combination of deterministic and probabilistic analyses. The Uncertainty Analysis approach was used to assess only certain conditions. Given that probabilistic approaches more explicitly recognize and acknowledge uncertainties in the input parameters for the various models, I would like to know if the FEIS will acknowledge these uncertainties explicitly using probabilistic methodologies rather than deterministic approaches.	WR1E
48	With regard to the overall review process, the communities of Northeastern Minnesota would benefit from an extension. The issues are complex: 1) the project proposes new technologies and approaches that are not proven; 2) the socio-economic aspects of the proposed project are based on a number of assumptions that need to be fully debated and outlined; 3) the regulatory environment on both a State and Federal basis is governed by budgetary mandates and resource allocations that may or may not mean that there is sufficient time or support to adequately review the DEIS and more importantly the long term monitoring of the mine throughout its lifetime, into closure, and in post-closure periods.	PRO6
49	The DEIS notes that in some cases the results of the Uncertainty Analysis used to evaluate input parameters for the modeling of flooding and water quality downgradient of the Tailing Basin, waste rock stockpiles, and Partridge River surface water quality conflicted with the results of the deterministic modeling. It would appear that additional review of the conflicting results is warranted.	EOO
50	Regarding water quality in the Lower Partridge and Embarrass rivers: All parameters are predicted to meet surface water quality standards during all flow conditions for all mine years. What about post-mine years? The DEIS states that there will be an expected increase in sulfate concentrations under average flows of 20 mg/L predicted at PM-13, although sulfate concentrations are already somewhat elevated in this area. Again, these consequences are estimated based on modeling of various scenarios.	WR3A
51	2) Mercury—There is a reason that sulfide mining has not been allowed or encouraged in humid environments such as that of the Project Area. How quickly will potential mercury exceedances be detected and mitigated? What financial safeguards will be available to the communities to address future problems like the ongoing Dunka Pit contamination?	WR4C,PD2,PD4,PD5
52	3) Noise Pollution--Blasts from mining operations in the vicinity of our current home are intrusive, especially for my husband, who suffers from hyperacusis and tinnitus. The proposed plant may not impact us directly but expansion of this mine and other mines in the area in the future will lead to a deteriorating environment.	N3



*Alphabetical by sender's first name*

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53	Adequate safeguards to protect the environment require careful initial design, monitoring to make sure that the systems (both active and passive) are functional and can identify problems quickly, and sufficient resources to develop and complete closure design and long-term monitoring systems. I am concerned that these issues will not receive adequate critical review in the FEIS.	G2,G4
53	I have worked for an Environmental Consulting firm for over three decades and have seen the effects on project clean-ups that stem directly from such budgetary issues. The enforcement of regulations only works if there is sufficient budget and personnel to provide diligent oversight. Will Federal and State Regulatory Agencies be able to guarantee that sufficient resources will be available to provide oversight over the duration of the project and into post-closure time?	G4
54	1) A series of dikes and ditches would capture and convey most, but not all, of the surface runoff and process water to the WWTF by the CPS.	WR3K
55	2) The long-term mitigation plan with regard to permanent surface waste rock stockpiles relies on the integrity of liners and cover systems.	WR2D,PD2
56	3) What safeguards will be in place for shipping metal concentrates offsite for final processing?	G9
56	4) For large surface waste piles, what is the long-term monitoring plan to determine when 'water quality discharge limits are met?' Is it possible for conditions to change (i.e., climate, precipitation, or anthropogenic changes) such that there could be changes in the values of water quality after the initial discharge limits are met? Also, as noted in the DEIS "The MPCA has set forth a strategy (MPCA 2006, Strategy to Address Indirect Effects of Elevated Sulfate on Methylmercury Production and Phosphorus Availability) for addressing the effects of sulfate on methylmercury production that encompasses technical, policy, and permitting issues. The strategy acknowledges that the technical basis does not exist to establish specific sulfate discharge limits."	RFI
57	2) How reliable are the estimates of the number of jobs that will be generated over the lifetime of the project?	SE3
57	1) Discussion of financial assurance figures and instruments should be included in the DEIS. These are integral elements in assessing the potential negative impacts of a project, weighed against short-term financial return.	PD4
58	The DEIS Northmet proposes a form of mining that is highly controversial in Minnesota, the U.S. and globally. (Precious Waters. <a href="http://www.preciouswaters.org/resources/polymet-mining-activityminnesota/">http://www.preciouswaters.org/resources/polymet-mining-activityminnesota/</a> ; Sulfide Mining: <a href="http://bwcaboard.com/board/viewtopic.php?f=88&amp;t=1698">http://bwcaboard.com/board/viewtopic.php?f=88&amp;t=1698</a> ; OK Tedi Mine: <a href="http://archive.wri.org/biodiv/pubs_content_text.cfm?cid=1860">http://archive.wri.org/biodiv/pubs_content_text.cfm?cid=1860</a> ; Environmental Impact of Mining: <a href="http://rainforests.mongabay.com/0808.htm">http://rainforests.mongabay.com/0808.htm</a> .) This controversy is fueled in part by a consistent pattern over decades of hard-rock mining companies overstating the benefits of hard-rock mining while understating the true aggregate costs and adverse impacts on the environment and health. (Power TM. Economic Role of Metal Mining in MN, 2007: <a href="http://www.cas.umn.edu/econ/documents/faculty/power_econRoleMetalMining.pdf">http://www.cas.umn.edu/econ/documents/faculty/power_econRoleMetalMining.pdf</a> ; Boulanger A, Gorman A. Hardrock Mining: Risks to the Community, 2004: <a href="http://www.womenandenvironment.org/newsreports/issuereports/Mining_Health_Report_final_lo%230.pdf">http://www.womenandenvironment.org/newsreports/issuereports/Mining_Health_Report_final_lo%230.pdf</a> . For these reasons, the DEIS Northmet should provide clear and convincing evidence that the proposed Project will provide citizens of MN with benefits that exceed the risks. In light of the well-documented deleterious impacts on the environment of hard-rock mining in the U.S., the Project proposers should offer detailed evidence as to why the predictable and often devastating effects of hard-rock mining witnessed at mining sites in the U.S. over many decades will not occur with the Northmet Project in northeastern Minnesota.	EOO
58	1.5: Agency Roles and Responsibilities....This would be a convenient place to include all governmental and non-governmental organizations; corporations, consultants, etc. who worked under the direction of "Lead Agencies; Cooperating Agencies, Others". Transparency of the process is critical to serve the public's interest and such information would benefit that interest.	PD9
59	1.6.1: Tribal Cooperating Agency Positions Included in the DEIS: In paragraph 2 last sentence (P1-8) it states "...differences of opinion remain between the lead agencies and the tribal cooperating agencies." Question: Are the differences noted between the DEIS lead agencies and the tribal cooperating agencies differences of opinion or differences in agreement as to facts or both? See 4.1.1.2 below.	RFI

*Alphabetical by sender's first name*

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59	2.3.1: Potentially significant Issues: It is noted that the “Final SDD determined that the EIS would also address the potential cumulative impacts associated with the combined environmental effects of the Project and of past, present, and reasonably foreseeable future actions relative to: Air Quality; Biological Resources; Water Quality; Economic Impacts and Social Impacts. Nowhere in the DEIS, including Chapter 4.0: summary of the cumulative effects (Section 4.14) are the nearby proposed hard-rock mining operations of Franconia; Duluth Metals; Encampment; and Tech Cominco referred to, yet each of these proposed projects—within <25 miles of the Northmet Project site—are expected to have potentially major impacts in the region. To the extent that all these areas are bound together in regional linked ecosystems, the failure to include reference to these projects as noted in the Final SDD is surprising and suggests that Project proposers do not accept the premises embodied in NEPA and/or the heightened legal protections of BWCA and Voyageurs National Park which will clearly be impacted by hard-rock mining.	G9
60	3.2.1: No Action Alternative: It is stated that: “This alternative would avoid the environmental impacts associated with the proposed Action; however, the social and economic benefits from the Project would not occur.” Extensive data accumulated over decades indicates that this statement should be modified to include that fact that the highly predictable “bust” cycle that is part of “boom” and “bust” mining cycles would cause “social and economic” hazards as result of this Project.	ALT1,G1
61	3.2.3: Tailings Basin Alternative: (1) Vertical wells (to capture and pump Tailings Basin seepage): in this and other sections the term “seepage” is used but not defined (under Definitions iv). The term “surface seepage” is used. It would seem that “seepage” could occur at the “surface” or below the surface from hard rock fractures resulting from drilling, blasting, and other mining operations. While surface seepage could be recognized and recovered, how does this Draft EIS Northmet propose to 1. Detect subsurface “seepage” and 2. Determine the rates, location, directional flow; and ultimate destination of groundwater in aquifers; bogs; streams; rivers; lakes?	RFI
62	4.1.1.2 Groundwater Resources (see 1.6.1 above): The lack of hydrologic data for the Northmet Project that would allow clear characterization of current bedrock groundwater, flow directions at the mine site and tailing basins is outlined. My review of the supporting data does not provide such detail. Question: Do the DEIS Lead Agencies have a disagreement regarding the facts of available data upon which key hydrological estimates can be made? The data is either available for such analyses or it is not available. There should be no “difference of opinion”.	RFI
63	Also, on p4.1.5 footnote a similar “difference of opinion” is noted regarding the “underlying surficial aquifer.” If it is the tribal cooperating agencies’ position that any conclusions “..based on this aquifer test data have a great deal of uncertainty given the variability in the results” do the DEIS lead agencies have data that refute the “uncertainty given the variability in the results?” It would seem that variability can be quantified and the degree of uncertainty ascertained. Isn’t it the responsibility of the DEIS and lead agencies to clarify this?	PRO3,PD8
64	On p 4.1-3 note is made of fractures and joints in the bedrock and groundwater flow through fractures. If fractures occur at deep water levels, one could expect potentially contaminated mine waste chemicals to reach areas other than the Partridge and Embarrass River watersheds and perhaps distant sites such as Birch Lake. The geology of this region could allow this scenario. Have analyses been done to explore such possibilities? Contaminated pits will be present for many years during which time extremes in weather will occur; thus a plausible scenario would involve entry of mine contaminants into adjacent watersheds (see Fig 4.2-9). Please clarify this question.	RFI,WR2A
65	To achieve this goal, the DEIS Northmet should be a transparent and clearly science-based project proposal. The goal of transparency should be advanced by providing detailed information regarding the respective roles of the lead federal and state agencies. The unique, separate and at times, conflicting roles of the Forest Service and Bureau of Land Management regarding oversight and management of the Superior National Forest and mineral resources should be elucidated. The focus, mission and legal underpinnings of these entities are different and goals, objectives, and expected outcomes related to this Project and related projects should be provided.	PRO2
66	4.1.1.3: Surface Water Resources: Mercury in Water: (p 4.1-48). It is noted that “PolyMet is conducting additional sampling in wetlands, streams, and downstream lakes in the Embarrass River watershed under an MPCA approved plan to help better understand mercury dynamics.” It should be noted that mercury is an important water hazard but the MPCA should broaden its project to include detailed quantification of acid mine drainage; sulfates; and other heavy metals. Focusing only on mercury provides an incomplete assessment of impacts of hard-rock mining.	WR1E

*Alphabetical by sender's first name*

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66	This raises the question: What is the position of the proposers and lead agencies for managing water quality not in conformance with state quality standards and prior to approving a new mining operation. Shouldn't the existing water quality variances from standards be corrected before approvals are given for new mining projects?	RFI
66	On p 4.1-8: Groundwater Quality: a quote from MN Rules, pt. 7060.0600 states: "The groundwater may in its natural state have some characteristics or properties exceeding the standards for potable water supplies. Where the background level of natural origin is reasonably definable and is higher than the accepted standard potable water and the hydrology and extent of the aquifer are known, the natural level may be used as the standard." It is not clear in the accompanying tables and text how this applies to the current DEIS data. How frequently has this been observed in data collected for this DEIS? The definition of "natural state" would be critical since polluted water left to resume a "natural state" could still be polluted and thus require remediation.	WR1E
67	Since baseline and current mercury and methyl mercury concentrations in watersheds of this Project are critical to assessing virtually all priority categories of this EIS (Water; Fish; Humans; etc) it is surprising that such data are not available to better inform the water assessments and resulting conclusions. The MN Regional Copper-Nickel Study prepared by the MN Environmental Quality Board (EQB) addressed water quality from mineral mining as a concern in 1979 study of Filson Creek, S Kawishiwi River and environs. Increased metals levels of Nickel, Copper and Zinc were found. Related studies of Unnamed Creek and Birch Lake at Bob Bay related to taconite mining (Erie Mining Company's Dunka Pit) documented increased concentrations of sulfates and nickel.	WR1E,WR4B
68	Specific information should be included in the final EIS regarding: who is doing the sampling, who will do the measurements and what will be the timetable for accomplishing the assessments. The details of this MPCA plan should be appended to the DEIS. Such attention is needed for this matter given the hazards of mercury, particularly methyl mercury on fragile ecosystems and also the consequences for bioaccumulation of mercury and implications for human consumption of fish. MN has a growing problem with mercury in water and has existing statewide mercury fish advisories that limit human consumption of fish: see <a href="http://www.health.state.mn.us/divs/eh/fish/index.html">http://www.health.state.mn.us/divs/eh/fish/index.html</a> .	WR1E,WR4B
69	Seemingly "low" concentrations of mercury in water do not necessarily reflect mercury in the biota and fish tissue concentrations which may be logs higher and directly toxic to humans and on wildlife who feed on fish. The critical importance of these issues has led to creation of proposed national mercury monitoring network: see: <a href="http://toxics.usgs.gov/highlights/mercnet.html">http://toxics.usgs.gov/highlights/mercnet.html</a> .	WR4B,FM2
70	Has there ever been a circumstance reported in the peer-reviewed literature when such mining operations have not caused such changes? Hard-rock mining causes clear predictable and adverse acid and metal-rich drainage. This DEIS focuses primarily on mercury but as noted above numerous metals leach from mining sites with toxic consequences for the biota. (Kimball BA. Assessment of metal loads in watersheds affected by acid mine drainage..Applied Geochemistry; 17; 2002:1183-1207)	RFI
71	4.1.3.5 Mitigation and Monitoring Measures. On p 4.1-172, Mercury monitoring is noted the MPCA Mercury Strategy (2006) that recommends water monitoring for sulfate releases and effects on methylmercury production and establishment of five monitoring sites on streams draining wetlands..." The language in this paragraph and the next paragraph where it states: "PolyMet should develop a similar mercury monitoring plan for the Mine Site..." are ambiguous. What specifically is the responsibility of PolyMet for achieving the MPCA 2006 recommendations and what does the word "should" mean? Please clarify.	EOO
71	4.1.3 Environmental Consequences: Note is made of Uncertainty re key assumptions and the use of "Uncertainty Analysis" for selected contaminants. Since uncertainty analysis requires a variety of objective and subjective data inputs, such simulations may produce highly variable outputs. It is stated that the analyses were approved by the resource agencies? Could the methodology, data input and analyses be appended to this EIS?	PRO3

*Alphabetical by sender's first name*

<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
72	4.1.4 Cumulative Effects on Water Resources: It is most disconcerting that there is “..existing seepage from the LTVSMC Tailings Basin” and that the Draft EIS suggests that the duration of these impacts would be extended. Why have the seepage problems not been corrected? The law requires polluting offenders to comply with remediation plans. The current problems should be corrected before any new mining operations are approved.	WR5A
73	As noted earlier, shouldn't the Cumulative Effects summaries in this and other Chapters include major projected mining activities of Franconia; Duluth Metals; Encampment; and Tech Caminco? If not, please provide rationale.	WR5A
74	4.1.4.2 Water Quality: Northern MN, including the area of Northmet Project, has significant existing mercury impaired waters. (Fig4.5-4 and p 4.1-189 re Colby Lake) Almost 1,500 waterbodies in MN require Total Maximum Daily Load (TMDL) list. Remarkably a TMDL pollution reduction study has not been performed for Colby Lake to address this impairment. It would seem reasonable that this Draft EIS Northmet address when this will be accomplished and by whom. Is this planned prior to the projected operation of the Northmet Project?	WR4B
75	On p 4.1-196 it is noted that MPCA (2006) “recommends avoiding “discharges” of sulfate to “high risk” situations, which include wetlands, low-sulfate water...where sulfate may be a limiting factor in the activity of sulfate-reducing bacteria...re the potential for methylmercury production.” Has Northmet Project accepted this recommendation? Who will be responsible for ensuring that the recommendation is followed?	WR1E
76	4.2 Wetlands: It would seem reasonable that “non-field” and field analyses be used to determine wetland locations unless there are scientific data that confirm that “non-field” analyses provide as much information as “non-field” plus “field” review. This DEIS states that only “non-field” analyses were used. Why?	WE1
76	Note: Please clarify: Throughout the DEIS statements are made that recommendations have been made after study (such as the above by MPCA.) I am unclear as to what the disposition is on such statements. Are these all included in the final EIS? Are these negotiated with Polymet? Who makes the decision and what is the process? The current DEIS does not provide information to answer this question.	EOO
77	4.2.1.2 Wetland Delineation: Since wetlands in MN are protected by both federal and state laws, it would seem critical that precise definitions of wetlands, including their characteristics be included in the Draft EIS. This is especially true in light of the fact that 70% of the wetlands are “high quality.” (p4.2-25)	WE1
78	While much effort has gone into the preparation of this DEIS Northmet, there are major deficiencies: The DEIS does not clearly demonstrate that Project benefits outweigh the risks; there are major gaps in transparency of the Proposal, with no information provided on disclosures or potential conflicts of interest; and finally, each section of the DEIS Northmet contains statements and conclusions that lack supporting documentation of the assumptions upon which these statements and conclusions are based. Profuse generalizations often mask the lack of specific evidence-based answers to critical questions. Much data in this DEIS was provided by consulting organizations, whose science expertise, and relationship (programmatic and fiduciary) with the lead agencies and mining company are not included.	G8
79	4.2.1.3 ; 4.2.1.4; Wetland Classification System: The question is whether the Wetland Classification System Descriptors (see Table 4.2.1 and 4.2-2) may be ascertained by only “nonfield” analyses or whether a more accurate description would result from both non-field and field assessments as noted above.	WE1
80	4.2.4.3: Monitoring: A wetland monitoring plan is not included in the DEIS. But such a plan “should” be implemented. Such a plan has apparently been initiated by Barr 2005 and “may need to be expanded.” Several features of this plan are suggested (p4.2-37). Since wetland monitoring is arguably the most important element of the Project's role in ensuring minimum harm to wetlands, it would seem critical that this plan be included in the EIS. This deficiency should be corrected.	WE3

*Alphabetical by sender's first name*

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81	4.4 Wildlife; The fact that numerous species are deemed fragile in MN: federally and state listed endangered, threatened, and species of special concern (ETSC—7species); MN Species of Greatest Conservation Need (SGCN-58 species); the USFS Regional Foresters Sensitive Species (RFSS—23 species), indicates that, while conservation and environmental policies in northern MN have merit, there are major threats to this region from human activities, including mining, proposed sulfide mining and logging and industrial development. It is in this context that this DEIS must be viewed with the plausible likelihood that the Northmet Project will only add to these environmental burdens and threats to wildlife. I found no evidence in the DEIS that the proposed Northmet Site was monitored over time for evidence of the species noted above. This deficiency should be corrected.	WI2
81	Note: Dynamical systems analyses have apparently not been used in preparation of this and other Chapters and Sections of the DEIS. As complex systems, ecosystems lend themselves to such modeling and simulation. The ACE and DNR should incorporate such tools into the EA/EIS process and make the findings public.	G8
82	Canada Lynx: on p4.4-3 it is stated that “.portions of the Mine site lie within the revised boundaries of federally designated lynx critical habitat. A recovery plan has not yet been issued for the Canada Lynx.” Will specific responsibilities for the Northmet Project regarding protecting Lynx habitat be included in the final EIS? Has PolyMet physically inspected the proposed Project site for lynx dens?	RFI,WI1
83	The question is: How and to what extent will proposed Project activities affect these species and other species, in the context of all changes in human development in northeastern MN that may compound the adverse effects of mining?	WI5
83	Under NEPA and CEQ regulations, cumulative effects must be evaluated for project proposals, including alternative proposals, along with direct effects and indirect effects. It is therefore critical that a comprehensive assessment of the current and proposed mineral mining impacts on Lynx and snowshoe hare populations be conducted for the areas under consideration for mining and adjacent areas of Lynx habitat.	WI5
84	4.4.3.1 Proposed Action (Environmental Consequences): It is stated that the Final EIS will include results of consultation between USACE and USFWS regarding potential effects on Canadian Lynx and other federally listed species. I suggest that this consultation summary as well as the “process” be included with specific findings from research, assumptions and methodologies used. What specific efforts have been made at the Project site to identify Lynx? Have trail cameras been deployed? Have there been searches of the site for Lynx den sites. Or are statistical data being used to describe the potential impacts of mining on these species?	RFI,WI1
84	Road density has been found to directly affect predators high in the food chain: elk, wolves, wolverines, bears and lynx. (Switalski TA. How many is too many: A review of road density thresholds for wildlife. Wildlands CPR Newsletter, RoadRIPorter, 2006). Although the extent of proposed road development in this DEIS NorthMet may not suggest a deleterious effect on Lynx, it is the combination of multiple seemingly small changes across Lynx range and habitat that must be assessed, since seemingly minor effects in a complex system may in aggregate cause profound and deleterious, often unforeseen, adverse impacts. (Emmons & Olivier Resources. Cumulative effects analysis on wildlife habitat loss/fragmentation...Prepared for MN DNS, May 15, 2006; Fed Reg 2003 vol 68, No. 128. Part III. Dept of Interior: Fish and Wildlife Service. 50CFR Pt 17: Endangered and Threatened Wildlife and Plants; Notice..re Canada Lynx. Final rule. Pp 40076-40101; Hickenbottom JR et al USDA Forest Service Biological Assessment (Canada Lynx) Lynx biological Assessment, Dec. 1999). The current DEIS Northmet does not provide sufficient information to clarify this issue?	WI5

*Alphabetical by sender's first name*

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84	Finally, the cumulative effects analyses are few and incomplete with little information provided about the broader implications of this Project and other hard-rock mining activities in various phases of development and in the queue in the Arrowhead region. While it is vital that Minnesota take a focused view of the potential impact of the Projects, it is critical that a broader view be taken by Mn and lead agencies of the context in which this and related projects are taking place in northeastern MN. The impacts on the biota and on human health of such projects will be felt locally, regionally and globally. The aggregate effects must be critically examined since science tells us that our current rate of human activities affecting land use are unsustainable. (Foley et al. Our share of the pie. Science, 2005: <a href="http://www.pnas.org/content/104/31/12585.full">http://www.pnas.org/content/104/31/12585.full</a> ; Boakes et al. Extreme contagion...Proc R Soc B, 2009: <a href="http://rspb.royalsocietypublishing.org/content/early/2009/11/25/rspb.2009.1771.abstract">http://rspb.royalsocietypublishing.org/content/early/2009/11/25/rspb.2009.1771.abstract</a> ; Foley et al Global Consequences..Science, 2005: <a href="http://www.sciencemag.org/cgi/content/abstract/309/5734/570">http://www.sciencemag.org/cgi/content/abstract/309/5734/570</a> ; Haberl et al. PNAS 2007: <a href="http://www.pnas.org/content/104/31/12942.full.pdf+html">http://www.pnas.org/content/104/31/12942.full.pdf+html</a> )	G8C
85	4.4.5 Approach (Wildlife Travel Corridors): The list of projects identified as potentially impacting wildlife corridors does not include the Franconia; Duluth Metals; Encampment and Tech Cominco projects in the nearby Ely area. Please include these projects in your analyses. It is inconceivable that further development of mining in these areas is not relevant to the cumulative impact of the Northmet Project and other human activities in animal corridors in northeastern MN. Will Table 4.4-9 be revised to reflect these projects?	WI5
86	4.5.3.1 Proposed Action (Environmental Consequences: Fish): Water Quality Effects p4.5-15: Was the conclusion reached in this paragraph informed by the most recent Climate Change data regarding disruptions in normal cycles of extreme weather events? (WHO; UNEP Intergovernmental Government Panel on Climate Change: <a href="http://www.ipcc.ch/">http://www.ipcc.ch/</a> ) Do the assumptions regarding lack of impact even under extreme low flow conditions include changes predicted by Climate Change forecasts? This question applies to all other sections that have reached similar conclusions.	FM1
87	4.5.4: Mercury and bioaccumulation in Fish: The DEIS does not include important science regarding metal contamination from hard rock mining and toxicity in fish and macroinvertebrates other than mercury. Cadmium (Cd), lead (Pb) and zinc (Zn) in water and streambed sediment have been found to exceed Ambient Water Quality Criteria (AWQC). This deficiency should be corrected. (Maret TR et al. Fish Assemblages and Environmental Variables...Trans Am Fisheries Soc 2002;131:865-84. <a href="http://afsjournals.org/doi/abs/10.1577/1548-8659(2002)131%3C0865:FAAEVA%3E2.0.CO%3B2">http://afsjournals.org/doi/abs/10.1577/1548-8659(2002)131%3C0865:FAAEVA%3E2.0.CO%3B2</a> )	FM1
88	Even in MN's two Class I areas (BWCAW and Voyageurs NP), visibility impairment is being quantified. New construction and development, including mining companies on the Iron Range, threaten to add to the problem. Global sources of air pollutants are increasing. The projected added air pollution from the proposed activities in this DEIS and subsequent proposed sulfide mining must be evaluated in the context of such changes. Fine particles (which have serious human and environmental adverse effects) will clearly be generated from multiple sources associated with this Project including forest disruption, soil erosion, road building, mining, vehicular traffic, etc.	AQ4,AQ4B,AQ9
88	4.6.1.1 Existing Conditions: Regional Climate and Meteorology: Surface data are reported from the Hibbing Monitoring Station with estimates of the wind direction, etc. Why aren't other closer monitoring data provided. For example, wind roses for MN and surrounding cities ( <a href="http://climate.umn.edu/wind/windRoseClimatology.htm">http://climate.umn.edu/wind/windRoseClimatology.htm</a> ) provide data from Ely, MN Municipal Airport.	AQ4,AQ5
89	Since one of the major wilderness areas in the U.S. and MN is near Ely (BWCA) it would be imperative to know what impact Northmet Project will have on air quality of the BWCA, which is already suffering from degradation of ambient air quality from power plant and other point sources.	AQ4

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
90	Particulate Matter (PM) especially, PM 2.5 micrometers is invisible so one would not expect to see it. Yet these fine particles pose threats, not only to the environment, but to human health. Fine particles are a known cause of cardiovascular disease (heart attacks; strokes); respiratory disease (asthma, COPD) and cancer, particularly, lung cancer. (Department of Health and Human Services: <a href="http://www.atsdr.cdc.gov/general/theair.html">http://www.atsdr.cdc.gov/general/theair.html</a> . The language in this DEIS should be revised to reflect the above. Finally, vehicular traffic and exhaust adds fine particles and other air toxicants to ambient air. Have estimates been made of the contributions to fine particle pollution over the life of the proposed Project?	AQ6
90	4.6.1.2 Local and Regional Air Quality: On p 4.6-2 it is noted that “ambient monitoring data from the closest monitoring stations to the Project are provided in Table 4.6.2.” It is not clear where the “nearest monitor” to the Northmet Project Site was; the data are from MPCA 2008 but the monitor source is not listed. If the data in Table 4.6-2 are from a remote monitoring site, the Northmet Project should request relevant data from MPCA for the Site environs. Also, note is made that the MPCA data was for 2004-06. These data are out of date and should be updated to ensure reliable baseline data are available from the Site.	AQ4,AQ5
91	In addition, the DEIS Northmet and other mining activities in this region appear to conflict with the Forest Service Mission and Goals (USDA Forest Service Strategic Plan FY 2007-2012, USDA, FS-880, July 2007; USDA FS Land and Resource Management Plan, Superior National Forest, July 2004) which state: “Forest Service Mission (is to) sustain the health, diversity, and productivity of the Nation’s forests and grasslands to meet the needs of present and future generations;” and a primary goal: “Promote ecosystem health and conservation using a collaborative approach to sustain the nation’s forests and watersheds.” Hard-rock mining is in direct conflict with the purpose for which the SNF was created. The aim must be to reconcile the strikingly differing legal mandates and missions of lead agencies with stated aims, goals and objectives of PolyMet Northmet Project and related mining and human development activities in northeastern MN.	CPLU3
91	4.6.3.1 Proposed Action (Criteria Pollutants): The assessments of human toxicity from exposure to chemicals used at the Mine Site (Table 4.6-17) need to consider the lung health of workers at the time of their employment. Preexisting respiratory diseases may be exacerbated by exposure to chemicals included in this table. Of great importance is the documentation of cigarette smoking status of workers since some chemicals on this list are mutagens or carcinogens. In general, combined exposure to inhaled chemicals and cigarette smoke may increase the likelihood of development of lung cancer. The Northmet Project should have ready access to state- of- the -art smoking cessation program, including a Quit Line to support workers’ smoking cessation. (these resources may be obtained from the MN Department of Health)	AQ6
92	In addition to the above threats to human health, the mining activities, miners but protect from inhaling fine particles of hard rock dust. Lung neoplasms have been associated with mining and are markedly increased in tobacco smokers. There are concerns about the risk of mesothelioma among hard rock miners: (Univ. MN: <a href="http://taconiteworkers.umn.edu/about/study_goals.html">http://taconiteworkers.umn.edu/about/study_goals.html</a> . Lemen RA, et al. Epidemiology of Asbestosis-Related diseases. Envir Health Persp., 1980: <a href="http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1568524/pdf/envhper00470-0008.pdf">http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1568524/pdf/envhper00470-0008.pdf</a> )	AQ4C,AQ6
93	4.6.4.5 Cumulative Mercury Emissions. As noted above, the projected hard-rock mining operations of Franconia; Duluth Metals; Encampment and Tech Cominco must be included in this analysis and Table 4.6-22.	AQ4B
93	4.6.4.7 Summary of 2006 Visibility Class I Study Scope (Updated 2009): Regional Haze and Visibility Impairment. : On p 4.6-50 a table of projects and actions are presented. Again, this table needs to include all “foreseeable” projects that will adversely impact the air quality of northeastern MN, including Franconia; Duluth Metals; Encampment; and Tech Cominco projects.	AQ4B
94	4.7 Noise: It is stated that the effect of noise on wildlife is reviewed in section 4.4. However, a review of 4.4 reveals a dearth of references to the wealth of science regarding the compelling adverse impact of noise on wildlife and human health. A separate section devoted to this topic should be written and included in the DEIS. The cumulative effects of noise as animals move along corridors over ranges of a few meters to > 100 miles must be considered. (Radle AL. Effect of Noise on Wildlife: A Literature Review.	WI2,N4

*Alphabetical by sender's first name*

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95	4.8 Cultural Resources: Regulatory Framework: It is stated that Cultural Resources management within Federal and State agencies seeks identify cultural resources and balance the need for development with protection. Not included here is an analysis of public opinion in the Arrowhead as to whether the regulatory process is fairly achieving this balance. Development is driven by economic considerations that would likely overshadow the power of those whose goal is to protect Cultural Resources. This DEIS should provide evidence to support conclusions that suggest there are no cumulative effects associated with cultural resources.	PRO5,G3,CR1,CR2,CR3,C
95	Summary: p4.7-9. The use of the word “continuous” is confusing. Does not “discontinuous” noise matter, eg, blasting; 100 ton mine truck traffic; etc? For those people who frequent the environs of the proposed Project for recreation, fishing, hunting, and such activities, the data presented in 4.7 would likely adversely affect their experiences.	N6
95	<a href="http://interact.uoregon.edu/MediaLit/wfae/library/articles/radle_effect_noise_wildlife.pdf">http://interact.uoregon.edu/MediaLit/wfae/library/articles/radle_effect_noise_wildlife.pdf</a> . The DEIS fails to provide evidence regarding the serious and growing human health effects of noise. Former U.S. Surgeon General William H. Stewart said in 1978: “Noise must be considered a hazard to the health of people everywhere.” (Goins L, Hagler L. Noise Pollution: A Modern Plague. S Med J 2007: <a href="http://web.ebscohost.com/ehost/pdf?vid=2&amp;hid=102&amp;sid=72c7f778-d60d-4a16-9a7f-010ec30d90a7%40sessionmgr104">http://web.ebscohost.com/ehost/pdf?vid=2&amp;hid=102&amp;sid=72c7f778-d60d-4a16-9a7f-010ec30d90a7%40sessionmgr104</a> )	N5
96	4.10.2: Impact Criteria: This sections fails to include explicit review of the “boom” and “bust” cycles of mining (as noted above) that are extensively documented in the literature and relevant to the DEIS Northmet.	SE3
96	To understand the potential impact of the proposed Project and related projects, systems analyses are required. The DEIS is narrow in scope and fails to address important questions regarding the potential impact of proposed hard-rock mining on the forest and related natural systems. The conclusions in the DEIS do not follow a principle of the USDA U.S. Forest Service: “We use the best scientific knowledge in making decisions and select the most appropriate technologies in the management of resources.” ( <a href="http://www.fs.fed.us/aboutus/mission.shtml">http://www.fs.fed.us/aboutus/mission.shtml</a> ) With science-based and unequivocal dynamic changes in global climate (WHO; UNEP Intergovernmental Government Panel on Climate Change: <a href="http://www.ipcc.ch/">http://www.ipcc.ch/</a> (reflected in Ely environs weather in recent years), coupled with multiple recent and pending major human developments in northern MN (mining; new roads; new building; new power sources; and the like) the failure to use the best science, including dynamic systems methodologies, will have grave implications on the future sustainability of these treasured forest and wilderness areas. The data and information provided in this DEIS is inadequate for formulating conclusions let alone formulating the critical questions regarding effects of sulfide mining in SNF, adjacent ecosystems and in the critically protected areas such as BWCA and Voyageurs National Park, which by law require special attention for preservation.	PRO3,G8
96	4.9.1.1 Federal Land Management: A discussion regarding the feasibility for a land exchange between USFS and PolyMet is discussed. This DEIS should not be approved or move forward until such time as the feasibility and legality of this idea be decided. The statement: “This analysis is based on a successful completion of the land exchange and elimination of National Forest lands from the Project” suggests the authors of this DEIS can predict the future. It is impossible for the public to fairly evaluate this DEIS with such speculation.	PRO4



*Alphabetical by sender's first name*

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96	4.10 Socioeconomics: The major and growing contribution to the Arrowhead region in MN of tourism is not presented in this section and should be so that a more complete view of the economy of this region may be understood. Tourism contributes \$11 billion to MN economy, with >41 million visitors annually. These numbers have increased steadily in recent years. The Northeastern region has 16% of the >41 million visitors or about 6.56 million visitors with generation of >\$719 million in Gross Sales. This activity contributes 17,932 private sector jobs. (Explore Tourism 2008: <a href="http://www.tourismroi.com/Content_Attachments/26124/File_633480214451131154.pdf">http://www.tourismroi.com/Content_Attachments/26124/File_633480214451131154.pdf</a> . A critical question not addressed in the DEIS is the extent to which current and proposed major increase in mining in the region will increase, have no effect or decrease tourism to the Arrowhead of MN. This DEIS needs to address this critical question with data. To focus on shortterm financial gain from sulfide mining and not incorporate long-term consequences, including the predictable “boom” and “bust” mining cycles, in the DEIS analyses is a major deficiency of this DEIS. Potential depression of the tourism industry and land values in the Arrowhead, would have a devastating adverse effect on the entire region for decades to come. (Thomas M. Power (Economics Dept., University of Montana: “The Economic Role of Metal Mining in MN: Past, Present, and Future” prepared for MN Center for Environmental Advocacy and the Sierra Club, 2007.; <a href="http://www.sosbluewater.org/mn_mining_economics_power.pdf">http://www.sosbluewater.org/mn_mining_economics_power.pdf</a> .) Unfortunately, a study funded by industry (Labovitz School of Business, Duluth) failed to incorporate destabilizing boom and bust cycles and adverse impacts on the growing tourism industry in their narrowly focused analysis. ( <a href="http://www.ironrangeresources.org/_site_components/documents/user/aboutreportspublications230.pdf">http://www.ironrangeresources.org/_site_components/documents/user/aboutreportspublications230.pdf</a> .)	SE3,SE4
97	4.10.3: Socioeconomic Consequences: Impact Analysis for Planning (IMPLAN) was based on old data that does not reflect the current fiscal crisis. What impact will this have on estimating the “boom” and “bust” predictable cycles of the proposed mining?	SE8
98	4.10.4: Cumulative Effects: Note is made that the data in Tables 4.10-15-16 do not appear to be based on the recent, unique fiscal situation in the U.S. and MN. Also note that neither this section nor the section “Socioeconomics” p S14 (Summary) reflect on compelling data regarding the “Boom” and “Bust Cycles”, an issue of critical importance to the integrity of the Draft EIS Northmet as reflected by Thomas M. Power (Economics Dept., University of Montana: “The Economic Role of Metal Mining in MN: Past, Present, and Future” prepared for MN Center for Environmental Advocacy and the Sierra Club, 2007.; <a href="http://www.sosbluewater.org/mn_mining_economics_power.pdf">http://www.sosbluewater.org/mn_mining_economics_power.pdf</a> )	SE3
98	4.10.3.1: Proposed Action: Environmental Justice: What assumptions are being made to support the statement that: “Therefore the Proposed Action would not have disproportionately high or adverse effects on minority populations?” While it is suggested that the proposed “boom” resulting from the proposed mining would benefit low income persons, isn’t it logical to assume that the “bust” that could occur at any time during the proposed 20 year operation of the mine would have a deleterious impact on low income families—potentially a devastating impact on persons who lack safety nets of community support?	SE2
99	4.14 Cumulative Effects: The USFS must ensure that a full range of cumulative impacts, past, present and foreseeable future, from mining in this area and adjacent areas or regions are included in the analyses. The DEIS Northmet 2009 is narrowly focused and it appears to this reader not meet the CEQ definition and intent of the National Environmental Policy Act. The cumulative and related effects of mining exploration and hard rock mining in this area and the impacts of extending the 100 mile plus Iron Range corridor deep into northeastern Minnesota’s SNF and BWCA wilderness areas, have not been addressed adequately as required by National Environmental Policy Act (NEPA) of 1969 (29) (CEQ Sec. 1508.7: Cumulative Impact). Cumulative Effects analyses on wildlife habitats in this region have demonstrated the need for such information. (Emmons & Olivier Resources, Inc. Cumulative effects analysis on wildlife habitat loss/fragmentation and wildlife travel corridor obstruction/landscape barriers in the Mesabi Iron Range and Arrowhead regions of MN. MN DNS, May 15, 2006).	G9
99	Although the DEIS states that for many projected changes above the levels would be compliant with MN or related standards, it is the case that these increases and projected adverse impacts will combine into the aggregate of such changes in other mining activities to produce a net negative impact on the environment in the Arrowhead region.	G8C

*Alphabetical by sender's first name*

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100	This project will cause a net reduction in wildlife habitat and increase habitat fragmentation. On a local scale the loss is quite significant. The DEIS should clearly state, not obfuscate these facts. If the company were environmentally concerned, the DEIS would contain actual measures they plan to take to mitigate the loss, not suggestions of what they might be able to do.	WI2
100	A reasonable measure, from a sustainability standpoint, would be to ask Polymet acquire an area of similar quality forest and wetland habitat and put it in public ownership. At a minimum, they should be required to replace the public forest land area that will be destroyed. This should be land that is currently unprotected from development, and is located in the St. Louis River watershed. The DEIS states that Polymet and the USFS are exploring the feasibility of a land exchange (pg 4.4-7). This land exchange needs to be identified and secured prior to completion of the EIS, so the relative merits of the two parcels for wildlife habitat, recreation and other resource benefits can be evaluated in the light of public scrutiny.	WI4,CPLU4
101	The Wildlife Section of the DEIS primarily evaluates the effects of the project on rare species (The federally- and state-listed Endangered, Threatened, and Special Concern species; the Minnesota Species of Greatest Conservation Need; and the U.S. Forest Service Regional Foresters Sensitive Species) (pgs 4.3-5 to 4.3-9 and 4.4-1 to 4.4-9). Very little is said about other more common plants and wildlife using the area, or the value of the habitat for wildlife in general. Their concern is focused only on those species that have some legal standing or protection. To adequately analyze plant and wildlife impacts all kinds of wildlife and their habitat should be considered. Their overall value at the plant and animal community level should be analyzed. In addition, their recreational and economic values to people should also be considered, especially since much of the project site is currently public forest land.	WI5
101	A significant omission in the DEIS is that I find nothing about the impacts to Canada moose. This is an important species in northeastern Minnesota that may be in trouble. What is the value of the habitat for moose that will be lost and how will this impact their population? Both wetlands and conifer cover are key habitats for moose and this project would destroy a large amount of each.	WI2
102	The potential for long-term, cumulative impacts from copper-nickel mining are enormous. The Polymet project will be a precedent setting event. It is imperative that the DNR and COE permit this mine in a way that truly protects the environment and is sustainable. The regulatory bar should be set high enough so this type of mining is done correctly from the beginning. The mining companies should not be allowed to get rich at the expense of our forest, wetland, water and wildlife resources, which would all be seriously impacted by the current form of the DEIS.	EOO,G8C
102	The DEIS states that bald eagles are not likely to be adversely affected by the project because the project site is more than 2 miles from any known nest sites and it does not provide optimum habitat for nesting and feeding (pg 4.4-13). However, eagles and other water birds may travel long distances to feed and rest, and will use nearly any body of open water at times. The tailings basins and other open water bodies on the project site will most likely be used at times by eagles, osprey, herons, ducks, geese, kingfisher, mink, otter, etc. These species are common on taconite tailings basins. What contaminants will they be exposed to? What is the likelihood they could bio-accumulate heavy metals, mercury or other contaminants? Could this be an issue for hunters who may eat waterfowl that have used these contaminated waters?	WI1,WI2,WI3,FM1
103	The DEIS states that the project will create 278 acres of open water by flooding the West Pit and that water quality will exceed surface water standards for several parameters (pg 4.4-19). The West Pit will be fenced to deter wildlife, but that will not prevent most of the species listed above from accessing the pit and its contaminated water.	WI2
103	A similar concern applies to the Partridge, Embarrass and St. Louis rivers. Increased sulfate discharge from the mine and discharge of atmospheric mercury from the processing plant would likely increase export of methyl mercury from these watersheds. This could affect fish and wildlife all the way to Lake Superior. An increase in sulfate discharge may also destroy what is left of wild rice beds in the St. Louis River watershed. Wild rice is a critical habitat for fish and wildlife. How will these contaminants be evaluated and monitored? This is not discussed at all in the Vegetation or Wildlife sections of the DEIS.	WR4B,WR4C,WR4F,G3,C

*Alphabetical by sender's first name*

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104	The DEIS states that two studies have been done that have identified between 15 and 18 wildlife corridors left along the Mesabi Iron Range (pg 4.4-30). These vegetated corridors provide avenues for plant and animal migration across the heavily disturbed Range. According to the DEIS two of the corridors will be impacted to some degree by Polymet. The DEIS goes on to say that several other corridors will be significantly impacted by other projects. They conclude that the impacts by Polymet are relatively minor in comparison, and thus are not a concern. This is not a valid conclusion. If other corridors will disappear, then those left at Polymet become even more important. Every effort should be made to minimize the impact and restore them fully. The corridors may become even more important in the future if climate change occurs and plants and animals are forced to migrate northward.	WI5
104	The overall concern I have with this DEIS is that it takes a minimalist approach that seems to disregard or underestimate the project's impacts. The measures given to avoid, minimize and mitigate the impacts are narrow and inadequate. The significant environmental dangers that copper-nickel mining presents, the possibility of cumulating impacts from more mines in the future, and the need to develop our lands in a sustainable manner demand a much stronger EIS, or a moratorium on copper-nickel mining as Wisconsin has done. We need a project and a company that will set high standards that will meet, not avoid, the sustainability goals laid out in DNR's Conservation Agenda.	G2D,G12
105	There is a low level of commitment made in the DEIS to protect the environment. It is clear that Polymet and the DNR are willing to only meet the minimum requirements to obtain the mining permits. The language in the DEIS indicates they will not achieve high environmental standards, or mine in a way that has a low impact on Minnesota's natural resources. My hope is that the DNR and COE will force Polymet to abide by higher standards, or deny their permits.	EOO
105	In addition, there is no financial assurance that the project would be mitigated or cleaned up when the mining is done. Copper-nickel and other types of sulfide mining have a history of placing huge burdens on taxpayers to clean up the pollution they have left behind. What kind of financial resources does Polymet have, and will a bond be posted for cleanup to protect taxpayers? Will the DNR request that the state require some kind of financial protection for environmental cleanup? If Polymet cannot afford to mine copper-nickel in an environmentally sustainable manner, then our state cannot afford to permit the mine.	PD4
106	According to the DEIS this project will impact 1522.1 acres of wetland. This is a tremendous loss of wetland in a state that advocates a policy of no-net loss of wetlands! According to the DEIS the Polymet mine will operate for 20 years and thus the minerals extracted from this mine will only provide a temporary financial benefit to the state. These wetlands, which have a number of known beneficial functions and values, will be lost forever. What is the economic cost of this wetland loss to the St. Louis River watershed? How can this huge wetland loss be justified? Why is underground mining not considered as an alternative to reduce these significant wetland impacts?	WE2,SE4
107	This project will destroy a diverse variety of high quality wetland types including both perched bogs and groundwater flow influenced wetlands. Coniferous bog and open bog are the wetland types that will be most impacted. Nearly all of the wetland mitigation will take place offsite in a different county and watershed, and will create a different type of wetland. There will be a net loss of coniferous and open bog, and other wetland types in the St. Louis River watershed. The important water quality functions and values that such wetlands provide to the watershed's ecosystem will be forever lost. How much change will occur in surface and groundwater temperatures, flow regimes, storage volumes and water quality in the headwaters of the receiving streams as a result of the removal of so much wetland? Wetlands, and especially peatlands, also provide a high level of carbon sequestration which is important for combating climate change. Peatlands are nearly impossible to create artificially. These issues and impacts have not been adequately addressed in the DEIS.	RF1,WR3N,WE2,WE3
108	The Wetlands section of the report refers to the presence of white cedar and balsam fir in the coniferous wetland communities (pg 4.2-5). Cedar and fir are very important as thermal cover for wildlife. What is the extent of these cover types in the project area? White cedar is an important cover type in the northern forest that is declining in abundance in Minnesota because it is very difficult to regenerate, especially in areas with high deer numbers. Will the wetland mitigation for this project include the establishment of white cedar to replace what is lost on the project site? If so, how will this be accomplished since both wetland mitigation sites are located in areas of the state that have high deer numbers?	WI2,WI4,WE1,WE3

*Alphabetical by sender's first name*

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109	The large area of wetland loss, the diverse types and high quality of these wetlands and the difficulty of recreating such wetlands are factors that strongly indicate more effort should be made to avoid this wetland loss, and that mitigation should be required within the St. Louis River watershed.	WE3
109	Like wetlands, a large area of forestland will be destroyed by this project. Most of it is diverse, high quality forest. Much of this forest is rated by the DNR as having a "High Biodiversity Significance". Most of it is currently public forestland. This section of the DEIS focuses on rare plant species, but does not discuss many other important aspects of this forest land. What are its recreational values for hunting, trapping, hiking, bird watching, berry picking and other outdoor activities? What are its commercial values for timber harvest and biomass? What is the carbon sequestration value of this forestland? How and will these values be mitigated or will their loss be another permanent cost for this temporary mining project?	SE4,AQ3
110	The level of detail available is appreciated in the sense that a great deal of significant information is being disclosed, and it is too often the case that detailed information is withheld from the public largely because agencies don't consider the public to have the expertise necessary to review and competently comment on this detailed information. On the other hand, the large volume of detailed technical reports appended to this DEIS pose real challenges for public sector reviewers with limited resources and limited time to review this information. However, given a choice between too much or too little detailed information, this reviewer believes that it is always best to err on the side of more information, because too little supporting information often means that critical details and assumptions go unreviewed, and can lead to significant errors in the project design.	EOO,PRO6
111	Recommendation: Ore-transport rail cars should be completely enclosed, for example a tipple-dump type car that would not have hinges that could leak, and which could be sealed with a hardtop cover to prevent windblown dust loss. Soil monitoring along the rail line should be required to document the absence or presence of soil contamination. Provisions should be made to remove at least the top one foot of soil as a part of mine closure. Failure to remove contaminated soil has led to contaminated storm water runoff at other mine sites.	PD7
114	• Mercury monitoring recommended for receiving waters for sulfate releases to high risk areas for methylmercury production. Five monitoring sites on streams draining wetlands (two of which receive seepage from the Tailings Basin) and five additional monitoring sites at the downstream Sabin and Wynne lakes should be established. (DEIS, p. 4.1-172)	WR4C,WE3
114	• PolyMet should develop a similar mercury monitoring plan for the Mine Site, in particular, to ensure that mercury concentrations within the West Pit would meet Great Lake Initiative standards at the time of overflow (~Year 65). This should include monitoring of mercury from peat in the Overburden Storage and Laydown Area as well as mercury concentrations in WWTF effluent. (DEIS, p. 4.1-172)	WR4C,WE3
114	• It is recommended that monitoring of both groundwater and surface water include both total and dissolved aluminum on a regular basis to ensure that the state water quality standard for dissolved aluminum would be maintained. (DEIS, p. 4.1-172)	WR1A
115	• A recommended mitigation measure is shielding the operation light sources downward to reduce light impacts. (DEIS, p. 4.11-5)	G2E
115	• Recommendation: A thorough testing program for verifying the target permeabilities of the various subgrade barriers should be required. If testing indicates that the specified permeabilities are not being reached, then corrective measures should be required. (see report section 3.1.2.10 Waste Rock and Overburden Management)	PD2
115	• It is recommended that wetland monitoring be conducted during Project operations and Closure over a larger area (to be determined during permitting) to determine if any additional impacts would occur. (DEIS, p. 4.2-24)	WE3

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
115	• Recommendation: Ore-transport rail cars should be completely enclosed, for example a tippedump type car that would not have hinges that could leak, and which could be sealed with a hardtop cover to prevent windblown dust loss. Soil monitoring along the rail line should be required to document the absence or presence of soil contamination. Provisions should be made to remove at least the top one foot of soil as a part of mine closure. Failure to remove contaminated soil has led to contaminated storm water runoff at other mine sites. (see report section 3.1.3 Proposed Transport of Ore)	PD7
115	• It is recommended that existing wetland acreages and impacts be delineated prior to issuance of the Final EIS. (DEIS, p. 4.2-27) [Note: Tribal cooperating agencies take the position that this delineation should occur prior to the issuance of the DEIS so that the public can review a complete set of potential impacts from the project.]	WE1
116	• Recommendation: As with the rail transport of the ore, soil monitoring at the concentrate loading facility and along the rail line from the plant should be required to document the absence or presence of soil contamination. (see report section 3.1.5.1 Beneficiation Plant)	PD7
117	• Recommendation: Centerline construction of the expanded tailings facility should be considered even though it would be more costly, and would likely require the destruction of more wetlands. (see report section 3.1.5.3 Management of Process Waste Products, Flotation Tailings)	WE2,PD10
118	Shipment of concentrate from the plant is also projected to be by rail. However the concentrate will either be shipped in pneumatically sealed rail cars, or in rail cars with a rigid cover. These are appropriate methods for concentrate shipment.	PD7
119	• Recommendation: Given the nature of the material to be stored in the hydrometallurgical residue cells, these cells should be designed to withstand the maximum credible earthquake. (see report section 3.1.5.3 Management of Process Waste Products, Hydrometallurgical Residue Cell Design and Operations, Cell Seismic Stability)	GT2
119	• Recommendation: A better description of the composite liner for the hydrometallurgical residue cells should be included in the DEIS. The additional cost associated with a double liner with leak detection for the hydrometallurgical residue cells is not cost prohibitive. A double liner with leak detection would provide maximum protection for the residue material, and should be required. (see report section 3.1.5.3 Management of Process Waste Products, Hydrometallurgical Residue Cell Design and Operations, Cell Liners)	WR2D,PD2
120	• Recommendation: It should be clearly stated in the DEIS what levels of contaminants would trigger the use of capture wells for treatment, and what standards the treatment of the water must meet in order to be discharged into the Partridge River. (see report section 3.2.3 Tailings Basin Alternative)	WR2G
120	• Recommendation: Closure water treatment, as well as the other closure costs, will probably require a financial surety of approximately \$100 million. This is too important an issue to be ignored in the DEIS process. The financial surety amount should be analyzed and disclosed to the public in the DEIS. (see report section 4.1.3.1 Proposed Action, Closure (Years 20 to ~65))	WR3I,PD2,PD4
121	• Recommendation: More discussion and verification should be given to the finding that the sulfide sulfur content of the tailings is and will remain under 0.13% and non-acid producing. (see report section 4.1.3.1 Proposed Action, Effects on Groundwater Quality at the Tailings Basin)	PD2
122	• Recommendation: The mitigation of storm water management controls should be required, not recommended. This is good pollution prevention practice. (see report section 4.1.3.1 Proposed Action, Non-contact Stormwater Runoff)	EOO
123	It should be recognized that concentrate poses significant risk for contamination because of its high metal content and the small particle size of the concentrate material. Recommendation: As with the rail transport of the ore, soil monitoring at the concentrate loading facility and along the rail line from the plant should be required to document the absence or presence of soil contamination.	PD7
123	• Recommendation: At a minimum, contingencies should be put in place to fund long term water treatment well beyond the 65-year limit assumed in the DEIS. This is for the protection of the budget and citizens of Minnesota and the environment. (see report section 4.1.3.1 Proposed Action, West Pit Overflow Water Quality)	WR3I,PD4,PD5

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Comment ID	Comment Text	Theme Codes
124	Under the Proposed Action, flotation tailings would be placed on Cells 1E and 2E of the former LTVSMC tailings basin. The existing LTVSMC tailings basin is unlined. The future tailings basin perimeter dams would be raised in an upstream construction method using compacted LTVSMC bulk tailings. Upstream construction poses the highest risk for seismic and static failure of tailings dams. Most tailings dam failures have been associated with upstream dam construction.	PD11
124	• Recommendation: In order to ensure that the mercury capture systems on the autoclaves are functioning as designed, a monitoring scheme should be required that will provide statistically reliable data on the autoclave mercury emissions.	G2B
124	• Recommendation: Geotechnical stability is too important an issue to leave for analysis after the mine has been permitted. These stability issues should be thoroughly investigated and the issues resolved as a part of the DEIS process. (see report section 4.13 Geotechnical Stability)	GT1
125	The International Commission on Large Dams and UN Environmental Program offer the following assessment of the three basic types of tailings dam construction methods – upstream, downstream, and centerline. (See Figure A – Types of Sequentially Raised Tailings Dams)	PD10
125	The primary concern with upstream tailings dam construction is its susceptibility to failure during earthquakes. If the tailings upon which the dam is constructed are saturated with water, the tailings do not form a stable foundation for the dam under seismic loading. (See Figure B – Upstream Dam Construction with Zones of Liquefied Slimes) Tailings are placed in a saturated state. Tailings materials are relatively uniform in their size and shape, and typically have very low permeability, a fact often cited by mining engineers to argue that liners are not needed for tailings facilities. As a result, it will be difficult to consistently drain the water from all the tailings under the proposed dam expansion.	PD10
125	Continuing to use upstream-type dam construction methods to increase the capacity of the tailings at the NorthMet tailings facility is the least expensive approach, but poses the most risk to long term seismic stability. The proposed buttressing in the Tailings Basin Alternative would help, but not eliminate this concern. Recommendation: Centerline construction of the expanded tailings facility should be considered even though it would be more costly, and would likely require the destruction of more wetlands.	WE2,PD10
126	The hydrometallurgical residue cells will be constructed at the edge of the existing tailings Cell 2W. Construction of the hydrometallurgical tailings cells on existing tailings, which are susceptible to seismic liquefaction, and are contained by upstream-type dams, also poses long term seismic stability risks. For an upstream-type tailings dam, which uses the tailings themselves as a structural foundation for the dam, the tailings must be dewatered in order to safely support the dam under seismic loading. Not only are these cells constructed on top of existing tailings, which have the potential to liquefy during an earthquake, but the taconite tailings cell was also constructed using upstream dam construction method, the most seismically unstable tailings dam construction method. If a portion of the Cell 2W dam fails in an earthquake, it would likely cause the failure of the hydrometallurgical residue cell located on top of it. Recommendation: Given the nature of the material to be stored in the hydrometallurgical residue cells, these cells should be designed to withstand the maximum credible earthquake.	EOO,PD8
127	There is no drawing of the "composite liner" so it is assumed that this is not a double liner with leak detection, but merely a synthetic liner placed directly on top of a GCL liner. A double liner with leak detection would be the most protective liner design approach.	EOO,WR2D,PD2
128	Recommendation: A better description of the composite liner for the hydrometallurgical residue cells should be included in the DEIS. The additional cost associated with a double liner with leak detection for the hydrometallurgical residue cells is not cost prohibitive. A double liner with leak detection would provide maximum protection for the residue material, and should be required.	EOO,WR2D,PD2
128	Probably the most glaring omission is that there is only the most scant analysis of the financial surety that will be needed for this project. As is discussed in more detail to follow, the financial surety for this project could easily be in excess of \$100 million. This is very significant potential impact to the budget and citizens of Minnesota, who are ultimately accountable should the mine operator go bankrupt without an adequate financial surety to close the mine and treat waste water. If the mine operator were to go bankrupt without an adequate financial surety public funds for closure would either need to be provided, or the public would bear the environmental consequences of not properly closing the mine. Either way, the public would pay, probably for centuries.	PD4

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Comment ID	Comment Text	Theme Codes
129	A very important part of the environmental analysis for a mine is evaluating the reclamation plan. The reclamation plan documents not only what the goals for the reclamation of the site will be (i.e. the designed post-closure use), but also what is needed in terms of reclamation methods and financial resources to achieve the reclamation goals. The reclamation plan will be a living document. The mining plan and the timing of various mine activities will change during mine operation, and new reclamation technologies might be available when it is time to close the mine. However, mine reclamation should not be developed based on future technologies, or future financial resources. The pre-mining reclamation plan needs to lay out a basic approach to reclamation, using technologies that are proven and have measurable costs, and with enough detail to provide a conservative but reasonable estimate of what these closure costs will be. This cost estimate would be used to establish the amount of the post-closure financial surety, until it is amended by subsequent estimates that are based on actual operating costs and pre-closure reclamation experience at the site.	PD3
130	The goal for the first version of the reclamation plan should be to assess whether there are technologies available to responsibly close the mine (i.e. assuming the mine operator goes into bankruptcy and the regulatory agencies must assume responsibility for closing the mine), and to assess these technologies in enough detail to conservatively estimate the cost (i.e. to ensure that the public will not bear the financial responsibility for cleaning up and closing a mine abandoned by an operator). The reclamation planning presented in the DEIS does not meet this standard.	PD3
130	The discussion of site reclamation in the DEIS does go into considerable detail about what will be done to close the various mine facilities, but it does not go far enough to present these details as a complete reclamation package that can be assessed in terms of what the overall reclamation goals are and how they will be met, whether the closure technologies that are proposed are viable, and how much implementing these closure and post-closure technologies will cost.	PD3
131	The present Closure Plan2 does contain short term goals and objectives derived from a number of project reports that discuss the various mine facilities and how they will be closed, but it doesn't discuss the methodology of how this will be accomplished, or how much it will cost.	PD3
132	Typically mine closure and post-closure costs run in the tens to hundreds of millions of dollars. This is a significant potential impact to the public that should be discussed as a part of the DEIS process. Today many, if not most, mining DEISs do analyze the reclamation plan as a part of the DEIS process.	PD3,PD4
133	A "preliminary" reclamation closure cost estimate is presented in the DEIS Table 3.1-14 "NorthMet Project Preliminary Closure Cost Estimate Summary." However, this "preliminary closure cost estimate" is not supported by detailed calculations and/or information. One of the technical support documents "PolyMet Technical Design Evaluation Report RS52 Mine Closure Plan Report" does discuss mine closure, but again does not provide sufficient documentation to substantiate this closure cost estimate. Lack of a viable reclamation plan and closure cost estimate is a major flaw in the DEIS.	PD3,PD4
134	Recommendation: Since reclamation planning poses a significant environmental and economic impact of the mine development, a complete preliminary reclamation plan and cost estimate analysis should be included in the DEIS. The plan should be developed to show the reclamation liability on a year-by-year basis.	PD3
135	Annual review of the reclamation plan, and costs, as proposed in the DEIS (pp. 3-43, 3-44) is the best way to review and update reclamation estimates.	PD3
136	An example of a reclamation plan with an appropriate level of planning detail and cost estimates is the Pogo Project Reclamation and Closure Plan, December 2002. The document is available through the Alaska Department of Natural Resources, Anchorage, AK, and was submitted as the referenced reclamation document for the Final Environmental Impact Statement, Pogo Gold Mine Project, USEPA, Region 10, September 2003.	PD3
137	Every DEIS should contain a Draft Reclamation Plan, which includes a detailed analysis of the financial surety, so that it is demonstrated before the project is allowed to proceed that project closure can be accomplished using demonstrated reclamation techniques, and at a cost that is affordable. Lack of a viable reclamation plan and closure cost estimate is a major flaw in the DEIS.	PD3

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<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
138	In Table 3.1-7 “Waste Rock Placement Schedule” it can be seen that all of the Category 1 & 2 waste rock is produced in years 1-11. Backfill of the East Pit begins in Year 12, so the 125 million tons (approximately) of Category 1 & 2 waste would require temporary storage and then must be moved into the East Pit. If Category 2 & 3 & 4 Lean Ore and Waste Rock are backfilled instead, only 57 million tons (approximately) of this material would require temporary storage before being moved into the East Pit. Therefore, this option provides not only a potential environmental benefit, but also a significant economic benefit to PolyMet, since some 68 million tons will need to be moved only once, instead of twice.	PD11
139	“Under this alternative, the permanent subaqueous disposal of the most reactive waste rock (all Category 2, 3, and 4, waste rock) in the East Pit, rather than in permanent surface stockpiles, would virtually eliminate long-term sulfide oxidation and associated solute release and would significantly improve groundwater quality at the Mine Site relative to the Proposed Action. This predicted enhancement in groundwater quality would ultimately result in improved water quality in the Partridge River for most parameters.” (DEIS, p. 4.1-146) These statements also support the supposition that water quality would be better protected by the Mine Site Alternative.	EOO,PD11
140	The alternative reduces the Project’s potential impacts to surface and ground water quality by capturing approximately 95 percent of the seepage generated from the PolyMet operation including from the proposed NorthMet tailings by a series of vertical wells installed on the lower-most bench of the tailings facility. Captured seepage would be pumped and directly discharged to the Partridge River.	WR1F
141	In the DEIS it is stated: “If it were determined upon further analysis during permitting, or during operational monitoring, that pretreatment were necessary prior to discharge, a treatment facility would be installed.” (DEIS, pp. 3- 52, 3-53) It is not clear from the wording in the DEIS what would trigger the requirement for “pretreatment,” or what standards the pretreatment would need to meet prior to discharge.	WR2G,PD8
142	Recommendation: It should be clearly stated in the DEIS what levels of contaminants would trigger the use of capture wells for treatment, and what standards the treatment of the water must meet in order to be discharged into the Partridge River.	WR2G
143	Another aspect of the Tailings Basin Alternative is buttressing of the toe of a portion of the northern embankment of Cell 2E. Any effort to increase the stability of the present upstream-type tailings dams would be lower long term financial risk to the public, and lessen long term environmental risk.	PD11
144	An analysis of the costs of underground mining is given in support document “ALT11 High Level Underground Costs,” PEG Mining Consultants Inc, July 30, 2009. This was not a detailed analysis of the costs of underground mining at the NorthMet site. The document is only 2+ pages in length, and lays out what must be rough estimates of the costs of underground mining compared to open pit mining. The scope and depth of the analysis presented in ALT11 is not enough to state conclusively that underground mining is not economical at this site.	ALT8,EOO
145	That being said, based on my experience I would agree that underground mining would not be viable given metals prices today. However, a significant portion of the mill processing facilities are already in place from previous mining. Underground mining might be economical at this site in the future with an increase in metals prices, and when the processing technology proposed for the NorthMet operation has been proven enough to clearly quantify the costs.	ALT8,EOO
146	The comments by the tribal cooperating agencies also yield some additional information on the topic of potential underground mining. “A study of this particular deposit was performed by U.S. Steel that recommended underground mining. By examining cross-sections showing the distribution of ore by depth, it appears that there are substantial ore reserves at depths that likely could not be accessed by the proposed open-pit mine. The ecological costs of open-pit mining and above-ground disposal of tailings and waste rock are immense. This ecological cost, combined with the most current understanding of deposit ore grades and reasonably possible metals prices, must be evaluated to determine the viability of this alternative.” (DEIS, p. 3-64)	ALT8,EOO



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Comment ID	Comment Text	Theme Codes
147	Upstream-type tailings dam construction, which was used for the existing taconite tailings, poses a long-term stability risk to the proposed hydrometallurgical residue cells. Upstream-type construction will also be utilized to contain the project's flotation tailings, and again poses a long-term risk, although less than that to the hydrometallurgical residue cells because the hydrometallurgical residues contain much higher levels of contamination. A thorough analysis of the risk associated with tailings dam construction has not been done, and needs to be conducted as a part of the DEIS.	PD11
148	One of the most important components of closure, especially from a financial standpoint, is whether there will be a need for long term water treatment. There are a number of places in the DEIS where it is stated that water treatment after closure will be required, but this is probably best summed up by the following sentence: "Additional wastewater treatment - during the approximately 45-year closure period, the WWTF would be operating at reduced capacity and this excess capacity could be used to provide additional treatment of process water, East Pit overflow water, or even West Pit lake water." (DEIS, p. 4.1-167)	WR31,PD5
149	It is not clear from the discussions in the DEIS just what the Closure water treatment scheme will be. In RS52, the Mine Closure Plan Report, closure water treatment is described as follows:	WR31,PD3
150	The basic costs of the system have been estimated in RS29T, although it is clearly stated in that document: "Costs for the potential treatment technologies considered in this evaluation are outlined in Appendix F. These estimates represent preliminary (feasibility study level) costs, not detailed costs that would be associated with the design and construction of a wastewater treatment facility. These costs are developed as a basis for comparing alternatives in this evaluation." (RS29T Wastewater Treatment Evaluation, Barr, 30Mar07, p. 5-12)	PD4
150	However these cost estimates are useful in that they give at the very least an order of magnitude estimate of the capital and operating costs for the water treatment system. It is also obvious from these estimates that with not too much more effort this approach could be used to develop an estimate for the purpose of establishing a financial surety for closure water treatment.	PD5
150	The Closure water treatment systems will need to operate for at least 45 years, and the existing treatment systems will be 20 years old when closure begins. Given that the closure operating period is over twice as long as the 20 year mine operating period for which the cost estimates were made, and that the treatment systems will quite likely need to be replaced and upgraded during this 45 year period, using a figure of twice the cost estimate for the operating mine would seem to be a reasonable estimate. That would place the net present value of the Closure water treatment in the range of \$54 million to \$74 million for financial surety purposes.	PD5
151	This is a significant amount of money, and an amount for which the public is potentially liable should the mine operator go bankrupt. It should also be noted that the cost estimate in Table 3.1-14 "NorthMet Project Preliminary Closure Cost Estimate Summary" (p. 3-48) does not appear to contain water treatment operating and capital costs.	PD4
151	Recommendation: Closure water treatment, as well as the other closure costs, will probably require a financial surety of approximately \$100 million. This is too important an issue to be ignored in the DEIS process. The financial surety amount should be analyzed and disclosed to the public in the DEIS.	PD4
151	It is well known that mine waste can produce contamination by way of Metals Leaching (ML) under neutral or basic pH conditions. It should also be noted that the flotation process produces tailings with a sulfide sulfur content that is just under the range that could produce Acid Mine Drainage (AMD). Recommendation: More discussion and verification should be given to the finding that the sulfide sulfur content of the tailings is and will remain under 0.13% and non-acid producing.	WR1E,PD2
152	Recommendation: The mitigation of storm water management controls should be required, not recommended. This is good pollution prevention practice.	EOO

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
152	The mitigation measures proposed in the DEIS are almost exclusively recommendations vs. requirements. The description of the mitigation measures end with statements like: the measure “warrants further consideration;” or, “it is recommended that ...;” or, the measure “should...; or, could..., or would...” The agencies should clearly state which of the mitigation measures would be required in the permits, and which they consider to be voluntary for the mine operator. That way the public has the ability to weigh the importance of the voluntary mitigation measures, and can then comment on the relevance and importance of the voluntary mitigation measures.	G2D
153	However, the assumptions that lead to a conclusion that water treatment will no longer be required after 65 years should be considered very tentative. For example, the assumptions used in determining the scaling factors summarized in Table 4.1-37 – Solute Release Scaling Factors, (lab to field) for the release of contaminants from waste rock piles could easily contain inadvertent errors (for example in the choice of particle size, temperature, fraction of rock flushed by infiltrating water, and the upper limit of contaminant concentrations) that could cause a significant departure from the predicted contaminant loads assumed in the DEIS.	WR3I
154	It should also be noted that water quality standards for mercury could be exceeded in the long term discharge from the West Pit: “Since neither the WWTF nor the East Pit constructed wetlands, which are the two primary treatment facilities for inflow to the West Pit, are expected to be consistently effective in mercury removal, concerns exist regarding the potential mercury concentration in the West Pit.” (DEIS, p. 4.1-123)	WR3I
156	Deterministic modelling and the Uncertainty Analysis both indicate the possibility of potential water quality exceedances from the West Pit discharge after closure, although PolyMet disagrees with this analysis. Predictive results for post-mining water quality and quantity for many mines over the last two decades have yielded very poor results. <sup>3 3</sup> Comparison of Predicted and Actual Water Quality at Hardrock Mines, Kuipers et al., 2006. This strongly suggests that a conservative approach to requiring financial surety for Closure water treatment should be taken.	WR3I
157	Recommendation: At a minimum, contingencies should be put in place to fund long term water treatment well beyond the 65-year limit assumed in the DEIS. This is for the protection of the budget and citizens of Minnesota and the environment.	WR3I,PD4
158	Clarification: This reference to the cessation of WWTF operation may be an inadvertent error, but if not please cite the documentation that supports the statement that the WWTF will not be required after year 50.	RFI
158	It is not apparent why the WWTF would no longer be required after year 50. This time frame for the WWTF does not appear to be substantiated by the discussion in the DEIS, or in the supporting documents.	WR3I
159	In virtually every case, the mitigation measures are almost exclusively recommendations vs. requirements. The description of the mitigation measures end with statements like: the measure “warrants further consideration;” or, “it is recommended that ...;” or, the measure “should...; or, could..., or would...”	G2D
160	The agencies should make it clear which of the mitigation measures they consider important enough to make requirements in a permit, and the mitigation measures for which they are still weighing the environmental benefit versus the cost to the operator. In this way the public can provide more meaningful comment on the proposed project.	G2D
161	See the consolidated list of recommendations, including both the recommendations from this review and the voluntary recommendations taken from the DEIS, at the end of the report.	G14
162	All waste rock piles are to have engineered liners. The waste rock with the least predicted ability to generate acid mine drainage and/or metals leaching is the Category 1 and 2 waste rock. Category 1 waste rock piles will have an engineered barrier layer and overlying drain layer to minimize the amount of waste rock seepage that will enter groundwater. Categories 3 and 4 waste rock liners have additional liner protection in the form of a synthetic liner placed on top of the engineered subgrade barrier. In describing the subgrade barrier layer to limit vertical infiltration from the waste rock piles, it is stated that the barrier layer will have permeabilities ranging from 5x10 <sup>-7</sup> to 1x10 <sup>-5</sup> cm/sec. (DEIS, Table 3.1-9) Clarification: How will this specification be tested during construction? What methods will be employed if testing indicates that the target permeability is not being attained?	PD2,PD11

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<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
163	Recommendation: The agencies should clearly state which of the mitigation measures would be required in the permits, and which they consider to be voluntary for the mine operator. That way the public has the ability to weigh the importance of the 'voluntary' mitigation measures, and can then comment on the relevance and importance of the voluntary mitigation measures.	G2D
164	To require that a project must "... have filed for permits" in order for it to be considered for cumulative impacts is imposing an unreasonably strict definition of what is a reasonably foreseeable impact.	WR5A
165	For example, there are several mining projects in the advanced stages of exploration that should be considered as reasonably foreseeable. These projects include the Duluth Metals Ltd - Nokomis deposit and the Franconia Minerals Corp - Birch Lake deposit. Ignoring the potential for these developments understates the cumulative impacts to the region.	WR5A
166	Recommendation: Mining projects in the advanced stages of exploration should be included as reasonably foreseeable impacts for analysis of the NorthMet project's cumulative impacts.	G9
<b>Sender Last Name:</b> Sorensen <b>Submission ID:</b> 2211		
2618	Oh, I support PolyMet. I am a laid off boilermaker and this project could give me and my family work. It could give me work and feed my family. So that's all I have got to say. I am all for it. Thank you.	EOO
<b>Sender Last Name:</b> Soular <b>Submission ID:</b> 2256		
2666	This letter will serve as official notification that I support PolyMet Mining. Based on the extensive documentation as outlined in the DEIS, I am confident that impacts to the air, water or land will be minimal, if any. I believe that PolyMet will produce these metals in an environmentally sound way and generate significant economic activity in a depressed area. After thirty-five years of service, I lost my job with LTV Steel in 2001, when LTV permanently closed. For several years I struggled to support my family, picking up jobs wherever I could. For the past two years I have worked at PolyMet at Hoyt Lakes, Minnesota. PolyMet is an excellent project that demonstrates we can have both economic development and a good, clean environment for everyone to appreciate. I have lived in this area all of my life and I am obviously concerned about our environment, not only for myself but for my family as well. I have children and grand-children that also reside in this area. I am also an avid outdoorsman and I am very interested in maintaining a healthy natural environment, not only for my own enjoyment but for the enjoyment of future generations. I believe that PolyMet can operate - and create nearly 1,000 direct and indirect jobs - without threatening the most important legacy we will leave our children - the clean environment we have enjoyed in Northeastern Minnesota for generations.	EOO,G2
<b>Sender Last Name:</b> Soules <b>Submission ID:</b> 2206		
414	First of all, there's -- just a couple months ago a federal judge in the Eastern District of Wisconsin ruled in a case called the Highway J Case that public meetings where the comments are limited to just being taken by a stenographer as opposed to being made out in the open, that that violates the National Environmental Policy Act, so in my view the way in which public comments are being received at this public hearing violates federal law.	PRO6
415	Secondarily, given the EIS has only recently been released and given that the comment period extends until early February, it is again my view that there should be additional public hearings near the end of the EIS process, not just near the beginning of the process.	PRO6

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<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
416	And then finally, and probably most importantly, I do believe it was highly inappropriate to have a series of public officials, elected politicians who were on record supporting this project to speak at the beginning of an informational meeting on this environmental impact statement. I believe that that tainted the entire -- the entire meeting process, and I think there should be subsequent public hearings which are not front-loaded with a bunch of pro comments by elected officials, that should be just be a pure informational session as opposed to cheerleading -- cheerleading sessions.	PRO1,PRO6
417	And then finally, given that it is an 1800-page EIS document, I think -- and given the purpose of the National Environmental Policy Act that citizens are able to provide informed comment and play -- essentially have an informed role in the EIS process, I think that the comment period should be extended past February 3rd, at least by 30 days, probably 60 more days, just so that people have time to digest the document and then provide truly informed comments.	PRO6
769	As a threshold matter, I would like to elaborate on the comments I made to a court reporter at the December 10 meeting in Blaine. I believe that this EIS process does not satisfy the National Environmental Policy Act's (NEPA) goal of informed public participation. In particular, I think the process is deficient in three respects: 1) At the Blaine meeting, the DNR improperly allowed certain project proponents (e.g., pro-mining state lawmakers) to make comments in public, while forcing everyone else to make their comments in private to a court reporter. This is problematic for two reasons: first, by limiting public comments to project proponents, the Minnesota DNR improperly tainted the entire public hearing in favor of the project. This "informational" meeting felt more like a political rally than a neutral forum for public comments. Second, by prohibiting citizens from speaking in public, the DNR undermined NEPA's goal of "informed public participation." Friends of the Boundary Waters Wilderness v. Dombeck, 164 F.3d 1115, 1130-31 (8th Cir. 1999) (citation omitted). 2) I continue to believe that, given the enormous size of the draft EIS, and the serious implications this project has for Minnesota's environment, a longer comment period should have been provided. Again, NEPA is intended to ensure "both informed decision making and informed public participation." Id.; see also 40 C.F.R. § 1500.1(b) (recognizing that "public scrutiny [is] essential to implementing NEPA"). Providing a longer comment period serves these important goals. 3) The DNR's decision to hold only two public meetings, both of which were held relatively early in the comment period, prevented many members of the public from having enough time to properly review the EIS so they could provide informed comments. Further, I believe that additional public meetings should have been held, particularly in the Twin Cities (as well as other parts of the state). NEPA contemplates robust public participation in agency decisions that affect the environment. Holding a single public meeting on the northern outskirts of the metropolitan area -- at a location inconvenient to urban residents, those dependent on public transportation, and many minority communities -- hardly satisfies the spirit of this law. The solution to the above-mentioned defects is obvious: the DNR should extend the public comment period an additional thirty to sixty days; hold additional public meetings on this project (including at least one meeting in the Twin Cities proper);	PRO6
1063	Loss Of Wetlands - The project would allow the loss of 1200 acres of wetlands in St. Louis County and the St. Louis River watershed, with an inadequate mitigation plan. Beyond the negative effects on water quality and habitat, the loss of these wetlands will result in a loss of the carbon sequestration benefits provided by these wetlands.	WE3
3243	I also have deep concerns about the substance of the draft EIS, including the following: 1) Water Quality - Water quality concerns have not been adequately addressed in the draft EIS. Water leaching from waste rock piles at the site is expected to exceed water quality standards for up to 2,000 years. The mine's tailings basin will also produce discharges high in sulfate concentrations, which will turn mercury into methylmercury, making fish dangerous to consume.	EOO,FM1
<b>Sender Last Name:</b> Spaeth		<b>Submission ID:</b> 1700
5	My principal concerns revolve around noise and water pollution potential which I don't feel the DEIS has sufficiently addressed to alleviate my concern. I am also weary of the precedent being set for more and more mining in the region. It is presently a gem of a National Recreation and Wilderness Area which attracts tourism, provides jobs, and is sacred ground for the spiritual connection to nature that it provides.	G8A,G11

*Alphabetical by sender's first name*

<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
5	My principal concerns revolve around noise and water pollution potential which I don't feel the DEIS has sufficiently addressed to alleviate my concern. I am also weary of the precedent being set for more and more mining in the region. It is presently a gem of a National Recreation and Wilderness Area which attracts tourism, provides jobs, and is sacred ground for the spiritual connection to nature that it provides.	EOO,WR1E,N1
2187	Please accept these comments on the PolyMet Mining Corp. NorthMet mining project Draft Environmental Impact Statement. I have serious concerns about the safety of this project and its potential impacts on Minnesota's natural resources. I admire recent mining improvements and applaud the industry's respectable advances. I also feel the type of mining proposed for this wetland area is unstable. The short term gain is out of balance with the long term loss. I would be supportive when legislation approves appropriate financial assurance.	G4A,G7C
<b>Sender Last Name:</b> Sparks		<b>Submission ID:</b> 3130
1020	I am writing to express my concern about the DEIS for the proposed sulfide mine in Minnesota. I don't think that the DEIS has clearly identified the means that will be used that absolutely eliminate the possibility of contamination of the wetlands. How will the basin be designed to insure stability over time? How will the basin be designed to eliminate all possibility of hazardous waste materials from escaping?	WE2,WE3,GT2
<b>Sender Last Name:</b> Spaulding		<b>Submission ID:</b> 2574
3132	I am writing to endorse the acceptance of the Polymet Draft EIS. After reviewing the document I believe it is comprehensive and will ensure that the project goes forth in a manner acceptable to the people of Minnesota.	EOO
<b>Sender Last Name:</b> Speckman		<b>Submission ID:</b> 2827
913	We can't risk harming the water quality in our state and especially in that area. Losing 1200 acres of wetlands in St. Louis County and the St. Louis River watershed will result in a net loss in carbon sequestration provided by these wetlands. Wildlife and fish might be harmed, which eventually harms all of us. Don't do this. Just don't.	AQ3
3196	Find other ways to bring jobs to the area. Let's stop harming our natural resources.	G2
<b>Sender Last Name:</b> Spector		<b>Submission ID:</b> 1769
1101	Concerning impacts on water quality, I understand that the water leaching from waste rock piles at the site is expected to exceed water quality standards for up to 2,000 years. This is unacceptable to me. It is unreasonable to expect that mining companies will be able to maintain water treatment facilities for that amount of time and it is an unfair burden to pass on to future generations of Minnesotans who will inevitably be left to pay for these operations. Additionally, it will be all but impossible to calculate sufficient financial assurance for a mining operation that is going to require such long-term care. Once our clean water is gone, ITS GONE FOR EVER. Do not take the word of an industrial concern because they don't and won't live in this state. They're only motivation is to dangle a few jobs in front of the local miners while they'll be carting cash out of the state. Once problems arise, they'll ask the state to clean them up. DON'T BE SUCKERED, YOUR NAMES WILL FOREVER BE ASSOCIATED WITH THE DAMAGE DONE!	PD2,PD4
<b>Sender Last Name:</b> Spencer		<b>Submission ID:</b> 2869

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
3217	I love the Boundary Waters. It is a big part of my family and our tradition. It is hard for me to think about people destroying my family's tradition just for copper and nickel. The Boundary Waters are not just a big part of my family tradition, they are a huge part in many people's lives. This mining process will hurt the environment of the Boundary Waters hugely. Sulfates in the water impact our health and aquatic vegetation. Sulfates and elemental mercury react to each other in a process called Mercury methylation. Methylmercury is the form that bio-accumulates in fish in which humans eat. I will never understand why people would want to harm this great natural boundary. It is a hard concept for me to comprehend. There are a million reasons why this mining process is bad. I only named a couple. Please think about what you are about to do and think about how it could affect so many animals' and people's lives. Think about the right thing to do and how you would feel if you lost something close to you. Just think about it.	G2C,G7A
<b>Sender Last Name:</b> Spiespdf		<b>Submission ID:</b> 2837
3199	I hope Minnesota will prevent this type of mining and any others that carry unknown environmental impacts from occurring like Wisconsin has. The proposal is insufficient in demonstrating that environmental impact is minimal and worthwhile. This mining has the potential to cause great environmental problems such as ground-water pollution, acid rain, etc. As a Minnesotan, I do not want to take the chance at degrading our environment to produce short term financial gain. Let's not open doors for foreign business to degrade the Minnesotans' quality of life by stressing and damaging our fragile,fertile, beautiful ecosystems.	EOO,G2,G7A
<b>Sender Last Name:</b> Spoeth		<b>Submission ID:</b> 3395
3685	The proposed Polymet mine in Northern Minnesota is a huge economic risk for Minnesota. The short term economic gains do not outweigh the long term environmental and economic burdens. Taxpayers will have to pay for the remediation of this project's clean up if large financial assurances are not given up front by Polymet.	G4A
<b>Sender Last Name:</b> Spreth		<b>Submission ID:</b> 3335
3628	Sulfide mining has proven destructive in every case across the United States. Wisconsin currently has a moratorium against sulfide mines until a company can prove that they won't pollute. According to the Minnesota Environmental Policy Act this sulfide mining project should not be considered because it will impair water quality near Hoyt Lakes. Eventually, that water drains into Lake Superior.	G7B,G12
<b>Sender Last Name:</b> Spry		<b>Submission ID:</b> 1046
1149	I support PolyMet Mining's NorthMet Project.	EOO
3552	I support the Polymet "NorthMet" Project. I applaud all of those people who have spent tens of millions of dollars and hundreds of thousand, if not millions, of manhours putting this eis together. Mining is not new to this area nor are the people working on this project and eis. Polymet has taken all environmental precautions into consideration for this new style of processing in MN. The amount of effort put into this eis and the environmental precautions placed into the design for this mine is not seen anywhere else in this world. There should be no reason not to move forward on this project. The local economical impact for this project will be huge. The state economical impact will be huge. The regional economical impact will be huge. And it will continue to trickle down to help the entire national economic situation. Putting people to work is the backbone to a stable economy. It is time to act, now. Thank you for considering my support for this project.	EOO
<b>Sender Last Name:</b> Stabler		<b>Submission ID:</b> 1093

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
1197	I support the PolyMet Mining NorthMet project. We need to create jobs in this country and this project will do just that.	EOO
<b>Sender Last Name:</b>	Staffon, Jones, Blakeborough	<b>Submission ID:</b> 3699
1	The Polymet DEIS describes significant environmental issues associated with this proposed mine. These issues should be resolved before this mine is approved by the Minnesota Department of Natural Resources and the U.S. Army Corps of Engineers	G2
2	9) What is the basis for Polymet not lining the tailings basin while the underlying LTVSMC tailings basin is also not lined? (Section 4.1.3.1) What assurances can be provided that there will not be extensive groundwater contamination even with the other response actions that are propose by Polymet e.g. bentonite injection and seepage barriers?	RFI
2	8) The relationship between surface and groundwater (Section 4.1.1.2) is not adequately characterized. What are the data on which these assumptions are based?	WR2A
3	The alternative to sulfide mining is for the state of Minnesota to raise revenue by selling back the mineral interest that they hold on millions of acres in Minnesota back to the surface estate owners. This will increase property values and lead to a stabilization of environmental conditions more conducive to attracting non-mining business and promote the stated goal of the IRRB to diversify the economy.	EOO
4	Control of metals will end up overseas anyway inflating the cost of buying them back. Potholing of our national forests through an erosion in the Weeks Act is a greater economic harm. The PolyMet project and the filling of the excess capacity for its plant through the mining of areas north of the plant will cause a polluted corridor from Superior, Wisconsin, to Lake of the Woods on the Canadian border creating a barrier to wildlife migration and contaminating a food supply for thousands of hunters and fishermen. This contamination will affect all of the states by diminishing and poisoning migratory birds on the Mississippi flyway including all states fronting the Mississippi River. This activity constitutes a violation of the Migratory Bird Act and other law.	WI2
5	Public opposition has been disregarded from the method that the DNR has used for conducting due process notice and hearing, to the repeal of environmental and mine worker safety laws by the legislature, to the overturning of Aitkin Counties decision to deny exploration permits.	PRO6
5	Picher Oklahoma needs to be looked at as an example of what is likely to happen in Northeastern Minnesota if PolyMet goes through. Picher was the center of a zinc and lead mining region in Oklahoma until the 1970's. Recently it has had lead poisoning among its children of 30 percent. The inability to mitigate the pollution and fix this problem has resulted in it being declared a superfund site by the EPA. Residents continue to live in denial that mining companies, former governments, or their own bad judgment are responsible for their diminished property values. They blame the EPA for low property values because of the listing as a superfund site.	G8
6	My great-grandparents raised ten children in Elmer Township, which fronts the St. Louis River. Currently, the township's biggest employer is the peat mine. More mining. My Greatgrandmother is buried in the cemetery there. When the farmers are gone her grave will grow over from neglect and her life as an immigrant farmer at the turn of the twentieth century will be forgotten. PolyMet pollution will stop any chance of a revival of an agricultural economy. Mining and PolyMet will kill all other economic activity and displace the people who care about any other aspect of the economy. Ely, Two Harbors, and Duluth with their prosperous tourism economies, are next on the list of mining destruction. The Range delegation won't stop until no one has anything and all that is left are the ghost towns across the whole region. No consideration is shown for the economic loss of displaced farmers, cabin, resort and other property owners.	G1

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Comment ID	Comment Text	Theme Codes
6	The PolyMet proposal is not just a mine it includes a processing facility. This processing facility should be of a more serious and alarming concern. The process proclaimed to be clean and water based in fact involves large quantities of toxic chemicals and is sulfuric acid based. It simply substitutes water born pollution for the airborne pollution of a smelter. Nothing in the Minnesota DNR's Environmental Impact Statement is reassuring that large quantities of these pollutants will not be discharged into the St. Louis River. The St. Louis River already has a PH lowered from iron mining activity. Fish consumption advisories are posted along the river and people have had to seek medical treatment from acute mercury poisoning from eating the fish. The PolyMet project will inflame the mercury problem and project it downstream to contaminate the drinking water of cities like Duluth, Cloquet, and Superior, Wisconsin. The results of studies done to show pollutants in the various watersheds from year to year are subject to manipulation, e.g. the pollution would be minimized by dilution at high water levels, and should be deemed suspect, inaccurate, and minimized.	WR1E,WR2D,WR5A,FM1
6	The EIS prepared by the Corp of Engineers fails to assess inflow into from the nearby 100 mile swamp and the Partridge River. No testing has been done to assess this inflow. The EIS neglects to assess pollution already occurring in the partridge river, Embarrass River, and St. Louis River already occurring from iron mining and other sources. No assessment is made of negative economic impacts.	WR3J
6	A key part of the environmental portion of the EIS is the treatment method indicated at 3-9, 3-10. The EIS states there in part that treatment of reactive water will be done by "membrane separation and chemical precipitation technologies. Experience of the MDNR and MPCA has shown at the Soudan Mine site that proper treatment of mine water is unavailable. The DNR stipulated to the payment of a ten thousand dollar fine to the MPCA, agreed to pay for a twenty -five thousand dollar supplemental environmental project, and put ninety thousand dollars in escrow for future non-compliance related fines. The DNR remains out of compliance with legal emissions standards for copper, cobalt, and mercury. A Study conducted initially in Sweden, replicated by Canada, and a college in Minnesota showed that the addition of Sulfides to a swamp stimulates the production of methylated mercury for which fish consumption advisories have already been issued.	WR1E
7	The DNR cannot be trusted as it continues to be in violation of the law at the Soudan Mine site. It's EIS recites conclusions and not facts and is not properly explained. The tailings basin is not to engineering standards and will collapse as the Forbes basin has, as can be seen on Google Earth. An aerial view of other taconite mine basins shows that most mines allow run-off of their tailings pond water and simply berm around the collapsed and leaking sections of tailings. PolyMet is going to have to pump out the 100 mile swamp and in the process flush every bit of it through its pit basin and with it will be pumped out every bit of poison any sulfide mine has ever given up and in the process kill the swamp. Why should people in Wisconsin have to suffer the pollution of our interstate water for jobs in Minnesota and Michigan when it's legislature has made PolyMet Sulfide Mining categorically ILLEGAL.	G7C
7	Chemical precipitation, a.k.a. bioremediation, has failed at other sight as well. At the Buck/Dober Mine complex in Iron River/Caspian Michigan, the discharged water has left a trail of Acid Mine Drainage and metal precipitate leading to the Iron River and is clearly failing from a simple visual inspection of the site. Even if bioremediation is partially successful in neutralizing acid and precipitating out heavy metals, it result in a release of arsenic and other toxic substances and never sequesters methyl mercury that becomes toxic to fish and humans. In general, all liners leak and eventually release toxins into river systems. PolyMet's promise to have a liner and cover system constructed of "local till overburden soils generated from the processing of overburden removed from the mine pit and stockpile footprint areas" are merely a description of the stockpiles themselves and promise the no run-off will be collected and treated. This assertion is not supported by any proof and is merely speculative on the part of PoyMet	WR2C



*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
7	The additional pollutants combined with the already poor health of the river will cause problems for the St. Louis River Estuary, and it is foreseeable that it could contaminate our drinking water out into Lake Superior. The contamination of the St. Louis River is a civil legal violation of the riparian water rights of the downstream water users for drinking, recreational, agricultural, industrial, and other purposes. This contamination is not merely regulatory or administrative, it is a violation of common law, a taking without compensation by state government if the project is permitted, a violation of the Great Lakes Compact, a violation of the NEPA law and other law. The permitting of pollution of Minnesota waters to the detriment of downstream users given the vast holdings of the State of Minnesota of mineral interests for lease, its entrenched relationship in the industry, subsidies given or allowed by the State of Minnesota, and equity owned by Minnesota officers constitutes an unconstitutional taking without compensation and not for a public or legal purpose. The pollution from the PolyMet toxins will end up in our Duluth/Superior drinking water, degrading and destroying our health and our prosperity.	WR3E,WR3I
7	The solid silting/suspended solids clouding the St. Louis river including the Spirit Bay estuary will be increased by PolyMet. The methyl mercury contamination, silting, and other toxic contamination of interstate waters is un-neighborly, provides poor public relation with, and is illegal and offensive to the neighboring state of Wisconsin that has seen the wisdom in banning this type of mining. The inability of the State of Minnesota to treat or effectively regulate mine run-off and sulfide/methyl mercury pollution in particle, is outlined in their "Progress Report" authored by Bavin & Berndt in May of 2008. The LTV tailings basin in particular, has shown a higher discharge of these pollutants.	WR1A
8	The MDNR's claim that adding toxic waste from metals processing to the old LTV's tailings basin will result in the now admittedly toxic run-off turning clean underscores the stupidity of the whole project. Adding limestone to the tailings basin with the tailings from the Dunka Pit has failed to stop or arguably even decrease the release of sulfides, heavy metals, mercury, arsenic, and other toxic substances. This is indicated in the DNR's own Bavin and Berndt study. The claim that sulfide mining tailings and discharge at PolyMet will turn polluted water into clean water is just as erroneous as the claim made that sulfide pollution and limestone can produce a commercial grade of Gypsum. China has tried this with catastrophic results. The Chinese company that exported wallboard made with industrial waste sulfides is facing hundreds of millions of dollars in liabilities for supplying a defective product used in US homes.	WR1E,G9
9	In April of 2008, the Duluth News Tribune Article relating to a rate increase wrote that there would be a ten percent rate increase fully attributable to subsidizing a lower rate for PolyMet. From 2006-2007 income from Minnesota Powers energy business went up from 52.4 million to 65.9 million, so why the need for unprecedented rate increases? With an increase in community opposition to PolyMet has come a change in the story. Now the Tribune writes that a rate increase is needed by "so we can bring cleaner, greener energy into our systems."	G1
9	I am writing to object to the manner in which the following hearing is being conducted. It is clear from the attached news release that the hearing being conducted presents a safety concern and that the hearing is being conducted in spite of a clear and present danger to the public. The danger being that the hearing is being conducted in a building where the available parking space for that building is being expected to be exceeded. No regard has been given in that light to the safe occupancy capacity for the building that the parking lot serves.	PRO6
10	I would like to speak to the socioeconomic benefits that are identified in the Draft EIS, and one of those comments is that I understand that the -- the length of the mining operation is 25 years or 20 years, and then there's an additional 45 years for mitigation and cleanup and so forth. My point I'd like to make is that if you are a young person who hopes to be hired on on this project, let's say you're 20, by the time you're 40, 45, the mining operation will cease to exist and you will not have enough years to retire, and so there you are at 40, 45 without a job. And so I wonder if someone has weighed the cost benefits of that impact, and I'd like to see a response to that in the final draft statement. That's it. That's all I want to say.	SE3
15	1) How will the waste rock generated by the mining operation be evaluated and handled so that the materials can be segregated into the four waste rock categories? This issue appears not to be addressed.	PD11

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15	2) The Tribal Cooperating Agencies make cogent and well researched comments about the impacts from this proposed activity on surface and groundwater. Their comments should receive serious consideration (eg footnote 19). Impacts based on data should receive higher credence than impacts based on professional opinion or empirical observation.	EOO,WR1E
16	3) It appears that there are no contingency plans for unexpected but potential scenarios such as flooding of tailings basins or pits.	WR1E
17	4) The EIS addresses groundwater seepage due to groundwater levels down gradient of the tailings basin that would cause seepage, wetland impacts and upwelling. What about other impacts, e.g. flooding, storm events etc?	WR3A,WE2
17	5) What is the response to concerns from the "high risk situations for mercury methylation" (p. S- 9) for human health and the environment?	FM1
18	6) The case needs to be made for adequate protection provided by the proposed waste rock stockpile liners and covers. The construction that is proposed is inadequate. Eighty mil LLDPE geomembrane on top of clay soils is inadequate for a variety of reasons.	PD2
19	7) Why are financial assurances not fully disclosed in the NorthMet DEIS? The comments regarding this issue provided by the Tribal Cooperating Agencies are valid and deserve to be fully addressed.	PD4
20	This letter will serve as official notification that I support PolyMet Mining. Based on the extensive documentation as outlined in the DEIS, I am confident that impacts to the air, water or land will be minimal, if any. I believe that PolyMet will produce these metals in an environmentally sound way and generate significant economic activity in a depressed area. I have lived in this area all of my life and I am obviously concerned about our environment, not only for myself but for my family as well. I am also an avid sportsman, especially enjoying hunting, fishing and trail riding. Actually, my job is grooming trails. I am very interested in maintaining a healthy natural environment, not only for my own enjoyment but for the enjoyment of future generations. As a person who lives, works and plays in the area, I understand the need to balance use of resources like minerals and preservation of resources such as water and air. I feel this EIS lays the proper groundwork for developing an environmentally and economically sustainable project.	EOO
20	History of environmental degradation resulting from similar mining-several states have a moratorium in place on this type of mining because it has resulted in horrendous environmental degradation. Wet environments are far more impacted by the release of sulfur and mercury than dry environments. Polymet claims they have a new procedure that will limit the environmental impact. Is one of the last great freshwater systems in the world the best place to test this new science? In reality we use the products made from these ores so we should ensure the mining is done safely. The DEIS indicates more needs to be required of Poly met to ensure that the mining will be done safely for the people, plants, animals and environment, both during the active mining period and well in to the future.	EOO
20	Long-term financial guarantees-Mining projects similar in scope to this project have left enormous economic burdens on the surrounding communities resulting from environmental degradation and social impacts, especially after closure of active mining. Polymet talks of long-term jobs being 20-years. That is short-term in the life of a community. Our communities suffer enormous financial burdens that are peaking now due in part to the closing of iron mines over 20 years ago. Mining companies involved must be required to put sufficient funds into escrow for both environmental and social impacts. These companies without local ties must be held accountable for their impact as they reap what must surly be enormous financial gains.	PD4
20	Water and air quality monitoring-The MPCA and USEP A have been understaffed and underfunded in recent years. A project of this scope with untested and unproven processes would require substantial, consistent monitoring to ensure the watersheds are not being polluted. The DEIS enumerates several anticipated water quality concerns for the immediate area surface water, groundwater, wetlands and the greater St. Louis River Watershed (which empties in to Lake Superior) both during the mine operation and after closure. In addition to monitoring there needs to be public access to monitoring data.	WR1A,WR1E,AQ5

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21	This letter will serve as official notification that I support PolyMet Mining. Based on the extensive documentation as outlined in the DEIS, I am confident that impacts to the air, water or land will be minimal, if any. I believe that PolyMet will produce these metals in an environmentally sound way and generate significant economic activity in a depressed area. In previous years, I spent a lot of time in this area as my family resided here. Upon my retirement a few years ago, I moved to this area and made my home in Aurora. I am obviously concerned about our environment, not only for myself but for my family as well. I am also an avid sportsman, especially enjoying hunting, fishing and trail riding. I am very interested in maintaining a healthy natural environment, not only for my own enjoyment but for the enjoyment of future generations. As a person who lives, works and plays in the area, I understand the need to balance use of resources like minerals and preservation of resources such as water and air. I feel this EIS lays the proper groundwork for developing an environmentally and economically sustainable project.	EOO
22	This letter will serve as official notification that I support PolyMet Mining. Based on the extensive documentation as outlined in the DEIS, I am confident that impacts to the air, water or land will be minimal, if any. I believe that PolyMet will produce these metals in an environmentally sound way and generate significant economic activity in a depressed area. I have lived in this area all of my life and I am obviously concerned about our environment, not only for myself but for my family as well. I am also an avid sportsman, especially enjoying hunting, fishing and trail riding. I am very interested in maintaining a healthy natural environment, not only for my own enjoyment but for the enjoyment of future generations. I also serve on the Aurora City Council. As a local elected official, I have a responsibility to ensure the long-term health, sustainability and vitality of my community. Long-term sustainability requires a clean environment and stable employment. PolyMet can produce these metals in an environmentally sound manner and create hundreds of stable jobs that can support families in this community. As a person who lives, works and plays in the area, I understand the need to balance use of resources like minerals and preservation of resources such as water and air. I feel this EIS lays the proper groundwork for developing an environmentally and economically sustainable project.	EOO
22	The permit for PolyMet should be denied because the technology is unproven on a large scale separating a variety of metals. The lack of reliability in the process creates an undue risk of financial and environmental harm when the technology fails and an already open and polluting pit has to be mitigated with public money after the PolyMet business fails. This risk increases when market conditions are taken into consideration. Minnesota has never had a profitable sulfide mining operation and will be competing with already developed and profitable mining regions around the world. The PolyMet project also disregards the basic economics of supply and demand. As metal prices have increased numerous other projects have materialized or will be coming online for production which will overwhelm PolyMet's profitability and requiring large public subsidy for it to survive or for closure.	EOO,PD2
22	Furthermore, the time period for the mine to operate has been exaggerated in the EIS. The mine does not have the capacity to supply the mine for twenty years with a supply of economically processable ore. Any claim to the contrary given uncertain prices for the ores and on the basis of unproven technology regarding what level of richness in ore can be economically and viably be processed is for propaganda purposes only. The Flambeau Mine is an example of a plant that failed to live up to the promise of longevity for job creation.	EOO
22	PolyMet is claiming publicly that it will create 400 jobs at its processing plant. The plant that they are seeking a permit for will be 3 times the capacity of the mines. The EIS needs to be corrected to reflect this and reprocessed for additional comments based on the corrections and the additional mines that are proposed to supply the additional capacity need to be specified in the reprocessed EIS. Otherwise, the permit can only allow permitting for a plant that will only meet the capacity of the permitted mine.	PD9
22	The following are my comments in response to the DEIS promulgated by the MDNR on the PolyMet project proposed for roughly a few miles north of Hoyt Lakes Minnesota. The project as portrayed by the media is indicative of a mentality of gold fever. It has mostly been described as precious metals mining when the DEIS itself refers to sulfide mineralized deposits and the emphasis of the project is on the production of base and not precious metals. The emphasis on jobs creation from the project take on the air of desperation. A subject for a sequel to a Stephen King movie.	EOO

*Alphabetical by sender's first name*

**Comment ID    Comment Text** **Theme Codes**

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| 22 | GPM,inc(all 37 employees) strongly support the Polymet project in Hoyt Lakes. We believe the draft EIS demonstrates that the impacts to the water and air will be minimal. Furthermore, Polymet is located on an existing brown field in an area where mining has occurred for over 100 years. The Polymet operation will impact the environment far less than the iron mining operation that occupied the minesite for the fifty years previous. Because the Northmet project will produce strategic metals essential to the American economy which are currently being imported, it is important to note we will no longer have to rely on foreign countries for these strategic metals. Polymet operation will supply livable wage jobs for over 400 people in an economy that desperately needs jobs; and injecting millions of dollars of state and local taxes into the state coffers at a time when the state badly needs additional dollars to operate should be of primary consideration. GPM, Inc will need two additional employees as just a token of new jobs throughout Minnesota that will be developed to support the economic expansion. GPM, inc needs this to prevent layoffs let alone adding new jobs. We have been patiently waiting for the permitting process to be finally completed so we can save our business. Please speed the process up----not another delay....PLEASE(say all 37 empyoyees)! | EOO |
| 22 | Furthermore, the burden of proof in reviewing the permit issued by the DNR needs to be adjusted to reflect the DNR's financial interest as an industry participant. The burden of proof needs to be reallocated to the DNR to show the truth and accuracy of the EIS claims made. The DNR leases property to mining companies a practice which has continued through the EIS comment period. The DNR is not impartial as an industry participant and it would be unfair to the public and the industry to set a precedent a deferential standard for the DNR. For example, the DNR will give permitting preference to mines for which they have a lease and will receive a royalty.  | EOO |
| 23 | Every day I see an add promoting gold or other metals investment. This unregulated situation invites market manipulation. When the ads are withdrawn sales will decrease and so will prices. The industry manipulates prices. On a trip to Arizona in 1979 I rode with a truck driver who told me that his twenty thousand pound load of copper was being brought to the warehouses to await a price increase. This manipulation makes our community vulnerable to industry blackmail for the jobs it creates and the pollution from a non-producing and abandoned mine.   | G1  |
| 24 | The DNR's plan for more mining has already caused an obstruction in the goal of economic diversity. The economics of the State of Minnesota owning mineral rights to twenty-five percent of the mineral rights beneath the state creates a cloud on economic development by creating a fear of uncompensated relocation for mining and redistributes the tax burden to non-mining businesses as a result of lowered collection from the encumbered land.   | EOO |
| 24 | I care about jobs and economic prosperity in Northeast Minnesota as much as anyone and that is why I oppose PolyMet. The economic dislocation of jobs in industries such as tourism and the economic impacts of its pollution will far outweigh the four-hundred jobs to be created. PolyMet is simply a taking. A taking of our clean water, property values, and health. It will increase costs for other businesses. Increased health care costs, a larger share of the tax burden for businesses that remain and as we have already seen increased cost of electricity to subsidize PolyMet that must absorbed by small business. Polymet has already been subsidized heavily. Much of the taking is yet to come. The already acidic condition of the St. Louis River as indicated by the sign at the swinging bridge in Jay Cook and the toxic condition as indicated by the fish consumption advisory at the Munger Trail bridge indicate a fragile condition that cannot sustain more loading of these substances.  | G1  |

**Sender Last Name:**    Stalling **Submission ID:** 374

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| 417 | -Inadequate characterization of the potentiometric surfaces of bedrock aquifers from lack of measuring water levels, the potential for surface-water and groundwater interaction with respect to the Embarrass and Partridge Rivers, and the degree to which groundwater moves vertically naturally and under the influence of drainage through the bedrock to the mine pit. | WR2A |
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**Sender Last Name:**    Stark **Submission ID:** 1126

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
1234	I am very concerned about the possibility of sulfide mining in Northern Minnesota and especially in close proximity to the Boundary Waters and the watershed of Lake Superior. I strongly urge a moratorium on permits for sulfide mining until strong assurances can be given that the groundwater and surface waters can be protected. We have a moral obligation to protect the few wilderness areas we have left.	EOO,WR3B,WR3D,G12
1576	We must stop sulfide mining until miner can prove conclusively they do not pollute groundwater and surface water. We must not stick taxpayers with horrendous clean up bills as other states have. I strongly urge that no more mining permits be issued to sulfide mining interests.	EOO,G4A,G7A
<b>Sender Last Name:</b> Stavnes		<b>Submission ID:</b> 178
169	My name is Steve D. Stavnes and I support the Northmet project 100%. The Iron range is in desperate need of new mining/technology that will enable the communities to flourish. The environmental impact appears to be minimal and the new technology seems state of the art.	EOO
<b>Sender Last Name:</b> Steen		<b>Submission ID:</b> 1351
1578	I'm surprised at the possibility of an open pit mine in very close proximity to some of our states most beloved wilderness. The proximity to the BWCAW will no doubt place it in shared watersheds. I understand the sulfide concentration is relatively low resulting in the need for more material removal to gain enough precious metal to make the project worthwhile. This makes me wonder if the risks of a foreign company, cutting a inefficient mine in our most loved park is really worthwhile.	EOO,G2A,G7B
<b>Sender Last Name:</b> Stefanyshyn		<b>Submission ID:</b> 3685
19556	Hydrogeological data under and downgradient from the tailings basin. Very little appears to be known about the hydrogeology of the area under and down gradient from the tailings basin. It is unclear to me at this point what additional data might be collected in response to the DNR's recent request to PolyMet. However, more data on groundwater elevation, depth to bedrock, and groundwater flow is needed before an accurate model of ground and surface water impacts can be undertaken. As the EIS notes, it is impossible to estimate impacts on groundwater elevation based on available data, and thus the EIS provides no assessment of the subsequent impacts on vegetation, wetlands, and other surface water resources downgradient from the tailings basin. Sufficient data to make this assessment must be gathered and included in the draft EIS before permitting can proceed.	WR2A
<b>Sender Last Name:</b> Steffke		<b>Submission ID:</b> 252
18	want to make. I also wnted to tell you that I tried to e-mail you at Enviromentalrev.Dnr@stata.mn.us, and the web postmaster couldn't find the address.	PRO6
265	I want to comment that I think being used by Polymet Mines as a guinea pig, with what we have to loose, and their previous track record, would be a BIG mistake that we don't	EOO
<b>Sender Last Name:</b> Steil		<b>Submission ID:</b> 3255

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
3145	I looked at the EIS but did not find what I was looking for: a section that would specifically address the acid runoff concern. If it is in there please let me know where I might find it. Before going ahead with this project I think a small scale trial run needs to be done to answer the pressing questions. I think it would be a serious mistake to give the go-ahead to this without having the answers needed to address the environmental impact. Acid is my greatest concern. How much acid is produced by this project and what will be done about it needs to be established before moving ahead. For a small scale demonstration run experiment I would think the UMD NRRI would be an ideal facility. Please do not go ahead with this project without having a clear answer. Once we have unintended consequences there is no turning back. We certainly must get this right the first time.	WR1E
<b>Sender Last Name:</b> Stein		<b>Submission ID:</b> 2563
2200	WHAT MEASURES ARE IN PLACE TO MITIGATE POSSIBLE WATER SEEPAGE FROM THE OPERATION?????	WR1A
2397	ARE APPROPRIATE DISPOSAL MEASURES IN PLACE?????	PD9
2398	WHAT PROVISIONS ARE IN PLACE FOR RECLAMATION AFTER MINING CONCLUDES???????	PD3
2399	BY APPROVING THIS PROJECT WILL THIS OPEN THE FLODGATE FOR MANY ADDITIONAL MINE VENTURES???????	G9
2400	WHAT PROVISIONS ARE IN PLACE FOR MONITERING THE NORTHMET PROJECT?????	PD8
<b>Sender Last Name:</b> Stenberg		<b>Submission ID:</b> 3317
3610	Wetlands are declining at a rapid rate. We have to fight to preserve what little natural wetlands we have left. Minnesota creates millions of dollars in revenue from outdoor activities. Diminishing our wetlands will have a major impact on the income Minnesotans make from the outdoors.	G7C,G11
<b>Sender Last Name:</b> Stephens		<b>Submission ID:</b> 2221
8	I also strongly recommend that the DNR and the US Corps of Engineers look at an alternative way of accessing this, and that's through underground mining, which seems to be a better way of getting at the metals, protecting the jobs that they have been promised but, yet, limiting the environmental damage, and I'm disappointed in that they have not looked at that carefully, that they have not looked at this at all. It's not listed as an alternative in the Draft	ALT3
419	I'm very concerned that not enough time is being given to the public to study the proposal. I'm not opposed to mining in Minnesota if it's done carefully and we balance the interest, but I don't think that 90 days is nearly enough time for a project of this kind. I strongly support the DNR and the US Corps of Engineers to give the project at least another 30 days to extend the comment deadline to March 8th, 2010.	PRO6
420	I also strongly support additional public meetings in Duluth and in Ely and in the Fond Du Lac. I do believe that this mine is going to affect all of Minnesotans, is going to be served as a precedent for other future mining for nickel and copper, and how we choose to get at those precious metals is very important.	PRO6
421	availability of the hard copy of the -- of the DEIS. It seems like it's very difficult to get access to that.	PRO6
422	I also feel it's important that we receive comments from the Forest Service, who is the land manager of this particular area, at least until the land exchange or land sale goes through, and the US Fish & Wildlife Service. I don't seem to see their comments anywhere around there.	PRO6

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
423	One other thing: I'm a little concerned about this particular type of public hearing. I want to make sure that the public has an opportunity to make sure that their comments are heard in a public forum, and while I appreciate the opportunity to have this noted in a very clear and concise way, I think we also need to balance that with making sure that people have an opportunity to be heard amongst other Minnesotans.	PRO6
599	And I'm also concerned that the area for the proposed strip mine does overlay critical habitat for the Canada Lynx. I think that maybe some mitigation or some modification of the project may be in order in order to minimize impact to the Canada Lynx.	WI1
2629	Finally, I believe that the more transparent and the more information that is available to the public benefits all Minnesotans. I'm -- while I'm appreciative of the opportunity of 300 jobs, I'm also concerned of the prospect of technology that has not been proven to protect our water resources and the impacts of sulfuric acid on our water and our watersheds for decades to come.	G7
2630	many other Minnesotans have, and I must stress again the need to expand/extend the comment period at least another 30 days, particularly since there have been some problems with people filing their comments on the website of DNR, to at least	G10
<b>Sender Last Name:</b> Stephens and Henry		<b>Submission ID:</b> 3684

19434	p. 4.1-1 "Water Resources" The DEIS should address endocrine disrupting compounds. "The widespread, continual, and low-level contamination associated with EDCs does not lend itself to remediation. Therefore, preventing the initial use and release of EDCs will likely be more effective in reducing environmental contamination." (MPCA, Endocrine Disrupting Compounds, A Report To The Minnesota Legislature, January 15, 2008)	WR1E
19435	p. 4.1-4 "These bogs are isolated from underlying groundwater..." (Last sentence on page) The December 14, 2009 meeting of the Iron Range Resources Board included a handout that reported on page 36 that "Keetac has historically exceeded its winter season turbidity limits for NPDES monitoring..." The report indicated that ground water inflow contributed to the increased turbidity. This documentation of historic exceedances should generate an acknowledgement in this DEIS that the State of Minnesota does not enforce discharge limits.	EOO
19436	p. 4.1-6 (... there is some groundwater flow to the south...) (Last paragraph) How much?	RFI
19437	p. 4.1-7 "...the number of seeps and the seepage rate have declined since January 2001 when LTVSMC terminated tailings deposition in the basin." (Second paragraph) This DEIS is grossly inadequate for not disclosing that a reason for declining seeps is the fact that collection and pump-back of basin seepage was terminated in 2001. The fact that the State allowed exceedances of effluent limitations should be disclosed in this document so that the public can assess the probability of enforcement of permit requirements on Polymet.	WR1E
19438	p. 4.1-16 "Legacy Groundwater Quality Issues..." Table 4.1-9 and 4.1-10 do not list lead-tainted grease barrels. The Tuesday, August 28, 2007 MEP newsletter reported the following: "And at least one of the [LTV] sites appears to be an old barrel dump," said Doug Beckwith, the PCA's supervisor of the hazardous site assessment team in northern Minnesota. "We haven't done an assessment of that dump site as yet." The DEIS should document the status of those lead contaminated barrels.	WR5A
19439	p. 4.1-29 "...surface seepage at most locations has declined or stopped since tailings disposal was discontinued in 2001." The DEIS should disclose to the public that the pump-back of polluted seepage was terminated in 2001. The decision process for terminating seepage pump-back should be documented. Any modeling of Polymet ground water or surface water pump-back should include a study of the cessation of that pump-back for at least eight years being the State of Minnesota has demonstrated at the LTV tailings pond that pump-back cessation is a State policy.	WR1E
19440	The Flambeau mine demonstrates that prediction of the results of limestone treatment are remarkably inaccurate. (Furtman, The Buzzards Have Landed, 2007)	WR1E
19441	p. 4.1-67 "...it would flow through a wetland treatment facility..." (Last paragraph) Effectiveness of wetland treatment has not been documented. The Dunka wetland treatment site still requires a variance.	WR3L

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Comment ID	Comment Text	Theme Codes
19442	p. i Acronyms and Abbreviations contains a listing for Acid rock drainage (ARD) but the DEIS does not emphasize Acid Mine Drainage. The EPA and reputable scientists regularly reference acid drainage from a mine as Acid Mine Drainage (AMD). Failure to give AMD its own listing in this document suggests that it is a promotional brochure for the mining industry rather than a science based document. p. iii Acronyms and Abbreviations lists Voluntary Inspection and Cleanup Program (VIC). The DEIS does not contain such a listing. VIC probably refers to Voluntary Investigation and Cleanup Program. VIC definition should be corrected.	EOO
19442	p. 4.1-171 "Recommended Monitoring Measures" A test for endocrine disruptors in all potential receiving waters including ground waters should be conducted to establish a base line reference and should be included in the DEIS.	WR1E
19443	p. 4.2-44 "Water resources other than wetlands..." Mud Lake T. 59N R. 13W on the Superior National Forest map (2003) is shown as Yelp Lake on the Superior National Forest map (1972). Yelp Lake and Yelp Creek do not appear to be properly identified in the DEIS.	WE1
19443	p. 4.2-1 "The MPCA did not act on the Section 401 request..." (Third paragraph) The DEIS should describe for the public the reasons why the MPCA did not act on the Section 401 request so that the public can evaluate the probability that Minnesota State Agencies will adequately regulate sulfide mining in Minnesota's wetlands.	WE4
19444	p.4.3-19 "Addition of organic amendments to the Tailings Basin" Proposed organic amendments should be identified. Base line endocrine disruptor tests should be conducted so that impact of subsequent operations can be evaluated.	EOO
19445	p. 4.4-19 "Open Water" This section should include an analysis of Mud Lake. (Designated as Yelp lake on Superior National Forest map. (1972)	WI2
19445	p. 4.6.-1 "Existing Conditions" This section should disclose mining industry failures to comply with state air quality rules and standards. (U. S. Steel, Keetac, United Taconite) The public should have information to assess the probability of future mining operations respecting permit conditions.	AQ4B
19447	p. 4.6-32 "Greenhouse gas reduction measures" The processing location and technology for metals other than copper should be addressed in the DEIS. Off-site third party processing mentioned in the Cover Sheet should have been addressed in the body of the DEIS.	AQ3
19448	p. 4.6-40 "...Project would not be permitted until a verifiable plan can be approved..." (3rd Par) Verifiable plan should be included in DEIS.	AQ4
19449	p. 4.8-1 "...with the goal of balancing the need for development with protection." (1st Par) The DEIS has not documented a need for sulfide mining development.	CR1
19450	p. 4.8-3 "...a significant amount of consultation and survey work remains to be completed." DEIS is inadequate without completion of consultation and survey work.	CR1,CR2,CR3
19451	p. 4.8-8 "...an amendment was passed that guaranteed that the tax advantages of the 1941 taconite legislation would be maintained..." (First Paragraph) The DEIS should clarify this statement to acknowledge that the tax advantages have generally accrued to the mining industry rather than to local schools and communities of the Iron Range, most of which are struggling under both conditions of boom and bust. The DEIS should enumerate rebates and subsidies to the mining industry including the FY 02-06 rebate of 20% of School and University trust funds to taconite mining companies. (DNR Division Fact Sheets, Taconite Mining Grants)	CR1
19452	p. S-1 "USFS and Polymet are exploring the feasibility of a land exchange" Details of any land exchange should be part of this DEIS so the public can evaluate the desirability of any such exchange as a connected action to the proposed project.	PD1
19453	p. 4.8-8 "...because the project is located in a mining area..." (Third paragraph) The proposed open pit mine is located within the Superior National Forest, a multiple use recreation area. It makes no more sense to say that the proposed mine site is appropriate for mining because of its proximity to a mining operation than it would to declare that the Peter Mitchell pit is appropriate for logging because it's next to the Superior National Forest.	CR1



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Comment ID	Comment Text	Theme Codes
19454	p. 4.8-15 "Cumulative Effects" During the summer of 2008 my wife Pat and I were picking blueberries near Cook County 3. A gentleman who identified himself as a member of the Fond Du Lac band stopped to visit about fishing and commented on moose sign in the vicinity of Plouffe Creek. As a descendant of Europeans, I am pleased to live in an area where we can have a friendly relationship with our tribal neighbors. I believe that the continued encroachment of mining interests on tribal resources is a threat to that relationship.	G3,CR1,CR2,CR4
19455	p. 4.10-1 "...surrounding areas would experience some portion of the Project's socioeconomic effects." (First Paragraph) No long term beneficial socioeconomic effects have been documented at the county level. The DEIS should incorporate the report titled The Curse of Natural Resources: An Empirical Investigation of U.S. Counties (Alex James, David Aadland-May 2009).	EOO
19456	p. 4.10-1 "...the IRR provides grants and other programs to foster community redevelopment..." (Second Paragraph) The DEIS is incomplete and misleading. It should document the millions of tax dollars that are rebated to mining corporations every year by the IRR when those funds should have been routed to schools and community businesses to foster community development.	EOO
19457	p. 4.10-12 "Participation in Voluntary Associations" The fact that no environmental organizations are listed is a sad reflection on this DEIS. This bias should be considered as evidence of inadequacy and lack of professionalism.	EOO
19458	p. 4.10-14 "The economic multiplier effect for St. Louis County was estimated using the Impact Analysis for Planning (IMPLAN) model completed by the University of Minnesota Duluth (UMD) Labovitz School of Business and Economics Bureau." (1st Par) Page B-3 of the Labovitz School of Business and Economics report (March 2009) states that: Unless a cost-benefit analysis is done, and the study of alternatives is presented, the percentage of total activity in this report is not immediately relevant to decisions about mining investment. The DEIS should contain a cost-benefit analysis.	SE3
19459	p. 4.10-15 "...the Project would create an economic benefit to the community..." The DEIS does not support this statement. Table 4.10-14 reports that employment at the LTV site went from 3,000 in 1970 to 1,400 in 2001. Automation is eliminating jobs and there is no data in this DEIS to suggest that the trend will change.	SE3
19460	p. 4.10-15 "...few members of these tribal communities live in the immediate vicinity of the project." My wife and I live within 15 miles of the project. We frequently encounter tribal members in Soudan and Tower.	EOO
19461	p. 4.10-15 "Operating Period" Labor force projections do not appear to take into account the effects of automation. Mining productivity more than doubled since I started working at Minntac in 1969. The ongoing elimination of mining jobs by automation should be documented in the DEIS. (The Economic Role of Metal Mining in Minnesota: Past, Present, and Future, Thomas Michael Power, October, 2007)	SE3
19462	p. S-2 I.B "uninterrupted operation" The history of mining in Minnesota does not document or suggest the possibility of uninterrupted operation of mines to meet the purpose and need of the project as stated in this paragraph. Mining was interrupted while this DEIS was being prepared.	PD9
19462	p. 4.10-16 "...five percent of working-age people...would remain to help with long-term closure..." The DEIS does not provide documentation for the five percent statement. If the statement is accurate, will financial assurance be calculated to provide funding for that level of employment? Financial assurance should be addressed in the DEIS.	RFI
19463	p. 4.10-17 "The projected labor force for the steady state operating period..." Steady state operations in the mining industry do not have steady state employment. The DEIS should analyze the expected job losses from continuing automation.	SE3
19464	p. 4.10-19 "Project tax impacts are based upon IMPLAN model estimates..." The IMPLAN model does not appear to incorporate tax rebates to the mining industry. Rebates and other services and subsidies provided by state agencies to the mining industry should be enumerated and the impact analyzed in terms of Opportunity Cost.	SE8
19465	p. 4.10-21 "Post-Closure and reclamation activities are expected to generate 20 to 50 jobs..." What is the basis for the prediction of 20 to 50 jobs? Will financial assurance be calculated on that basis? p. 4.10-16 predicts 5% of employees remaining post-closure. What is the basis for the differing predictions?	SE8

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Comment ID	Comment Text	Theme Codes
19466	p. 4.10-26 "Conclusions" The project should be evaluated for negative socioeconomic impact in regards to the Resource Curse, Regulatory Capture, Deep Capture and Opportunity Cost.	SE3
19467	p. 4.13-4 "If during permitting...designs and analyses suggest risks..." (Second Paragraph) As a resident of the Iron Range I expect risk analysis to be available in the DEIS.	GT1
19468	p. 4.14-7 "...analyzed for additive and synergistic cumulative effects." Endocrine disruptors should be included for their additive and synergistic effects.	G8
19468	p. 4.14-1 "Cumulative Effects" The Minnesota Legislature, Legislative-Citizen Committee on Minnesota Resources, and U.S. EPA have recognized endocrine disruptors as a problem in Minnesota. Recognizing that the proposed Polymet project would be layering sulfide mining slimes and plant discharges on top of existing iron mining discharges and recognizing that various endocrine disruptors can be synergistic at low levels, multi-generational fathead minnow tests should be conducted to protect Minnesota citizens and environment from potential damage. The results of the endocrine disruptor tests should be presented in the DEIS. Tests should be conducted in all mining tailings ponds before dilution or attenuation in public waters.	G8C
19468	p. 4.14-3 Table 4.14-1 "Water Quality Changes" The DEIS should examine the potential effect of proposed sulfide mining projects on the corrosion of pilings in the Duluth-Superior harbor. The corrosion apparently involves sulfates, iron, copper, organic material and bacteria. This problem is documented and should be addressed. (Andy Greder, Duluth News Tribune, December 7, 2009. Randall E. Hicks, CURA Reporter, Spring/Summer 2009)	G8
19469	p. 5-14 "Socioeconomics" The conclusion of beneficial effects is not documented. It does not appear that negative effects have been evaluated. Opportunity Cost, Regulatory Capture, Deep Capture, and Resource Curse should be evaluated by impartial economic consultants. It does not appear that the DNR as RGU has demonstrated the impartiality that would be required for them to select such a consultant. The technical comments presented by tribal representatives suggest that they would be the logical entity to be selected and funded to thoroughly examine socioeconomic impact.	EOO
19470	p. S-2 I.B "The processed resources would help meet domestic and global demand..." The DEIS does not document this claim. Polymet output has been contracted to Glencore, a commodities and derivatives trader which might hold output off of the market for speculative purposes. Glencore is based in Switzerland. The DEIS does not document the claim that output would enter domestic markets. Glencore has a financial relationship with China. (Reuters, September 17, 2009) Minerals from our wetlands could very likely be creating value added jobs in China. (Reuters, October 30,2009)	G1
19471	p. S-9 "...the Proposed Action would exceed groundwater evaluation criteria at the Mine Site for at least several parameters." Existing ground water and surface water contamination should be cleaned up before permitting additional degradation. (Notice of intent to sue. Law offices of Charles M Tebbutt, January 25, 2010)	EOO
19472	p. S-10 Socioeconomics "Beneficial effect..." The DEIS does not evaluate economic negative effects from mining at the local, county, state, and national levels. Effects should be evaluated in terms of the Resource Curse, Regulatory Capture, Deep Capture, and Opportunity Cost. (Hanson, Jon D. and Yosifon, David G. The Situation: An Introduction to the Situational Character, Critical Realism, Power Economics and Deep Capture, 2003)	SE3
19473	p. S-14 Cumulative Effects "...would reduce sulfate loading..." Both the Partridge and Embarrass River feed the St. Louis River. Sulfate destination would be the same.	WR5A
19474	WAG supports the No Action Alternative as the preferred choice to promote the economic and environmental welfare of the State of Minnesota.	EOO

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Comment ID	Comment Text	Theme Codes
19474	The two authors cited above document that for hundreds of years, residents of mining areas have more often been victims than beneficiaries. Local support for mining projects is generally driven more by a lack of alternatives than for a love of mining. This DEIS should address the political power structure that channels development energies to mining projects rather than to support locally generated economic alternatives.	G1
19474	The DEIS should address the socioeconomic deficiency in entrepreneurial spirit in mining economies. (Jim Skurla, Labovitz School of Business, Duluth News-Tribune, September 1, 2008)	SE3
19476	Processing of Nickel concentrate should be evaluated for environmental impact. "Not the best quality nickel concentrate. In a good nickel market it is a very salable product, but probably only about 4 or 5 places in the world can take that," he said. (Reuters, June 18, 2008. Polymet CFO Douglas Newby) The 4 or 5 places should be listed and evaluated for smelting or processing techniques. In the event of a bad nickel market, the DEIS should address disposition of nickel concentrate.	G1
19477	Polymet's marketing contract with Glencore, a Swiss derivatives and commodities trader, should be acknowledged as an indication that there is no requirement to use Polymet output to satisfy domestic markets.	G1
19477	The DEIS failed to list information available to document the large cost of subsidizing mining in Minnesota. The Governor's Committee on Minnesota's Mining Future (September 2004) listed the following groups of organizations. The costs to the public of supporting those mining promotion groups should be calculated and listed.	PD9
19477	Copper market manipulation (Sumitomo et al) should be acknowledged in the DEIS as evidence that there is no reliable evidence for real supply and demand in commodities markets. Similarity between commodity market and financial market manipulations should be evaluated. The wisdom of destroying real natural resources to create derivatives should be addressed.	G1
19477	The DEIS does not mention mining slimes as a major output of the Polymet plant. Failure to use professionally accepted terminology to describe plant processes could mislead those using the DEIS as an evaluation instrument. A definition and quantification of mining slimes in the Polymet process should be included in the DEIS. Public presentations by mining promoters have referred to some mining wastes as "washed sand." (Joe Scipioni to MPCA, May 24, 2007, verbally. Joe Scipioni to LCCMR, August 18,2009, verbally. Frank Ongaro to film audience, January 13, 2009, verbally. Polymet presenters, April 29,2008, printed handout.) The handout referred to washed sand and to the ore body as "roughly 3 percent" valuable minerals. These misleading statements should be corrected in the DEIS.	PD9
19479	The use of University Trust Funds to subsidize mining which is supposed to support the University Trust Fund should be examined in the context of the snake eating its own tail. Long term sustainability is questionable. The DEIS should address historical negative socioeconomic consequences of having our political system dominated by mining. (Roles of Public Organizations, The Governor's Committee on Minnesota's Mining Future)	EOO
19480	In support of the above issues and others to follow, Wag incorporates by reference comments by the following individuals and organizations: Northeastern Minnesotans for Wilderness Save Lake Superior Organization Tribal Cooperating Agencies Water Legacy Leonard Anderson Bruce Johnson Elanne Palcich Robert Tammen Stephen J. Jay Center for Biological Diversity	G15

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Comment ID	Comment Text	Theme Codes
19480	SULFIDE MINING DISTRICT The DNR Lands and Minerals Division has been studying copper-nickel mineralization in northeast Minnesota for the past thirty years, and has a facility full of core samples at its Hibbing location. The DNR Lands and Minerals Division knows full well that exploration is taking place throughout the Arrowhead region of Minnesota as part of a sulfide mining district. The DNR continues to sell leases for mining exploration throughout the Duluth Complex. The isolated environmental review process for PolyMet goes against NEPA and MEPA legislation. This process is being done ahead of a complete environmental scoping and impact study which needs to consider the cumulative impacts of a sulfide mining district in the Arrowhead Region of Minnesota. A complete review needs to consider the cumulative impacts to water, air, wetlands, forests, and wildlife in accord with the Clean Air Act, the Clean Water Act, the Wetlands Conservation Act, and the Endangered Species Act. The PolyMet DEIS is circumventing the law in regards to cumulative impacts of metallic sulfide mining as being proposed and as being facilitated by the DNR Lands and Minerals Division. Franconia, Duluth Metals, and Teck all have exploratory drill sites adjoining each other and adjoining Polymet. How can this not be considered a metallic sulfide mining district? Furthermore, this extension impacts the watershed flowing into the Boundary Waters Canoe Area Wilderness, which has special protection under the national Wilderness Act. It appears that putting PolyMet first on the list of possible metallic sulfide mines is purposely circumventing Federal law, and misleading the public by declaring that this type of mining will not impact the BWCAW. Mining Minnesota advertises the following copper-nickel companies on their website: PolyMet, Franconia, Duluth Metals, Encampment, Kennecott/Rio Tinto, and Teck Cominco. The planning for a sulfide mining district is advertised by the mining companies themselves. PolyMet must be considered as part of a sulfide mining district.	G1
19480	CUMULATIVE EFFECTS The PolyMet/ NorthMet draft environmental impact statement does not adequately address cumulative effects.	G8C
19481	The PolyMet DEIS is also remiss in openly addressing the fact the PolyMet is seeking permitting for 1/3 of the plant capacity as inherited from LTVSMC. This under-permitting leaves open the door for adjoining companies such as Franconia or Duluth Metals to use the PolyMet plant with minimal additional permitting, even though such mining would directly impact the waters of the BWCAW. The DNR has already stated that permitting for additional capacity would not require a full EIS.	CR1
19482	CUMULATIVE EFFECTS ON TRIBAL LANDS The disregard of consideration of a sulfide mining district becomes an environmental justice issue when tribal lands, as part of the Treaty of 1854, are being swept aside as part of a piece meal approach to permitting metallic sulfide mines.	CR4
19482	The USFS is also remiss in this regard, because much of the land involved in a sulfide mining district would be part of Superior National Forest. The USFS is seeking to circumvent its responsibility in this part of the process by requesting special federal legislation to sell USFS land directly to PolyMet. A land sale to PolyMet would undermine the Weeks Act, which has been in place since 1909. Our current Federal legislators would perform an unethical service by setting aside legislation and a purpose that has been in place to protect public lands and waters for the past 100 years.	G9
19484	CUMULATIVE EFFECTS ON TRIBAL LANDS The disregard of consideration of a sulfide mining district becomes an environmental justice issue when tribal lands, as part of the Treaty of 1854, are being swept aside as part of a piece meal approach to permitting metallic sulfide mines.	G3,CR1,CR4

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Comment ID	Comment Text	Theme Codes
19485	<p>CUMULATIVE EFFECTS WITH OTHER PROJECTS FURTHER ALONG IN THE ENVIRONMENTAL REVIEW PROCESS Even without the consideration of a sulfide mining district, the PolyMet/Northmet DEIS does not adequately address the cumulative impacts of other projects that are ahead of PolyMet in the environmental review process. The cumulative effects would include air pollution and haze over class I air quality areas, an increase in the mercury and sulfate load of waters within the St. Louis River watershed and the adjoining Rainy River watershed, the cumulative impact on wildlife and wildlife corridors, noise and light pollution on a 24 hour basis, total loss of forests and wetlands as part of global warming, total contribution of green house gases, and total general impact on air and water quality. These projects include the Mesaba Coal Gasification Project which is in the final environmental impact statement stage and includes Hoyt Lakes as its second choice of a site and also as the second site to be built upon completion of its first site choice; Mesabi Nugget which shares the former LTV property with PolyMet and which was fast tracked without environmental review of its plant construction, so is currently in the early stages of production; an expansion of the Arcelor-Mittal taconite production into the Biwabik area; and continuing operation and expansion of the Peter Mitchell mine near Babbitt. In addition, the Essar Steel taconite/steel plant which has been permitted for the Nashwauk area will contribute large amounts of green house gases and haze, affecting the St. Louis River watershed as well as air quality and micro- climate in the Arrowhead/Boundary Waters area. Since none of these environmental impact statements include the permitting of PolyMet, but are ahead of PolyMet in the review process, NEPA and MEPA laws are not being followed. The total emissions of these projects need to be addressed before another project can anticipate permitting. This again involves the Clean Air Act, the Clean Water Act, federal haze standards, mercury TMDL limits, the Wetlands Conservation Act, and the Endangered Species Act. The Mining Minnesota website also advertises the expansion of Minntac and Keetac.</p>	G9
19486	<p>CUMULATIVE EFFECTS OF METAL LEACHING Although the PolyMet DEIS lists 17 metals and 8 general parameters (Table 4.1-50) as seeping into ground water, the DEIS gives no information on the cumulative effects of these metals on ground water quality. This is in total disregard to human health. Even if the maximum concentration of each individual metal or parameter stays within water quality limits, what is the effect of all of these contaminants within the water supply? What effect does drinking this water have upon the health of humans, wildlife, fish, and plants—and upon the wildlife, fish, and plants that might be consumed by humans? What are the synergistic effects of these contaminants, for example of a combination of cobalt and nickel? Are some of these contaminants considered carcinogenic? The same is true of surface water contaminants (Table 4.1-20). Other tables include 4.1-5, 4.1-6, and 4.1-7. Nor is there a summary of cumulative impacts of chemicals that are used in the hydrometallurgical plant processes and stored in the plant residue tailings. Even if water is treated within the WWTF, what impact do the treatment chemicals have upon water quality and water that ultimately seeps into ground water or surface water? Although PolyMet claims that not one drop of this water will reach surface water, what happens if there is a failure within this system? This must be explained and addressed within the EIS process. This quote is from the State of Washington Department of Ecology: “Different chemicals combined together in the same effluent can have unknown additive effects even when the individual toxicity of each chemical is well known.” Whole Effluent Toxicity (WET) testing is done, in this case by a University, to determine cumulative effects. The DEIS cannot continue to rely on testing done by an engineering firm that is dependent for its income upon the mining company, and that uses software models that are not available to the public.</p>	WR5A,WR5C
19487	<p>CUMULATIVE IMPACTS ON FUTURE ECONOMIC OPPORTUNITIES The DEIS does not address the end product of PolyMet’s mine closure –which is land that cannot be used for any other purpose. The waste rock piles will be too large and unstable for any use, the tailings will be too large and contaminated, and water treatment will have to continue indefinitely into the future. This will preclude forestry, recreation, tourism, or any other real estate or business development. Any income from these industries would be lost as soon as PolyMet would begin operations. Again, this issue is not addressed as part of a sulfide mining district. Nor are PolyMet’s 400 projected jobs anywhere substantiated. PolyMet does not explain where or how these workers would be used. In comparison, Mesabi Nugget is using 75 workers in its plant operations.</p>	SE3

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**Comment ID    Comment Text    Theme Codes**

19487 CUMULATIVE EFFECTS ON THE ST. LOUIS RIVER WATERSHED This DEIS is remiss in addressing the cumulative effects of additional mining within the St. Louis River watershed. The St. Louis River is already highly impacted by drainage from Minntac’s operations. The issue of leaching from Minntac’s tailings basin and the issue of contaminated water that has been recirculating through the Minntac plant since its start-up in 1967 and which Minntac now seeks to release into the environment, is already a burden on our resources. United Tac (Forbes), Minorca, Keetac and HibTac also drain into the St. Louis River watershed. The St. Louis River watershed is so impacted for mercury, due to air and water emissions from the taconite plants and power plants that run them, that the state agencies have not been able to include the watershed in its mercury TDML plans. Potential leaching from the PolyMet mining operation, which would drain into either the Embarrass or Partridge River, and which would be added to leaching from the former LTV Steel Mining Company tailings, must be considered in regard to the cumulative impacts that are already placed upon the watershed. The St. Louis River ultimately drains into Lake Superior. The Nature Conservancy is currently working to preserve and restore the St. Louis River estuary because of its significant values. Individual mine sites cannot be isolated from the watersheds that they impact. This also becomes an economic impact concern. The St. Louis River watershed is used by tribal communities, and by others who hunt, fish, recreate in the area, or live in the watershed and drink its waters. A supply of jobs could be created to clean up and maintain the watershed for its intrinsic uses. The benefits of this would stay within the state, rather than be shipped abroad for use by other nations.

WR5A

19487 This issue is not adequately addressed simply because of the volume of tailings and tailing slime that will be placed upon a tailings basin that is already leaching pollutants, that contains pollutants of unknown quantity and origin, and that is already considered unstable. The issue alone should be enough to prevent the permitting of PolyMet under the current plan. The LTV tailings basin was used to store coal ash, and dredging from the manmade wetlands that were designed to filter heavy toxic metals from the Dunka site. The potential leaching of unknown contaminants from the LTV tailings basin needs further analysis. PolyMet’s sulfide tailings are not being treated any differently than the tailings of the taconite plants. We know that the taconite tailings continue to pollute the St. Louis River watershed, and also some of the northern waters. The DEIS does not address the cumulative effect of the leaching of PolyMet’s tailings, as part of the LTV basin, on the St. Louis River watershed. Along these same lines, the agencies have not been able to figure out a plan for the disposal of Minntac water that has been recycled during the current lifespan of the plant, and is now so polluted that it is corroding plant infrastructure. The choice is now whether to allow this water to be drained into the north or south watershed. PolyMet also plans to recycle its water for the 20 year projected life span of the plant. PolyMet’s alternatives then become whether its tailings will leach into the Embarrass River or the Partridge River. This is, in effect, the same problem facing Minntac. Minntac’s sulfate load has destroyed wild rice and fisheries due to low level leaching from its tailings basin. In fact, tailings basin must be allowed to leak, in order to prevent water build-up which will collapse the dikes. This is what happened at the coal ash spill on Highway 61 by the North Shore. If PolyMet is permitted without this problem being addressed, then Duluth Metals will be next in line to store its tailings in the Dunka basin. These tailings will leach directly into the Boundary Waters Canoe Area.

G9

19487 CUMULATIVE EFFECT OF WETLAND LOSS The PolyMet DEIS does not adequately address the loss of carbon sequestration from the destruction of forests and wetlands on PolyMet’s proposed mine site. The agencies have refused to use the most up-to-date information on carbon sequestration and its impact on mitigating local climate change impacts. The agencies have downplayed the impact of global warming gases to be emitted, and PolyMet has transferred some of these impacts to the electric power plants by projecting the use of electric rather than diesel equipment. However, electric shovels and blasting rigs are much more expensive than their diesel counterparts, so what guarantee is there that PolyMet would follow through on this plan? The DEIS does not account for possible carbon taxes and the impact those taxes would have on an industry that produces 99% waste rock. This also needs to be addressed under socio-economic impacts. The loss of the specific conifer bogs of the 100 Mile Swamp, which will not be replaced through PolyMet’s wetland mitigation plan in Aitkin County, do not follow the Wetland Conservation Act , and should not be approved by the ACOE. The ACOE is also remiss, along with the USFS, in not addressing the loss of wetlands within the St. Louis River watershed, and as part of a sulfide mining district. This is misleading the public and does not follow NEPA law.

WE5

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Comment ID	Comment Text	Theme Codes
19489	ALTERNATE PLAN WITHOUT AN AUTOCLAVE/HYDROMET Once permitted, PolyMet would need to seek funding in order to build its autoclave/hydromet. The construction of this plant would take approximately two years. During this time, PolyMet has theorized shipping out ores that have gone through crushing and flotation. This is not addressed anywhere in the DEIS. The raiing of this product, with its potential to leave behind a trail of acid producing dust or waste rock, MUST be considered as an alternative plan within the DEIS. The DNR is remiss in not addressing this issue, which was brought up at least two years ago.	PD7
19489	CUMULATIVE IMPACTS ON WILDIFE, FISH, BIRDS Wildlife habitat and corridors are not adequately addressed, because of lack of cumulative impacts as part of a sulfide mining district, cumulative impacts regarding other projects and expansions, cumulative impacts due to mining exploration, and cumulative impacts of metal deposition from air emissions and dust into the ground and water. Loon studies and the effects of mercury on loon populations MUST be addressed within this DEIS. The loss of habitat for migratory birds, which are also suffering habitat loss along their migratory routes, needs to be addressed as part of a cumulative study. Fish and aquatic life need to be studied for bio-accumulative impacts due to metals, mercury, and other contaminants. This DEIS is top heavy on promoting the mining of low-grade sulfide ores, without adequate regard for the huge amount of waste rock and accompanying leaching of metals and acid mine drainage, as well as the impact on the environment of the moving of such vast amounts of rock and their ultimate storage—and the accompanying impact on the connected ecosystem that is being fragmented or destroyed. The job of the ecological division of the DNR is to provide this information for the EIS process.	WI2,WI5,FM3
19491	CUMULATIVE ECONOMIC IMPACTS Everywhere it is advertised that huge amounts of metals will be dug out of the Duluth Complex mining district, when in actuality huge amounts of waste rock will be crushed in order to extract less than 1% mineralization. The DEIS is perpetuating an economic scenario which cannot be substantiated as being sustainable, simply because of the large amount of waste rock that must be removed, using large amounts of dwindling oil and gas resources, which are undoubtedly going to rise in costs. This DEIS is relying almost totally on an economic report put out by the Labovitz School of Business which is funded by the taconite industry. This report gives a very favorable and biased economic outlook for the mining of low grade sulfide ores. Other studies by Tom Powers of the University of Montana and by William R. Freudenburg of the University of Wisconsin and University of California give much different versions of the economic implications of mining. These studies must be included under socioeconomic impacts.	EOO,SE6
19492	CUMULATIVE IMPACTS ON HEALTH The DEIS lacks a section on health effects. This would include exposure to air pollutants, fibers and dust, exhaust and particulates. Effects of 24 hour a day noise on workers, wildlife, and residents need further study. Water contamination of wells and city drinking water supplies need to be studied for the cumulative effects of heavy metals and other contaminants. Synergistic effects of contaminants need to be studied. Potential endocrine disrupters entering the watershed from chemicals used in the flotation process and in the autoclave/hydromet process must be studied as part of synergistic and cumulative impacts on water supplies and impacts on fish, wildlife, and humans. The PolyMet DEIS has not waited for results of tests trying to determine the number of cases of mesothelioma among Iron Range workers, a cancer that is caused by asbestiform fibers. These are the same kind of fibers that were implicated in the Reserve Mining case, and that ultimately stopped Reserve Mining Company from dumping its tailings in Lake Superior and contaminating Duluth’s drinking water supply. These same fibers can be airborne when rock is crushed and ground to a powder form in order to extract low grade minerals. The air in the processing plants is often filled with dust, and dust can also blow off tailings basins. Workers bring this dust home on their clothing and in their vehicles. Results from the mesothelioma studies will take several more years. Cumulative health impacts of mercury must also be addressed as part of a taconite mining district and the potential of a sulfide mining district. The health hazards of mercury in fish have the biggest impact upon pregnant women, children, and segments of society that rely more heavily on fish as a food supply. Studies regarding the mercury-sulfate-methylized mercury bio-chemical chain must be included and analyzed as part of this EIS process.	EOO,WR5A,WR5C,FM3,A

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Comment ID	Comment Text	Theme Codes
19493	<p>NO ACTION ALTERNATIVE The DEIS conclusion that a no action alternative would allow for continued leaching of the current LTV tailings into the watershed defies logic. According to a VIC agreement, the current owner of the LTV tailings basin is responsible for clean-up. If the regulatory agencies cannot manage the clean-up of taconite tailings basins, how can the agencies assume, or the public expect, that these same agencies will be able to oversee clean-up of sulfide tailings? The acid mine drainage and heavy metals leaching from sulfide tailings have the potential to last for centuries. The sheer volume of tailings left from the mining of less than 1% metals will ensure that contamination will be a problem that will require “perpetual” treatment, even though the agencies downplay this problem by labeling the treatment as “long-term.” The obligation of both mining companies and agencies over such a long time period is a huge liability.</p>	ALT8
19494	<p>AIR QUALITY The PolyMet DEIS is inadequate in labeling PolyMet’s impacts upon air quality as “insignificant.” The 20 mile proximity of PolyMet to the Boundary Waters Canoe Area Wilderness will undoubtedly increase haze in a Class I area. This will come at a time when federal statute requires an overall reduction in haze. The impact of haze within the BWCAW and Voyageurs National Park needs to be considered as part of a sulfide mining district. Once sulfide mining is permitted in Minnesota, the expansion of that mining will be very difficult to delay, especially considering that PolyMet has 2/3 excess plant capacity. The DNR has stated that expansion of PolyMet’s plant capacity would not require a new EIS, even though this would overwhelm the tailings basin and multiply contaminants going into the water and the air. The impact of haze within the BWCA and Voyageurs National Park must also be considered as part of cumulative effects involving Mesabi Nugget, which shares part of the former LTV mine site with PolyMet, with Peter Mitchell mining operations, with Arcelor – Mittal expansion plans, with the proposed Mesaba Coal Gasification Project (FEIS), with Essar Steel (permitted) and with expansion plans for Minntac and Keetac. The PolyMet DEIS does not address acid rain and its impact upon the wilderness. Because the hydromet process puts more pollution into the water than the air, and because wet scrubber technology is to be implemented, the possible ramifications of acid rain are being neglected. Acid rain falling in the plant and mine site vicinity will contribute to the leaching out of toxic heavy metals. Acid rain in a wilderness setting upsets the ecological balance. In eastern states, acid rain left lakes and streams devoid of fish. SO2 and SO3 from plant emissions will contribute to acid rain.</p>	AQ4,AQ4B,AQ4D
19494	<p>SUPERHIGHWAY STUDY COMPLETED BY ST. LOUIS COUNTY A hearing was held in January 2009 regarding the building of an economic development corridor between Hoyt Lakes and Babbitt. As of today the project is on hold, pending further funding. This road project needs to be addressed in the PolyMet DEIS because of cumulative impacts on wildlife, wildlife corridors, wetlands, air pollution, and noise, and because the road would facilitate movement of mining vehicles within a sulfide mining district. Because PolyMet preferred an alternative road site that would border its mine plan operation, this alternative must be included in the PolyMet DEIS as a distinct possibility. St. Louis County spent a significant amount of money on the road study, and is planning to renew the project as soon as funds become available. Previous funds were from the federal government, and additional federal stimulus money will be released in 2010. This road project would be a necessary part of a sulfide mining district. Because the agencies have failed to address this issue as a whole, significant impacts will be ignored. Additional Superior National Forest wetlands and forests would be destroyed. Since all submitted potential effects must be considered within an EIS, the agencies cannot arbitrarily exclude potential impacts and the opportunity for public input. According to dIALOG notes from January 21, 2010, Paul Bergman indicated that non-ferrous activities in Lake County are picking up. “Plans are in place between Lake and St. Louis Counties to designate the Denley Lake Road (Old Tomahawk, FR 424), a County State Aid Highway. This alignment is the major east west link south of Birch Lake.” The redesignation of Denley Road as a county road, and its subsequent widening, must be addressed within the PolyMet DEIS. This road would facilitate non-ferrous mining traffic, and would also impact wildlife habitat and corridors. NEPA law requires that all such impacts be considered. The PolyMet EIS process must acknowledge these road projects as part of its mining proposal.</p>	G9



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19494	CONSULTING FIRM CONFLICT OF INTEREST The DNR hired Al Trippel of the London-based consulting firm Environmental Resources Management to oversee the NEPA process. Al Trippel has been on the Aquila payroll, conducting baseline environmental studies necessary prior to submitting a mine application for Aquila's Back Forty gold-zinc deposit between Michigan and Wisconsin. Al Trippel's consultation was called on the carpet in Michigan for conflict of interest. His conclusions about the potential for acid rock drainage were also questioned in Michigan. The PolyMet DEIS needs to include unbiased research on acid mine drainage, such as that done by Canadian scientist Dr. David Blowes, who spent 20 years studying mines and trying to manage AMD. His studies, as well as studies by other researchers, conclude that there is no sulfide mine in existence that is not polluting the groundwater to some extent or another, and that the potential for pollution is greater in a water-rich environment (such as that of northeast Minnesota). According to the report "Comparison of Predicted and Actual Water Quality at Hardrock Mines, The reliability of predictions in environmental impact statements," prepared by James R. Kuipers and Ann S. Maest, 2006, "Despite assurances from government regulators and mine proponents that mines would not pollute clean water, researchers found that 76% of studied mines exceeded water quality standards." This DEIS is relying on a consulting firm representative who is conflicted out and Barr engineering models that cannot be reproduced by the public in drawing its conclusions about the impacts of metallic sulfide mining in northeast Minnesota's watersheds. This represents a gross inadequacy in the conclusions of this DEIS while misleading the public on the impacts of this kind of mining on sensitive ecological areas. And where the DEIS actually concludes that certain metals will exceed drinking water standards during different aspects of the mining process, those conclusions are overturned by charts and figures from Barr Engineering which put all pollutants within state standards. Nowhere are the cumulative impacts of these pollutants addressed. Treatment for any pollution, contamination, or spills is left up to Poly Met and treatment upon closure is open-ended and to be monitored. The agencies will have no control over this project or the environmental degradation that it leaves behind outside of a few state reclamation laws. These laws include the total demolition of all buildings upon closure, and providing some kind of ground cover on site. The entire plant and mine site will be virtually unusable upon mine closure. This is not addressed under IRREVERSIBLE OR IRRETRIEVABLE COMMITMENT OF RESOURCES. The PolyMet DEIS is inadequate in addressing the potential threat of acid mine drainage and toxic heavy metal leaching in the wetland environment of Minnesota and the consequences of that pollution within the St. Louis River watershed. The PolyMet DEIS is inadequate in ignoring the potential impacts of a sulfide mining district upon the Rainy River watershed.	G10
19494	The fish population is also subject to mercury contamination, and mercury deposition is airborne. Aquatic life, fish populations, and birds and wildlife that feed on aquatic species are all exposed to cumulative toxic effects of mercury, acid rain, and heavy metals. These impacts are not presented in the PolyMet DEIS in a way that clearly defines the total kinds of impacts that affect plant and animal life in Superior National Forest, the Boundary Waters Canoe Area Wilderness, and Voyageurs National Park.	FM1,FM3,AQ6A
19496	By reading through the PolyMet DEIS, one can see that the copper nickel mine plans are based upon the same design as the taconite plans. This plan includes tailings basins, ditches, dikes, waste rock piles, and open pits. Although the mining of sulfide ores is known to create acid mine drainage, there is very little difference in the design of these mines. PolyMet's plan includes some liners under tailings that are considered to be most reactive and that contain residue from the proposed autoclave/hydromet. However, the majority of PolyMet's tailings would be placed upon unlined tailings in the former LTVSMC tailings basin, an area that is already considered unstable. The remedy for this would be to build higher dikes out of less porous materials. It is also known that tailings basins need to leach in order to prevent a build-up of water pressure that could collapse the dike walls, as happened in the coal ash spill on Highway 61. (See MPCA records for more information.)	EOO
19496	The handling of this DEIS process is enabling the start up and expansion of sulfide mining in the Arrowhead Region of northeast Minnesota without proper concern for the high standard of air quality and water quality that has remained OUTSIDE OF THE IRON MINING DISTRICT. The opening of a SULFIDE MINING DISTRICT will destroy the quality of the remaining environment that has acted as a buffer zone between the Iron Range and the BWCAW.	AQ4B

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<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
19497	As citizens of this area and this state, we are stepping forward to call a halt to this EIS process, and the beginning of an EIS process which considers the full impact of opening a sulfide mining district within the Arrowhead Region of northeast Minnesota.	EOO,G8C
19498	The socio-economic impact of mining on the Iron Range needs to be reanalyzed.	SE3
19499	The Arrowhead Region of northeast Minnesota that is slated for metallic sulfide mining has never been mined. It does not contain the cluster of mining towns that trail the former natural open pits across the Iron Range. The Arrowhead Region consists largely of Superior National Forest lands, which have been used traditionally for logging, recreation, tourism, camping, hunting and fishing, and tribal rights. The metallic sulfide range also pushes right up against the Boundary Waters Canoe Area Wilderness. Land in this area has been used for real estate, tourism and recreation, and as a buffer zone surrounding the Boundary Waters. Ely was the lone Iron Range town left out of the taconite development, and has created an economy based upon tourism as the gateway to the BWCAW. The impacts of mining are not compatible with the character of a tourist area that's based upon wilderness.	SE3,SE4
19500	What northeast Minnesota needs right now is a DEIS that figures out how to clean up our mercury pollution, how to remove sulfates from the watershed, how to treat taconite tailings basin pollution, and how to clean up our water and air. This will generate plenty of jobs.	G1
19501	This is a moral issue which is substantiated by science. The DEIS plainly shows that metals will contaminate our water supply for centuries. No cost-benefit analysis has been done in regard to health and a healthy environment and what that contributes to a local economy. Nor have the impacts of increased pollution within the St. Louis River watershed been analyzed in regard to tourism along the North Shore and in Duluth. There is no mention within the DEIS of clean-up costs due to bankruptcy failure or failure of pollution control methods, although sulfide mining clean-up costs in other states have been as high as \$500,000,000.	SE3
19502	In the report, "The Economic Impact of Ferrous and Non-Ferrous Mining On the State of Minnesota and on the Arrowhead Region and Douglas County, Wisconsin," Appendix B, p. B-1, it states, "Policy recommendations should be based on the 'big picture' of total impacts, and a cost-benefit analysis would be needed to assess the environmental, social, and governmental impacts of ferrous and non-ferrous mining in the State." This is the very report which the PolyMet DEIS has relied upon. Therefore, the PolyMet environmental impact process must include an independent cost-benefit analysis as stated above.	SE3

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**Theme Codes**

19502	The following quote is from the Iron Mining Association of Minnesota website: “Recovering iron from taconite is a challenge, especially at a cost the world will tolerate. Equipment is massive and complicated. It takes enormous amounts of energy.” The quote represents an industry that mines 25% iron. What economic implications does this hold for an industry that would be mining less than a half a percent of metals? The politically expedient path to the permitting of metallic sulfide mining is based upon projections for a future economic market that nobody can predict. However, an economy based upon low grade metal extraction is not going to lead to world market stability. Therefore, the socioeconomic section of the DEIS is incomplete, biased, and unacceptable. It is already out of date, as the 35% figure regarding the mining industry segment of the regional market comes from studies that were done previous to March of 2009. Subsequent to this, two of the taconite plants shut down for the remainder of the year. A more accurate study, one which would not be funded by mining company money, would be based upon an averaging of mining industry contribution to the regional market. While the mining component of the economy fell, tourism held its own. However, tourism doesn’t affect the Iron Range directly, because mining has impacted the landscape, leaving behind few tourist destinations. These kinds of economic issues must be part of the socioeconomic record set forth in the DEIS. Furthermore, the socioeconomic impact chapter needs to include some kind of market analysis that covers speculation, hedge funds, and stockpiling as part of price manipulations in the copper/precious metals market. The ores of the Duluth Complex are extremely low grade, making them extremely susceptible to price changes. Company bankruptcy places the burden of environmental clean-up on the taxpayer. The agencies performing this DEIS have a responsibility to the taxpayers of this state to insure that this kind of mining is sustainable in the marketplace and that companies are required to post financial resources up front to ensure that any clean-up costs from metallic sulfide mining will be paid for by the company, not the taxpayer, should the company go bankrupt or otherwise close with a one to twenty year time frame. The politics and the economics do not justify the opening of a sulfide mining district in northeast Minnesota. Agency heads who truly understand this issue, although pushed into permitting by political pressure, bear the burden of sacrificing the Arrowhead Region of Minnesota to foreign mining companies.	SE6
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Comment ID	Comment Text	Theme Codes
19503	<p>CARBON FOOTPRINT OF POLYMET’S OPERATIONS This issue must have its own chapter within the DEIS. The carbon footprint must begin with the loss of forests and wetlands on the proposed PolyMet mine site, and include the fact that wetlands would be lost in St. Louis County, but “preserved” in Aitkin County. This results in a release of CO2 to the Arrowhead Region, and a loss of carbon sequestration. The mine site would also destroy forests and their carbon sequestration role. The mining of less than 1% ores results in 99% waste rock. This chapter must address how much carbon would be released into the air in order to mine 99% waste rock. This would start with the amount of carbon this is released in constructing the large machinery that is needed for mining, including trucks, tires, drills, blasting equipment, railroad equipment, plant equipment, etc. The record must include the amount of CO2 that would be released from the use of this equipment, and also from the operations of the plant and hydromet/autoclave. Additional information needs to be compiled on the release of CO2 as limestone (200,000 tons per year) and plant chemicals are mined, produced, and railed or otherwise transported into the area. The record needs to include CO2 released from the vehicles of the workers as they commute to the plant/mine site. Since this is a rural area, all workers would commute. Next the record must track the shipping out of the semi-finished product, first by rail to Lake Superior, and then by barge on the Great Lakes and by ocean going vessel to China. This part of the carbon record contains how much CO2 would be released from the mining operations. Next, the amounts of metals that would be used in wind turbines or parts, solar parts, or hybrid or electric vehicles or vehicle catalytic converter parts must be calculated as a carbon offset. The shipment of these devices back to the United States, and projected shipment of the products across the United States must then be calculated and subtracted from the carbon offset. This figure would then be compared to the original CO2 figure from the mining operations to determine whether PolyMet’s mining operations would leave behind a positive or negative carbon footprint. If the result of this carbon footprint study results in PolyMet leaving behind a global warming footprint, then this project must be scuttled. It will not be sustainable in the future economy. This study must be conducted by an independent consultation agency. Al Trippel and his ERM agency must be disqualified, due to conflict of interest regarding the Back Forty mining project. Barr Engineering must be disqualified, as they represent PolyMet. This DEIS must include studies made by our own agencies of changes in plant species and wildlife related to climate change within our own Arrowhead Region. The public perception is that the DNR and USFS have personnel in the field who are documenting such changes and making recommendations to preserve our natural biodiversity. The public expects that such documentation be a part of this record. Our tax dollars are funding the jobs of personnel within these agencies; their expertise needs to be included within this DEIS.</p>	SE3,G2A,G8C
19503	<p>I am sending these comments and concerns in regard to the Draft Environmental Impact Statement for the proposed Polymet mine in Minnesota. I've been advised it helps to mention specific pages where I have concerns, but there are few pages that do not raise concerns. I believe the DEIS is inadequate throughout.</p>	G8
19504	<p>First, it does not seem logical that this DEIS is being commented on while the surface rights (in the Superior National Forest that are needed for an open pit mine) have not been fully and/or officially obtained. It also does not seem logical that many issues should rely on future monitoring to detect impacts, when there are already impacts that are not being properly monitored now. The recent notice of a citizen suit concerning the leaking tailing's pond at the LTV site must be addressed before future impacts from the Polymet operation can be seriously measured. This becomes even more of a concern when the DEIS does not supply adequate information on ground and surface water, nor an initial determination of the Project's area of influence on wetlands. DEIS repeatedly states issues will be answered later in the permitting process. The DEIS' purpose is to evaluate these questions in the D The EIS.</p>	PRO3
19504	<p>Since the DEIS does not adequately measure the problems left by past operations, it makes it impossible to estimate future impacts--or to hold Polymet financially liable if/when problems occur in future operations. Financial liability must also be addressed in the DEIS in order to measure whether there are better alternatives to open pit mining and the use of a tailings pond that is already leaking. I'm not a chemist or geologist, but these appear to be elemental omissions.</p>	PD3,G9

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19505	Reserve Mining was required to stop dumping tailings in Lake Superior in the 1970s to protect the public drinking supply. Those tailings were supposed to sink into a deep part of the lake and stay there—they didn't. Tailings ended up in the drinking water in Duluth and elsewhere. The cost to Reserve Mining to move their tailings' pond on land has been blamed for their bankruptcy just a few years later. The DEIS need thoroughly address the stability of the existing tailings pond Polymet plans to use. Will adding more tailings to it potentially cause it to fail, potentially creating an enormous spill of toxic material? The DEIS needs to spell out who will pay for cleanup if it does fail. According to numerous regulators, the state of Minnesota gave assurances to the mining company that took over after Reserve left, that they would not be liable for the environmental problems left by Reserve. This is another example why relying on future monitoring instead of measuring the current conditions could be a recipe for disaster--and an unknown expense for the taxpayers of the state.	ALT8,PD4
19505	The DEIS cumulative effects analysis also fails to address the asbestos-like mineral fibers found in the ore in the area. These have been identified in the Hoyt Lakes community water supply and have also been an issue in regards to fugitive dust emissions at the Peter Mitchell Mine and Northshore mining--and others-- including LTV.	AQ1,AQ4C
19506	Fugitive dust created by the blasting, moving, and crushing of rock must be addressed. Suppression of dust could create more leaching problems since it is often done with water. Testing by the Minnesota Department of Resources has shown water and oxygen are not a good mix for this type of ore. Dust escaping from trucks, trains, or ships used to transport ore and concentrate must be addressed. This is of special concern because other companies may be using the old LTV site for processing. Since there are currently taconite pellets littering the rail tracks in the area, it is apparent future leaks and spills of ores and concentrate are inevitable, including fine particles escaping into wetlands, rivers, lakes--and workers' lungs.	RFL,AQ1
19507	A recent report by the United States Army Corps of Engineers on the corrosion of steel pilings used for docks, bridges, and bulkheads in the Duluth Superior harbor, highlights the questions that remain unanswered in the DEIS. The study indicates copper in the water in the harbor is partly to blame for potentially tens if not hundreds of millions of dollars in replacement cost to stabilize and/or replace existing steel pilings. The study also mentions the history of Cu enrichment in sediments along the shore of Lake Superior and mentions metal rich ore as a source. If more metal rich ore is moved into this environment, will it make it even more expensive to solve and fix this problem? Shipping is extremely important to many businesses in the region--including mining. Who pays to fix present and future problems in the harbor? I'm concerned it will be taxpayers--and not only those from Minnesota.	G9
19508	Because of an apparent lack of transparency by the Minnesota Department of Health, the University of Minnesota is currently studying the health effects of taconite ore dust on workers in northeast Minnesota. This issue is decades old and has been kicked down the road for most of that time. The lack of details on past and future mining impacts in this DEIS further erodes Minnesota's past reputation for good government.	G8
19509	My name is Matt Tyler. I live in Finland, Minnesota in Lake County. I am an angler and avid wild rice harvester. Wild rice and fish are a significant part of my diet. Because I rely on these natural resources for sustenance, I take the protection of water resources in my region very seriously.	G7
19510	I have reviewed the Polymet-NorthMet DEIS and many of the supporting technical documents, and have concluded that it is scientifically inadequate. I share many of the concerns raised in the Cooperating Tribal Agency findings, and have identified additional deficiencies. I describe three significant problem areas and their possible solutions below.	G8

*Alphabetical by sender's first name*

<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
19511	<p>Wetlands are asserted to be unconnected to groundwater without reference to field data and despite important DNR literature to the contrary. The DEIS asserts in several places that wetlands and other surface water features near the mine site have little hydrologic connectivity to groundwater. “Based on this empirical evidence as well as prior studies (Adams et al. 2004, Siegel and Ericson 1980), it appears that the ability of the poorly sorted surficial glacial sediments in the Project area to transmit water is highly variable and to a large extent surface water features, including wetland bogs, are isolated from, and not affected by, groundwater drawdown from nearby dewatering activities impacts to wetlands and other surface water features at the Mine Site (Adams and Liljegren 2009; and Adams 2009).” (DEIS p. 4.1-61-62) These assertions were made primarily on the basis of two emails from a consultant despite well reasoned arguments to the contrary by tribal cooperating agencies, who advocate on-site examination to determine connectivity (DEIS p. 4.1-61). Furthermore, the discussion in the DEIS is vague and carelessly refers to surficial and bedrock groundwater interchangeably (DEIS p. 4.1-62). Together this suggests a deliberate attempt to confuse the public and minimize the potential effects of pit dewatering and groundwater pollution on wetlands. The assertion that surface water features have little connectivity to surficial sediments (i.e. the surficial aquifer) is contradicted by the SWMM hydrologic model (RS-73A). The model showed that groundwater flow through the surficial aquifer is a significant contributor to Partridge River flows. When the groundwater component of the SWMM was turned off, the model hydrographs were “much more ‘flashy’ than the ones recorded at the USGS gauging station” and “did a poor job in matching base flows.” (RS-73A p. 25). Detailed Forest Service soil maps of the mine site (RS-73 Figure 8) show that organic peat soils are intermingled at a relatively fine scale with loamy lowland and sandy upland soils. The presence of loamy lowland soils between peat and upland soils suggests that peat is not accumulating at the wetland edges because decomposition is possible there. This would tend to suggest that the wetlands have a more neutral pH and at least some connectivity to the surficial aquifer. Some of the potentially impacted wetlands at the mine site have been classified according to the Cowardin system (DEIS Table 4.2-3). While most of the wetlands are coniferous bogs, many other types are present, including alder thickets, wet meadows, marshes, and hardwood swamps. The latter types of wetlands are more generally indicative of surficial groundwater inflow, as they are systems where decomposition is more prominent than peat formation. (MN Dept. Nat. Res. 2003) Northeastern Minnesota’s wetland communities have recently been described and classified in Field Guide to the Native Plant Communities – The Laurentian Mixed Forest Province (MN Dept. Nat. Res. 2003). Based on hundreds of field plots and many detailed studies, the guide has classified forested coniferous peat forming wetlands in Minnesota’s Laurentian Mixed Forest ecological province into eight native plant communities. Based on the distribution maps in the guide, below are the six types that could occur at the mine site and their connectivity to groundwater: • FPn62 Northern Rich Spruce Swamp (Basin) – may be connected to groundwater • FPn63 Northern Cedar Swamp – connected to surficial aquifer • FPn81 Northern Rich Tamarack Swamp (Water track) – connected to groundwater • FPn82 Northern Rich Tamarack Swamp (Western Basin) – may be connected to groundwater • APn80 Northern Spruce Bog – isolated from groundwater • APn81 Northern Poor Conifer Swamp – often adjacent to communities influenced by groundwater Clearly, groundwater flows are potentially important in five of the six types of coniferous peatlands, regardless of the presence of water</p>	WR2I,WE1,WE2

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<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
19512	<p>Partridge River hydrologic models do not accurately reflect known precipitation variability. The U.S. EPA Storm Water Management Model (SWMM) used to model the hydrology of the Partridge River watershed was calibrated using stream gauge and precipitation data from a period that is not representative of the long-term precipitation pattern in the region. “In order to assess the representativeness of the 1978-1987 period of simulation, precipitation occurring during this period was compared with the 112-year period of record (1896-2008) for Northeast Minnesota available from the National Climatic Data Center (<a href="http://www.ncdc.noaa.gov/oa/climate/climatedata.html">www.ncdc.noaa.gov/oa/climate/climatedata.html</a>) as a surrogate for the relatively short 10-year period of flow records for the Partridge River. The data show that the 1978-1987 period included one very wet year, several fairly average years, a relatively dry year, but no very dry years. Therefore, there is some uncertainty regarding the models predictions of dry extremes.” (DEIS, p. 4.1-97) My own analysis of the same data from the National Climatic Data Center confirms this and emphasizes the importance of including very dry years. Very dry years have been relatively frequent in the past 20 years. Four very dry years (&lt;24” precipitation) occurred between 1989 and 2009. Furthermore, extremely dry years (&lt;19” precipitation) have occurred twice in the last 100 years, most recently in 1976. In contrast, there was 24.6” of precipitation during the driest modeled year (1980). Consequently, the 30-day low flows used to represent “dry” conditions are probably not low enough. If, as the DEIS states, 30-day low flow periods represent a worst-case scenario with the highest potential for surface water quality impacts (DEIS, pg. 4.1.110), then the omission of very and extremely dry years means that the worst case scenario is not realistically “bad” enough. This is unacceptable for a project that has potentially very serious impacts. To be credible, the final EIS must include modeling of very dry and extremely dry years. This could be done by running a continuous simulation of the watershed using the calibrated model with precipitation data from water year 1970-1971 through water-year 2008-2009, and then selecting the lowest 30-day low-flow value from this period. This period would include one extremely dry year (1976 - 18.3”), and four very dry years (1989 – 23.9”, 1997 - 22.0”, 2003-23.7”, 2006 - 22.6”). The 1970-2008 continuous model period should improve prediction accuracy over running individual very dry and extremely dry water years because longer runs are thought to better represent the “multi-annual variability in soil moisture conditions across the study watershed” and minimize the impact of initial model conditions (RS73A, p. 28). This longer run could also be used to revalidate the model over the 1978-1987 period for which stream gauge data is available. Precipitation data from 1970-2008 is available from the Tower (ID: 218311) and Brimson (ID: 210989) weather stations, and the combined Ely (ID: 212543) and Winton Power Plant (ID: 219101) weather stations.</p>	WR3J

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**Comment ID    Comment Text**

**Theme Codes**

19513 groundwater pollutant transport models fail to include important hydrologic processes and variation in soils and precipitation. The models used to assess the movement of waste rock leakage and mine pit water in groundwater at the mine site (DEIS 4.1 p.73-80, RS-74A) do not accurately reflect the heterogeneity of the soils at the site, the three dimensional nature of groundwater flow, exfiltration, or the temporal variability of precipitation. The models used to simulate groundwater quality at the mine site are “simple two-dimensional cross-section models” that assume no lateral flows (RS-74A, p. 83). In essence, these models can be thought of as a series of “tubes” of layers of soil and bedrock through which water and pollutants (solutes) move between the waste rock piles and the Partridge River. These “tubes” are referred to as pathways in the DEIS. Six pathways were modeled: one pathway between each of the five waste rock piles and the Partridge River, and one pathway between the west pit and the Partridge River. The head of the pathway for the category 4 lean ore pile began at the rim of the east pit, so seepage from the pit was also modeled. Each of these pathways was 10 meters wide (RS-74A, Table 6.2), with five 1m deep soil layers (RS74A, p. 84-85) along the entire length. Soils were modeled with a constant conductivity of 9.3 ft/day, which is based on the average sampled conductivity of wetland soils. Recharge from precipitation was set to a constant 1.5”/yr (RS-74A, p. 85), which is the average yearly infiltration for glacial deposits in the calibrated SWMM model. The scientific literature shows that such a simplistic model is of little predictive value when there is high spatial variability in soil and/or bedrock conductivity and porosity. It is well known that spatial variability in soils and bedrock controls groundwater flow and solute transport, and that the incorporation of variability in models is generally required to predict solute transport (Mackay et. al 1986, Guven et al. 1992, Mas-Pla et al. 1992, Kapoor and Gelhar 1994, Phanikumar et al., 2005, Salamon et al., 2007, Hu et al. 2009). Although there are still many challenges, methods to characterize and incorporate heterogeneity have been developed over the last 30 years (e.g., Dagan, 1989, Gelhar, 1993, Cushman, 1997, Hyndman et al., 2000, Zhang, 2002, Rubin, 2003 and Meerschaert et al., 2006). Soils at the mine site are clearly very spatially variable, which indicates a high degree of spatial variability in the hydrologic conductivity and porosity of the surficial aquifer (RS-73A, Figures 8- 9). This is also clearly evident in the wide range of soil types, soil depths, and conductivity values sampled at the site: “The bouldery drift of the Rainy Lobe that covers the Mine Site has an estimated hydraulic conductivity range of 0.1 to 30 ft/day (Siegel and Ericson, 1980). Lab permeameter tests on the silty sand from drill core and test trenches at the Mine Site found the hydraulic conductivity values to be 0.00043 to 0.0081 ft/day, while field testing of the various unconsolidated deposits found a range in hydraulic conductivity values of 0.012 to 31 ft/day (see RS02). The ability of this unit to transmit water is highly dependent on the thickness of the sediments (Adams et al., 2004; Siegel and Ericson, 1980).” (RS-74A p. 15-16, emphasis added) “The surficial sediment across the site are relatively heterogeneous, ranging from very dense clay to well-sorted sand” (RS-2 p. 13). Furthermore, soil depth varies considerably throughout the site, ranging from 0 to 50 feet, but generally less than 25 feet (RS-2 Table 6, RS-74A p. 14-15). These features prompted the author of RS-2 to conclude that, “the ability of the surficial aquifer to transmit water was highly variable depending on location” (RS-2 p. 13) The model clearly does not reflect the known spatial variability in the surficial aquifer (soils) at the mine site, and consequently has little predictive value f

WR2A

19513 My concerns about sulfide mining are based, partly, on the demonstrated results of taconite mining in Minnesota. First, the tailing basins of several mines in the State leak and discharge chemicals in excess of the State standards. Second, these excess discharges are varianced by the State without penalty to the mines. Little, if any efforts are made to enforce the existing standards. No shutdown of generating additional pollution is being made. This inaction sets the behavior pattern of the taconite mines regarding the standards. If this performance is tolerated by the State and citizens, there is no assurance that Sulfite mining, being more environmentally dangerous, will be held to the standard. Second, there has never been a sulfide mine that has not polluted the air and water with its discharges. The proposed Polymet mine is upwind of the BWCA and the watershed goes either back into the BWCA or into Lake Superior. Both air and water emissions beyond the standards are possible with potentially disastrous results, killing plants, fish and polluting whose effects will last many years past the active life of the mine. Third, evidence of past pollution by sulfide mines have resulted in State money being expended in the cleanup with taxpaying citizens bearing the brunt of cleanup. In some cases, no cleanup is attempted leaving a permanent scar on the earth. There is no evidence that sulfide mining can be accomplished without pollution. Moreover, the State of Minnesota has not demonstrated a will to stop the pollution of existing mine operations. I am opposed to sulfide mining in my neighborhood for these reasons and I will have to suffer the consequences.

G2B,G4A,G7A



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Comment ID	Comment Text	Theme Codes
19514	The 1854 Treaty Authority would like to highlight a number of additional resource concerns related to the proposed project, even though comments made on the preliminary draft EIS still hold value and are relevant to this version of the EIS.	G8
19515	Under the proposed project, it appears that long-term or even perpetual water treatment, site maintenance, and monitoring will be needed after closure to protect the environment and meet water quality standards. We don't believe that this meets the goal of a maintenance free closure. Specifically, issues remain in regards to the stability of the tailings basin, and the effectiveness of the permeable reactive barrier (PRB). It is untested and has not been demonstrated to work in any similar situations. In addition, the PRB would need periodic recharging/replacement which would need to occur at regular intervals for as long as water treatment is needed.	WR3I,PD4
19516	The waste water treatment facility (WWTF) and the passive wetland treatment system might also not be as effective as predicted. The EIS states that the collected Hydrometallurgical Residue Cell drainage would be treated by the WWTF until approximately year 34, but no discussion of the maintenance and repair of the caps used on the tailings basin is included. Infiltration from precipitation will increase as the caps age and develop additional leaks. With continued flow of water through the tailings basin, we cannot see how the assumption of treatment ending at year 34 can be justified.	WR2G,WR3I,WE6,PD3,PD
19516	Also in regards to the WWTF, the preliminary draft EIS states: "Without a demonstration of effectiveness, the wetland treatment must be assumed to be ineffective due to short-circuiting. The primary objectives for the WWTF are to ensure that the treated process water is of sufficient quality to allow reuse in the Beneficiation Plant and to help meet groundwater standards for groundwater seepage from the tailings basin. The treated process water quality design targets reflect a combination of state surface and groundwater standards, although the most restrictive of the two is not always proposed (RS29T, Barr 2007). The WWTF effluent represents the primary source of antimony, arsenic, and sulfate to the tailings basin pond and seepage from Cells 1E/2E during mine operations (Wenigmann, Pint, and Wong 2009). Since the WWTF effectiveness would be an important factor affecting the quality of groundwater seepage from the tailings basin, we recommend monitoring of the WWTF effluent as a leading indicator of potential groundwater issues at the tailings basin (Section 4.1.3.5). " Nothing has changed in regards to the design of the WWTF to the draft EIS, and this statement quote still has relevance. The draft EIS also mentions the passive treatment ability: "Constructed wetlands performance, however, is not sufficiently reliable to function as the primary treatment measure for assuring consistent year-round compliance with water quality standards." This version of the EIS leaves out the following sentence from the previous version: "Furtlter, the assimilative capacity of these wetlands is limited and they would presumably require long-term maintenance to ensure its effectiveness." The EIS has not addressed legacy issues with the site and seems to minimize potential issues. Page 4.1-19, states there has "not been any documentation of any offsite contamination, and the extent of onsite contamination from the legacy sites appears to be limited to localized soils and possibly groundwater. "	WR1E,WR2G

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Comment ID	Comment Text	Theme Codes
19516	We appreciate the effort and attention wild rice received in preparing the draft EIS. On page 4.1-47 it states that Minnesota Rules, part 7050.0470 does not designate wild rice waters along the Partridge River. We would like to note that these rules do not attempt to identify all wild rice waters, so care should be taken on how this list is referenced or utilized. The Natural Wild Rice in Minnesota report included an attempt to summarize all wild rice waters in the state, but is an ongoing work in progress as better or new information is acquired. Field work conducted in 2009 by the project proposer did identify a number of rice stands in the Partridge River. In addition, the 1854 Treaty Authority also investigated the river from approximately Colby Lake downstream to its confluence with the St. Louis River in August 2009. Several areas containing wild rice identified in the draft EIS were confirmed during this survey. However, we also documented additional areas of rice in the section of river downstream of county road 110. Wild rice was also identified in the St. Louis River near the county road 100 crossing, and in Second Creek where it discharges into the Partridge River. Wild rice growth can be affected both by water quantity and water quality. A water quality standard for sulfate of 10 mg/L exists for waters which support wild rice. As shown in Table 4.1-67, measured sulfate concentrations exceed this standard in several waters containing wild rice. It is our understanding that this standard must be met in areas where wild rice is found (and perhaps historically found as well). The EIS states that sulfate levels in Partridge River are approximately 149 mg/L downstream of Second Creek. Impacts from this level of sulfate on the rice beds in the Partridge River are unknown, but sulfates in this range could be or like ly are affecting wild rice growth and success. In fact, recent work completed at the University of Minnesota Duluth indicates impacts on wild rice from elevated sulfate levels. Additional discharges from the project would increase sulfate loading and/or concentration levels in these waters. We are interested in following how water discharges would be permitted in relation to the wild rice water quality standard.	WR4F
19518	The 1854 Treaty Authority still has concerns about the National Ambient Air Quality Standards (NAAQS) and Prevention of Significant Deterioration (PSD) Increment Impact Analysis. On page 4.6-13 its states that modeling analysis done to date does not reflect the current Proposed Action for the tailings basin. Those changes represent a 19% increase in PM 10 and 5% increase in PM2.5. Even though the EIS is supposed to include all current and reasonably foreseeable projects occurring in the area, the Mesabi Nugget Phase II project and the Keetac Expansion Project have not been included in the modeling analysis. This is troubling because modeling that has occlrrred to date show that 24-hr PM IO and PM2.5 NAAQS impacts for the Plate Site assessment were modeled at 97% of the standard (page 4.6-13). The modeling for the maximum 24-hour PM 10 impacts in the Mine Site approaches the Class II Increment for PSD (29 mg/m3 versus 30 mg/m3), and the 24-hr PM2.5 Class II NAAQS modeling shows the total plant, minc, and background total equaling 34 ug/m3 out of the standard 35 ug/m3. With the Mesabi Nugget Phase II and the Keetac Expansion Facility emissions added in as well, the modeling might show violations of the standards. Table 4.6-22 is still missing the Mesabi Nugget Phase II project, the Keetac Expansion Project, and the Essar Steel Facility. Due to this, the increase of potential mercury emissions will be considerably higher.	AQ4B
19518	As mentioned earlier, previous comments and language submitted by the Tribal collaborators are still relevant in addressing issues in this version of the EIS. Specifically in the ail' section, we have question of whether fugitive emissions will be reactive and to what extent in generating acid runoff. The proposed action calls for water or dust suppression being used on all unpaved roads at the Plant Site resulting in a 60% reduction in emissions, and more controls on the roads to the tailings basin with an even greater estimated reduction of 80%. We would like to further understand what additional controls are forecasted to be used on the roads used to transport construction materials at the tailings basin, and if these controls should be used on all roads.	PD2,PD5,AQ1

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Comment ID	Comment Text	Theme Codes
19518	Nearly all of the wildlife impact analyses that were presented dealt with species of special status (endangered, threatened, special concern, USFS regional forester sensitive, etc.). We understand that there is a trend to manage for multi-species and indicator species, yet the importance of moose and other game/furbearer species to tribal interest demands a high enough priority that these species should be addressed specifically. Certainly we support protection of species of concern as well, but others are often of high priority, particularly for a project that is impacting species and habitat permanently. Regarding access, in planning for reclamation phase, it would nice to see options that would allow for some public access to the site. Successful reclamation could make the site a valuable treaty-right or recreational resource in the future. Furthermore, some disagreement may exist on the analysis of wildlife corridors. Page 4.4-30 of the EIS states: "Emmons and Olivier may have underestimated the number of corridors by treating all historic mining features as impediments to travel and not accounting for closed mines, revegetation, and natural succession." As that study was peer reviewed and Barr Engineering's did not undergo the same rigorous review, it is a concern that Barr's study may have over-estimated the ability of some wildlife to bypass what they term "moderate impact features".	WI3,WI5
19518	The proposed project would have significant impacts to wetlands, with approximately 1552 acres impacted from the total project. If the project moves forward, it is our understanding that this would be the largest wetland impacts ever permitted in the region. Much of the planned mitigation would occur outside of both the St. Louis River watershed and the 1854 Ceded Territory. This raises concern if resources within the watershed and those guaranteed by treaty with the United States are being properly preserved and protected. Other tribal collaborators have raised concerns about the predicted impact of wetland drawdown and its effects on the surrounding area. The wetland delineation has had questions raised about the proper classification of wetlands and their dependency on groundwater upwelling. Wetland impacts could even be greater than what is stated in the EIS.	WE1,WE2,WE3
19518	No matter how the proposed project is viewed, it would result in a permanent loss or change to treaty guaranteed resources and the exercise of treaty rights. Any type of land exchange with the U.S. Forest Service would not directly address this impact. As the draft EIS states, the tribes view natural resources as cultural resources. It is impossible to separate the two. Further consultation required by federal agencies is needed to better understand effects to cultural resources, and to properly plan for avoidance or mitigation.	PD7,G2B
19520	The EIS states that financial assurance requirements for the project are not included in the document, but will instead be determined during the permitting phase. We are concerned about this approach given the potential for long-term/perpetual treatment, maintenance, and monitoring that may be needed from the proposed project. The environmental effects, expensive cleanups, and bankruptcies at other precious metal mines raise a significant red flag. This project may stand on its own, but completing financial assurance disclosure during the EIS process will help understand the needs to safeguard the environment and protect the public from significant expenditures.	PD1
19520	Finally, an additional consideration along these lines is the possible future need to complete a Natural Resource Damage Assessment and Restoration (NRDAR) claim against the project. In the event that natural resources are injured from a project (perhaps likely in this case), the NRDAR process attempts to make the public whole for its losses. The public is compensated for lost resource services, typically through the identification and completion of restoration projects. Depending upon the impacts, this can be a significant expense for a company. It is necessary now to visualize the potential need for this process down the road, and we believe it is important to build in the necessary monitoring for baseline data before and during operations.	CR1
19521	We all have concerns about Sulfide mining in Minnesota. We are particularly concerned about the sulfide mining on 6,700 acres in the Superior National Forest and other public lands. We are concerned about the impact these mines have on surrounding bodies of water. Upon investigation, we have found no evidence of any clean sulfide mines in existence now or in the past. Furthermore, the DEIS has not found any clean Sulfide mining operations. We feel that the evidence we have reviewed suggests that it is not possible to conduct Sulfide mining with out a devastating and incapacitating impact to the surrounding environment and ecosystems.	EOO,PD1,PD3,PD4,PD10

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Comment ID	Comment Text	Theme Codes
19522	As a family we have been harvesting wild rice in the true Native American tradition for 30 years in many areas of Minnesota. We have great concern about increasing Sulfate concentration in areas surrounding the sulfide mine by 20 mil./liter. Wild rice cannot survive in water when it's levels of Sulfates rise above 8 mil/liter.	WR4F
19523	Additionally it seems Tribal rights guaranteed by treaties with the federal government will be violated by the destruction of wild rice in the area around the proposed Sulfide mine.	G3,CR4
19524	Primarily we believe that the only way to properly protect the fragile and unique ecosystems that exist in the area surrounding the proposed sulfide mine is to not build one in the first place. However, if the mine must be built, we strongly believe a thorough analysis of the following aspects of the proposed sulfate mine should be completely addressed before the sulfate mining commences in Minnesota:	G8
19525	Perpetual financial guarantees to the public for any clean up created by sulfide mining.	PD4,PD8
19526	Analyze impact of increased mercury on the water and air as it affects fish & wildlife.	WR4B,FM1,AQ6A
19527	Protect tailings and rock piles from ever leaking or collapsing and spilling pollution into rivers, Lakes, water supply, and wetlands.	WR2D,GT2
19528	Consider extensive Public input.	EOO
19529	Several sections of the DEIS are incomplete and deficient and should be revised. This should be done under the NEPA aegis and not left to the permit process. The DEIS also presents a frightening specter of massive wetland loss, massive waste rock piles and tailing ponds, polluted surface and groundwaters, guaranteed acid mine drainage, and the likely need for perpetual treatment of waste streams. (Read massive public bailout)	PD10,PD3
19530	First and foremost, the proposed project lands do not even belong to PolyMet. The NorthMet DEIS assumes the successful completion of a land exchange of 6,700 acres between USFS and PolyMet. This is a connected action and should have predated the DEIS. A land exchange would need to go thru an EIS and the NEPA process. This is not a done deal because it also involves the transfer of public lands with retained usufructory rights by the Tribes under the 1854 Ceded Territory. The larger question is should the land be used for mining purposes in the first place. In 1997 the area of the mine site was studied by the USFS in its Forest Plan Revision process and found to be worthy of permanent protection as a " candidate Research and Natural Area". "Features that gave this area a high ranking were its watershed integrity, the size of its wetlands, the presence of riverine ecosystems, and the large amount of interior forest present." (Friends of the Boundary Waters Wilderness (FOBW) report: "PolyMet Mine Site: Important Natural Area Will Be Obliterated for Dangerous New Mine", June 2009) Subsequently, the Minnesota DNR, The Nature Conservancy and the North Central Forest Experiment Station also cited the need to protect this area. However, when the USFS Forest Plan Revision was released in 2004, the area was not designated as a " candidate Research and Natural Area". Interestingly, the initial scoping for the PolyMet Project began in 2004...	PD1
19530	The NorthMet Mine would be situated in an area of wetlands known as the "100 Mile Swamp". "The mine would occupy and destroy over 1,000 acres of that peatland... Destruction of the more than 1,000 acres of peatland by PolyMet's proposed mine would release approximately 2.7 metric tons of CO2 to the atmosphere. This would increase Minnesota's total annual emissions of CO2 by two percent (above 2005 levels)" (FOBW report: "PolyMet Mine's Destruction of Peatlands Would Significantly Increase Minnesota's Carbon Emissions", June 2009). The depletion of this carbon reservoir is contrary to Minnesota's comprehensive plan to reduce emissions of greenhouse gases. The Minnesota Terrestrial Carbon Sequestration Project, an interdisciplinary group commissioned by the Minnesota State Legislature, cited as its number one recommendation: "Preserve the existing large carbon stores in peatlands and forests by identifying and protecting peatlands and forests vulnerable to conversion, fire, and other preventable threats." (FOBW, <i>ibid</i> ) In <i>MCEA v. Holsten</i> (2008), Minnesota's environmental review laws were extended to include greenhouse gas emissions and climate change.	AQ3

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<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
19531	<p>It is incomprehensible that the DEIS is largely silent on the question of financial assurance. In a landmark study: “Comparison of Predicted and Actual Water Quality at Hardrock Mines: The Reliability of Predictions in Environmental Impact statements”,(Kuipers, Maest and associates, 2006), Kuipers found: “Of the 25 case study mines, nine (36%) have developed acid drainage to date. Nearly all mines (8/9) that developed acid drainage either underestimated or ignored the potential for acid drainage in their EISs. Of the 25 case study mines, 19(76%) had mining-related exceedances in surface or groundwater. However, nearly half of the mines with exceedances (8/19 or 42%) predicted low contaminant leaching potential in their EISs. The constituents that most often exceeded standards or that had increasing concentrates in groundwater or surface water included toxic heavy metals such as copper, cadmium, lead, mercury, nickel, or zinc (12/19 or 63%), arsenic and sulfate (11/19 or 58% each), and cyanide (10/19 or 53%).” Kuipers has also estimated the taxpayer liability for clean-up costs at closed hardrock mining sites in the U.S. to be upwards of \$12 billion. The average acreage per mine involved is 1,800. The current cost for financial assurance where acid drainage has been identified is \$80,000 per acre. We can see that it is likely that surface and groundwater will be affected; it is likely that there will be acid mine drainage; and the costs of clean-up will be dear. It is recommended that state and federal agencies hire a professional consulting firm to calculate mine reclamation costs. A detailed mine closure and reclamation plan with realistic financial cost predictions is necessary in the DEIS. The current DEIS is deficient.</p>	PD4

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**Comment ID    Comment Text**

**Theme Codes**

19531 The DEIS contains several statements that lead to the conclusion that waste streams will need to be treated for tens to thousands of years. “Water draining from stockpile liners and water collected in the stockpile foundation underdrains after Closure would be monitored, returned to the WWTF for treatment if necessary, and ultimately discharged to the East Pit treatment wetlands.” (DEIS 3-42) “Once the entire facility is closed, any water collected by the seepage collection systems would be returned to the pond until it can be demonstrated by water quality that it is no longer necessary to actively manage Tailing Basin seepage.” (DEIS 3-45) “Inspection, maintenance, and reporting activities would be required at the Mine Site and Plant Site after the Closure activities are complete... These Post-Closure and reclamation activities would be expected to be ongoing until such time as the various facility features are deemed environmentally acceptable, in a self-sustaining and stable condition.” (DEIS 3-49) “Other continued maintenance activities that would continue throughout Closure and Post-Closure would include repair of stockpile and tailings dike slope erosion, wetland and outflow structure up-keep to ensure they are functioning properly, woody species and tree removal on stockpiles and hydrometallurgical cells with membranes, tailing pond maintenance, and seepage collection from the Tailings Basin.” (DEIS, *ibid*) “The generation and disposal of tailings in the Tailings Basin would end in Year 20, but PolyMet proposes to retain a permanent pool of water, primarily from precipitation with Colby Lake withdrawals as a backup, over a portion of the Tailings Basin for water quality purposes. All collected surface seepage would be pumped back into the Tailings Basin until the seeps dry out or water quality discharge limits are met, except for Second Creek where the seepage recovery system would be removed at Closure. The collected Hydrometallurgical Residue Cell drainage, which previously was being used at the Plant Site, would be pumped/trucked to the WWTF for treatment until approximately Year 34, when the drainage is expected to end.” (DEIS 4.1-55) Dr. David Blowes, a geologist from Ontario, Canada and the world’s foremost authority on mining liner systems, stated that all liners leak, usually at an average of 8 years post-installation. (Presentation at the University of Minnesota, Duluth, November, 2008) Therefore, pumping drainage from the Hydrometallurgical Residue Cells would need to be continued indefinitely. “The Post-Closure period is considered to begin once the West Pit begins to overflow and drain into the Partridge River, which is estimated to occur around Year 65 (Figure 4.1-21) The West Pit overflow would not occur until several decades after mining ceases. PolyMet would continue to collect and treat leachate from the permanent waste rock stockpiles at the WWTF until monitoring shows that the treatment is no longer necessary to meet water quality standards.” (DEIS 4.1-56) But, according to Table 4.1-45 (p. 4.1-80), the stockpile leachate is expected to exceed groundwater criteria for “around 2000 years”. “Sometime after the West Pit overflows, the WWTF would be decommissioned and the constructed wetlands would indefinitely provide the primary treatment of waste rock stockpile leachate.” DEIS 4.1-111) “Constructed wetlands performance, however, is not sufficiently reliable to function as the primary treatment measure for assuring consistent year-round compliance with water quality standards.” (DEIS 4.1-113) “The best policy for an agency with the responsibility for water protection is to deny any application for a mine that includes a requirement for long-term water treatment. If a prediction of an end date on which treatment will no longer be required can not be made with a reasonable degree of certainty, then a discharge should not be allowed to begin. The long-term risk to the public, who is the ultimate guarantor for

WR2D,WR3I,PD3,PD5

19532 The total direct and indirect impacts to wetlands is 1522 acres. The vast majority of them are rated as high quality wetlands. PolyMet plans are to mitigate 1,287 acres. Given required mitigation ratios, this is a 475 acre shortfall. All but 175 acres would be outside the Partridge and Embarrass Rivers watersheds. These are the largest wetland impacts that have occurred in these watersheds. The mitigation would also occur outside the 1854 Ceded Territory. This would result in the loss of treaty-guaranteed rights to access the wetlands and harvest natural resources within the 1854 Ceded Territory.

WE3

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
19532	Groundwater and surface water quality would be degraded and in many cases exceed current water quality standards. “Several parameters are predicted to exceed USEPA primary and secondary MCLs and MDH Health Risk Limits at multiple flow paths for various periods and durations.” (DEIS 4.1-78) This refers to exceedances of groundwater evaluation criteria at the Mine Site for arsenic, antimony, sulfate, iron, manganese, nickel, and copper. Table 4.1-45 (p. 4.1-80) predicts these will exceed groundwater criteria for “around 2000 years”. “The West Pit overflow would discharge to an unnamed “waters of the state” and would have to meet effluent limitations based on meeting surface water quality standards... The modeling results suggest that perhaps as many as five parameters (i.e., arsenic, cobalt, copper, nickel, and selenium) could exceed surface water quality standards, in addition to relatively high sulfate concentrations.” (DEIS 4.1-113) See Table 4.1- 64 (p.4.1-114) “Groundwater seepage from the Proposed Action, however, would not be recovered and is expected to range from 1,600 gpm (Year 1) to over 2,900 gpm (Year 20), which would eventually impact surface water quality in the Embarrass River. In addition, liner leakage from the hydrometallurgical cells would seep from cell 2W...this liner leakage is predicted to have a very high sulfate concentration (i.e., over 7,300 mg/L as measured in laboratory testing)” (DEIS 4.1-118) “The Proposed Action would result in increased sulfate loadings via groundwater to both the Partridge and Embarrass Rivers.” (DEIS 4.1-125) Sulfate loading in the Partridge and Embarrass Rivers would be expected to damage wild rice crops and increase the risk of mercury methylation. August and September 2009 field surveys found wild rice at various locations along the Upper and Lower Partridge River, Embarrass River and further downstream in the lower St. Louis River. There is a 10 mg/L sulfate standard in Minnesota for wild rice waters during periods when the rice may be susceptible to damage. Current sulfate levels in undisturbed waters (read absence of mine effluent) on the Partridge River average 5-6 mg/L. Sulfate levels measured on the river downstream of the LTVSMC Tailings Basin average 149 mg/L. The NorthMet Mine’s contribution is predicted to be 174 mg/L (DEIS Table 4.1-96 p. 4.1-188) Current sulfate concentration on the Upper Embarrass River above the Tailings Basin average 4.6 mg/L. Sulfate concentration below the LTVSMC Tailings Basin is 36 mg/L. Under the proposed Action, it would increase to 53 mg/L. This is clearly in violation of the sulfate standard. The MPCA has used the sulfate standard in past permitting activities (MINNTAC Schedule of Compliance, 2008) “There are four lakes downstream of the Embarrass River that are on the 303(d) list for mercury in fish tissue impairment. These lakes stratify, which can further promote mercury methylation. Therefore, increasing the sulfate load from the Tailings Basin could increase the potential for mercury methylation both in the wetlands north of the Tailings Basin and at the downstream lakes.” (DEIS 4.1-126) The Proposed Action would violate section 404 (b) (1) of the Clean Water Act which prohibits permitting when water quality standards are violated or significant water degradation would occurs.	WR1E,WR2D,WR3I
19533	The Canada lynx is protected under the ESA as a federally-listed threatened species. Twenty individual lynx were identified within 18 miles of the Mine or Plant Sites. Potential lynx habitat could be lost for the duration of the mine operations (over 20 years), and an additional 20 years or more after closure before suitable lynx habitat would reoccur at the Mine Site. Wildlife corridors 11 and 12 would see significant impacts and would require mitigation. Corridor 12 (Mine Site) would experience a significant direct loss or fragmentation of wildlife habitat which would impact the ability of many wildlife species to migrate throughout their ranges.	WI1,WI5
19534	The PolyMet Project is predicted to release 8.3 lbs/year of mercury. The mercury TMDL standards require new or expanding facilities expecting to emit more than 3 lbs/year to arrange for a reduction equal to the new emissions from existing sources in the state. PolyMet currently does not have a specific mercury emission control plan and would not be permitted.	AQ5,AQ6A
19535	PolyMet will add 30 tpy of SO2 and 159 tpy of NOX and 1,175 tpy PM10, thus contributing to the predicted failure of the State of Minnesota to meet the current Regional Haze State Implementation Plan goal, which is to reduce emissions from Northeastern Minnesota by 30% over 2002 levels. Amphibole minerals are present in the Duluth Complex and in close proximity to the NorthMet deposit. Nine percent of the fibers collected from samples PolyMet has tested are amphibole minerals which: “could pose a potential public health risk of uncertain magnitude.” (DEIS 4.6-60)	AQ4C,AQ6

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Comment ID	Comment Text	Theme Codes
19536	“Polymet proposes clearing of uplands and wetlands, and a revegetation plan that includes the use of nonnative and potentially invasive species, which would prevent the Project Area from meeting the goals of the MFRC Landscape Management Plan to promote diverse, natural floral and faunal communities and populations and maintain a spatial structure consistent with Northeastern Minnesota ecology.” (DEIS 4.9- 3)	CPLU1
19537	The cumulative impacts of the loss of wetlands, changes in wetland functional values, air and water emissions into these watersheds and long-term maintenance requirements of the PolyMet Project would cause a permanent and irreplaceable loss of cultural resources in the 1854 Ceded Territory. Impacts to the natural resources will disproportionately affect the Tribes due to their subsistence consumption of rice, fish and other wildlife within the 1854 Ceded Territory.	IR2
19537	What impact will the PolyMet Project have on the socioeconomic condition of the East Range? In order to best weigh the pros and cons, economists usually perform a cost/benefit analysis. This was not produced for the PolyMet DEIS. What was provided is an accounting of the direct effect of 448 new jobs and the indirect and induced multiplier effects on employment. The cost of increased public services and protection, adverse economic impacts during temporary shutdowns and closure and the negative impacts associated with the loss of natural resources and environmental degradation have not been addressed. “The challenge represented by metal mining is that it is a landscape-intensive activity that almost always has had a significant negative impact on the natural environment. That means that it has the potential to damage one part of the local economic base, environmental quality, while developing another, the mineral deposit. To the extent that the environmental damage could be significant and permanent while the mineral development, in contrast, is relatively temporary, significant economic policy issues are raised: Is there a net gain or loss to the local economic base as a result of developing the mineral deposit?” (Thomas M. Power, “The Economic Role of Metal Mining in Minnesota: Past, Present, and Future”, October 2007, p. 31)	SE3
19538	The existing LTVSMC tailings facility has stability concerns: there is a risk of failure along the impoundment perimeter under stress conditions. This is before any PolyMet tailings have been deposited on top of it. Structural stability of the Tailings Basin has been a serious concern. Serious analysis of the structural integrity of the latest tailings basin design has been postponed until the permitting stage. A stockpile slope assessment has not been completed. These are serious gaps given the environmental consequences of a structural failure of the tailings basin or stockpile.	GT2
19539	The NorthMet Project DEIS must be rejected due to the preponderant evidence that the Project will cause irreparable harm to the environment and is likely to become a superfund site that we taxpayers can ill afford.	G2A,G5A,G7A
19540	I have serious concerns regarding the draft EIS for the polymet mine. The draft EIS does not have the proper “frame work” in planning for the reclamation of the mine once it is closed. The long term treatment of complications is complex and could become extremely expensive. I do not want this cost passed on the Minnesotans’. The final EIS should have provisions setting aside a trust with the maximum predicted cost of the “worst case” mitigation cost.	PD3
19542	In addition to understanding groundwater movement, the final EIS needs to have a plan to constantly monitor the mining operations by the DNR. The proposed mining site/sites are too closely approximated to biologically sensitive areas. It is imprudent to leave monitoring and inspection to the mining company. The DNR needs to provide this service or have an independent entity fulfill the “policing” of the mine sites. This is a significant aspect which should be in the final EIS.	PD8
19542	The final EIS also needs to include and field sampling tests to understand how water moves through the bedrock. If this testing is not completed, it could dramatically interfere with clean-up and recovery/ mitigation. Currently in the draft EIS does not demand this testing. This is a critical piece that needs admission into the final EIS.	WR2A
19543	There are other concerns which also require routine monitoring and addressing in the final EIS. Emissions, according to the USFS, the Polymet project alone will cause an average of 36 days of haze every year, the potential disruption of wildlife corridors specifically the Canada Lynx which is a federally listed as a threatened species, and the cumulative effects of the multiple mines that will inevitably develop in the surrounding area. These additional concerns need to be addressed in the final EIS.	WI2,WI5,AQ4,AQ4B



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Comment ID	Comment Text	Theme Codes
19544	I believe that this project is not compatible with the surrounding public and private land usage.	EOO
19545	From our perspective the DEIS is inadequate to describe a project that would protect Lake Superior and its watershed from toxic and perpetual water pollution from this proposed copper-nickel mining and processing operation. A summary of our reasons follows with detailed discussion directly after.	G8
19545	Prevention of Significant Deterioration Review The Project may well be “designed” to limit “presumed” synthetic minor emissions below major source thresholds but for reasons stated in comments on Section 4.6.1.3 herein no modeling calculations have been submitted that give any surety that the Project should not be permitted as a major source for PSD. Modeling results would need to be calibrated after the fact which has proven to be the case in most if not all of the reference metallic sulfide mines in the U.S. and elsewhere. The nature of this type of mining does not allow for modeling errors without enabling significant negative environmental consequences. Vivo”, Cook et al, Feb 1982). Toxicity has been shown to depend upon a number of factors. One factor is intensity or concentration of fibers during human exposure. (Ref. “Taconite Fibers Lecture: Can Amphibole Fibers/Particles Contribute to Mesothelioma and Other Asbestos Related Diseases in Northeast Minnesota?”, Philip M. Cook, Ph. D. June 17, 2008, sponsored by MN Dept of Health) How would the level of exposure during mining and processing be determined on a regular basis with a test protocol determined by factor analysis? Stationary test monitors and corresponding analytical procedure (MDH 851 and 852) have been in use for years. The USEPA also has an “activity-based” test protocol (AHERA) for determining levels of exposure to both PM10 and PM2.5 sized fibers during normal activities in areas receiving airborne and natural pollution. Why does the DEIS not address these issues? (Ref. “U.S. EPA Asbestos Assessment for El Dorado Hills (CA), May 2005) • The “background” comments dwell on semantics of the definition of asbestos and not on the toxicity of the amphibole and asbestos-like fibers found in the vicinity of the Northmet deposit. Fragments of fibers and fibers themselves have the same properties and are equally toxic per recent studies at the USEPA Laboratory. See previous refs) So-called “MN-fibers” are defined by the MPCA as having characteristics and effects similar to “asbestos” in legal documents. These fibers include cummingtonite-grunerite and ferroactinolite. The fact that chrysotiles do not register at high levels on fiber sampling efforts in this area is not surprising since significant numbers of these fibers do not occur naturally in this mining district. Why was this document released with such selective use of scientific references describing the toxicity of these materials? This violates NEPA rules. Non-Asbestos Fibers pp 4.6-58, 59 • The DEIS avoids discussion of the most relevant studies of “asbestos-like” and asbestos fibers from air samples taken from ore from the eastern Mesabi Range (e.g. Cook et al, 1982ff) The staff at the EPA Laboratory in Duluth have conducted exhaustive studies on fiber samples of these ores and found that their toxicity is greater than that of comparable “asbestos” fibers. • MPCA classifies ferroactinolite and cummingtonite-grunerite as “asbestos” or “asbestos-like” fibers. The Control City Standard (Ref. Reserve I and US v Reserve federal cases) has not been mentioned as a potential standard for the Hoyt Lakes, Babbitt and other locations surrounding this proposed project. This federally recognized standard serves as an excellent measure of community exposure to toxic fibers. The effectiveness of BACT controls could be measured in this context. Nearly pure veins of these amphibole materials have been identified as intrusions into the Duluth complex. Why has the DEIS not addressed this potential threat to humans in the vicinity of the Polymet Northmet site? From MDH data, 85% of mesothelioma cases from as far back as 1984 were employees of Erie Mining on the same site as the proposed Project. Statements downplaying the significance of this exposure are backed by erroneous and irrelevant references in the DEIS. The public needs to understand as part of this DEIS that these fibers are a threat to their health. Per NEPA rules	AQ4,AQ4C

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Comment ID	Comment Text	Theme Codes
19546	<p>No valid justification has been given for not treating the project as a major PSD source. BACT requirements must apply based upon experience of fiber sizes emitted from the proposed mining and processing equipment. The “top down” BACT analysis must include PM10 particles to include all toxic fibers. Improved filtration would be required in addition to the standard baghouses chosen for the Plant emission points. Proximity to residential communities is not a factor used to determine the effect of pollution from toxic substances such as fibers from amphiboles and sulfide ores. The surface material and water in all directions from the mine and plant would be permeated with fibrous material from this project. Amphiboles on the surface would at some time reach a level detectible by EPA activity-based testing and analysis. Sulfide particles would react with air and water to acidify the water in the vicinity of the project. The damage is cumulative over time especially with contributions from other mining activity in the area. PSD and cumulative effect rules must be applied in any EIS for this proposed project per NEPA rules. Tailings basin air emission control by “capillary action” and wet tailings disposal has not shown to be effective in places like Milepost 7 at Silver Bay. Fiber monitors at the F1 (Beaver Bay) location routinely register high levels of amphibole fibers in the ambient air in strong northwest winds. Dust is often visible as far away as highway 61 blowing into Lake Superior. The proposed type of emission management would not be adequate to protect the public from either short or long term exposure to toxic fibers. EPA studies identify peak exposure to toxic amphibole and asbestos-like fibers as a basic parameter affecting toxicity of ingested fibers. What is the peak exposure to PM10 and PM2.5 fibers in the sulfide, oxide and amphibole classes during high velocity winds using either fiber counts or weights? How does this correlate with the EPA toxicity studies of these fibers? These issues must be addressed in the EIS per NEPA rules.</p>	AQ4A,AQ4B,AQ4C
19546	<p>The DEIS acknowledges “an uncertain level of fibers on the project”. This would suggest a need for continuous monitoring supported by a factor analysis to determine the best placement of the monitors. Climate factors clearly affect sampling results and should be simultaneously recorded. EPA scientists have determined that so-called cleavage fragments with the same characteristics as asbestos are as harmful to the lungs as asbestos. The Crump and Berman studies did not evaluate data past 15 years longevity of workers and is irrelevant in determining the true long term effect of exposure to these fibers. NEPA requires that impacts from unknown environmental factors be closely evaluated in the EIS. The project plan does not meet that standard. Inclusion of the Cook et al U.S. EPA research on relative potencies of complex mixtures of mineral particles would help alleviate this inadequacy.</p>	AQ4C
19547	<p>The Minnesota Department of Natural Resources (DNR) stated repeatedly that this document would be finalized and released as the Draft Environmental Impact Statement (in 2008). SLSA accordingly retained me to assess the document’s compliance with federal and state law, and to help write comments for submission to the agencies. Because of the complexity of the issues and the volume of information, we all felt that it was imperative to begin this work prior to public notice of the DEIS in order to have sufficient time to review it. I do not believe it would be possible to conduct a thorough review of the DEIS for this project in 45 days; thus my first advice to the organizations is to request a longer public comment period. (Which we did and were refused without notice.)</p>	PD2
19548	<p>My understanding is that the DNR has asked PolyMet for additional information on four issues: design and safety of the tailings basin dam; the increase of sulfates in the Embarrass River and the impact on wild rice waters; the discharge of sulfates and the impact on mercury methylation; and the discharge and movement of arsenic and antimony into and through groundwater. Because the DEIS is likely to change significantly in regards to these issues, for the most part they are not included in this assessment. This should not be construed as a lack of concern about these issues, however. Based on the information available at this time, each presents risks of environmental and/or safety impacts to the extent that the project could not be legally permitted as proposed.</p>	G7A,G7B,G8

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Comment ID	Comment Text	Theme Codes
19549	Moving beyond these four issues, it still appears to be the opinion of the DNR that it can put out an incomplete DEIS for public comment, and fill in the missing information in the Final EIS. This is a disservice to the public and does not comply with federal regulations. Because this is a joint federal-state EIS, the environmental review process must comply with federal law, despite the fact that a state agency has taken the lead. Under the federal regulations, The draft statement must fulfill and satisfy to the fullest extent possible the requirements established for final statements in section 102(2)(C) of the Act. If a draft statement is so inadequate as to preclude meaningful analysis, the agency shall prepare and circulate a revised draft of the appropriate portion. 40 C.F.R. 1502.9(a). For reasons explained below, the CPDEIS (did) not come close to meeting “the requirements established for final statements.” If the first public DEIS is substantially similar to the CPDEIS on the issues identified below, we should expect that another iteration of the draft EIS will be prepared and put on public notice before agency decisions are made.	G9
19550	The only discussion of financial assurance that I found in the CPDEIS is in section 2.3.1. It states that the final scoping document determined that the EIS would “evaluate the reclamation costs and their effect on facility design, construction, and closure. Financial assurance estimates associated with corrective actions cannot be developed until the corrective action is known; therefore, discussion of the assurance costs would not be included in the EIS.” The CPDEIS (did) not include an evaluation of reclamation costs; this needs to be added to the DEIS released for public comment. Minnesota law requires that a mine operator provide financial assurance to cover contingency reclamation costs prior to receiving a permit. Minn. R. 6132.1200(4)(B). The DEIS needs to discuss not only reclamation costs, but the contingency reclamation costs that will be covered by financial assurance, and the financial assurance mechanism that will be used to meet this requirement. Unless we know that a sufficient amount of money will be available to cover closure costs when mining ceases, we cannot conclude that the planned closure activities will prevent environmental impacts.	PD4
19551	The CPDEIS (admitted) that it does not address the fact that the mine site is on land that is currently owned by and under the jurisdiction of the United States Forest Service. The CPDEIS (indicated) that the mine project is unlikely to go forward unless there is a land exchange, but it does not describe the impacts of that exchange. Instead, it indicates that a separate EIS will be prepared. This violates the federal regulations, which state: Agencies shall make sure the proposal which is the subject of an environmental impact statement is properly defined. Agencies shall use the criteria for scope (Sec. 1508.25) to determine which proposal(s) shall be the subject of a particular statement. Proposals or parts of proposals which are related to each other closely enough to be, in effect, a single course of action shall be evaluated in a single impact statement. 40 C.F.R. 1502.4(a). The criteria for scope read: To determine the scope of environmental impact statements, agencies shall consider 3 types of actions, 3 types of alternatives, and 3 types of impacts. They include: (a) Actions (other than unconnected single actions) which may be: (1) Connected actions, which means that they are closely related and therefore should be discussed in the same impact statement. Actions are connected if they: (i) Automatically trigger other actions which may require environmental impact statements. (ii) Cannot or will not proceed unless other actions are taken previously or simultaneously. (iii) Are interdependent parts of a larger action and depend on the larger action for their justification. 40 C.F.R. § 1508.25. Under these provisions, the impacts of the land exchange must be presented to decision makers and the public at the same time and in the same EIS as the other impacts of the project. When read in combination with the requirement that the draft EIS present everything that is required of the final EIS, it becomes clear that the draft EIS cannot be released until information on the land exchange is available and incorporated into the document. It would be prejudicial to the public interest to encourage public review of a draft EIS when potentially significant impacts have not been included.	PD8
19552	The (DEIS) is also inadequate because it does not assess reasonable alternatives that are likely to have less environmental impact than the mining plan as proposed. These include the underground mine alternative and the reduced production alternative. The fact that the mining company does not choose to consider these alternatives is not a legitimate reason for eliminating them from study. If there might be significantly less environmental impact from these alternatives and if the alternatives are technically feasible, they must be assessed. Eliminating an alternative simply because a permittee indicates that it would not go ahead with the project if the alternative was required would allow permittees to avoid increased costs for environmental protection at their own discretion. This would essentially nullify the Minnesota Environmental Rights Act.	PD4

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
19552	Although this alternative is identified as one that will be studied in the EIS, I did not find any mention of it in the assessment of water quality impacts. While the section on wetland impacts states that this alternative would result in a reduction in water discharged to area wetlands and the Embarrass River, the discussion does not provide enough information by which to make a comparison to other alternatives. It appears that PolyMet is using the potential impacts on wetlands and stream flow as an excuse to avoid preparing an analysis that would allow an informed decision. The DNR should insist that this alternative be fully explored, and complete an assessment of potential impacts that could be compared with PolyMet's preferred alternative. Particularly if the drainage is treated before discharge when the current cells are drained, at first blush this appears to be an alternative that could significantly ameliorate the water quality impacts of this project.	ALT8,PD1
19554	We incorporate by reference and attachment the comments of David M. Chambers, Ph.D. of the Center for Science in Public Participation. His comments cover a number of DEIS topics including this section. In some cases his comments are aimed at improving the DEIS. In other cases the basis and assumptions of the design are described as problematic.	EOO,G8,G15
19554	Many of the potential impacts of this project are still unknown because of a lack of data. Some of these gaps in critical information are pointed out in the DEIS, and some are not. However, the DEIS does not address the cost of obtaining the information for any of these gaps. Under the federal regulations, If the incomplete information relevant to reasonably foreseeable significant adverse impacts is essential to a reasoned choice among alternatives and the overall costs of obtaining it are not exorbitant, the agency shall include the information in the environmental impact statement. 40 C.F.R. 1502.22. All of the gaps in information described below are essential to a reasoned choice between the alternatives of granting permits for this mine, denying them, or requiring additional mitigation measures. Without the information, the agencies simply have no idea what the impacts will be, and thus cannot make the judgment that the benefits of the project are worth the impacts. It is thus critical to know whether "the overall costs of obtaining" the information are "exorbitant." This information is completely absent from the DEIS.	G8
19555	Stream flow, sedimentation, and water quality data (see Table 4.1-6). First, it is troubling that there is no stream flow data beyond 1964 for the Embarrass River, and beyond 1988 for the Partridge River. The lack of recent flow data calls into question the assessment of the severity of impacts to the Partridge River from mine dewatering, and the water quality modeling for the Embarrass River (which is based in part on dilution of pollutants from streamflow). Second, neither stream flow nor water quality data are available for the points of greatest impact to the streams, including Trimble Creek and Spring Mine Creek, area lakes, and the stretches of the Embarrass and Partridge Rivers closest to the mine site and tailings basin. Finally, there is no sedimentation data for the rivers in the mine area. In many forested locations, sedimentation from haul roads and stream crossings are the largest source of impact to streams, with the volume of traffic being the greatest single factor determining the degree of impact.	WR3J
<b>Sender Last Name:</b> Sternal		<b>Submission ID:</b> 3486
3760	I do not want this mine to be built. 1) It has not been proved that Polymet has the balance sheet to make good on their commitments. Polymet is a development stage company that could easily walk away from the mess it is about to create. 2) It is a marginally profitable project in competition with copper and nickel produced globally at less cost. A small fluctuation in the price of copper will result in the mine closing. 3) In the future water will be more valuable than copper. Let's forgo the environmental destruction and wait for the opportunity to profit from a renewable resource. 4) Have you seen the Anaconda pit in Butte, Mt? 5) Wisconsin law allows permitting mines if they can show a similar mine that has not polluted during ten years of operation and for ten years following closing. So far, no applicants; let's follow their lead. 6) Mines pollute, why allow it? For 400 jobs?	ALT8,EOO,PD2,PD8,G2,G4
<b>Sender Last Name:</b> Stevens		<b>Submission ID:</b> 2778
3190	Crazy crazy idea -- PLEASE DO NOT POISON MINNESOTA.	EOO

*Alphabetical by sender's first name*

**Comment ID    Comment Text** **Theme Codes**

**Sender Last Name:**    Stewart **Submission ID:** 1812

2400 Do not consider allowing PolyMet to begin sulfide mining in our state! For all the reasons outlined below, this would be an egregious decision. The economic gains from sulfide mining won't even go to the people suffering the environmental consequences. Further, Minnesota stands to gain more economically, as well as in the precious currency of natural beauty and recreational opportunity, by preserving the integrity of Lake Superior and the BWCAW. Please accept these comments on the PolyMet Mining Corp. NorthMet mining project Draft Environmental Impact Statement. I have serious concerns about the safety of this project and its potential impacts on Minnesota's natural resources. G2

**Sender Last Name:**    Stiles **Submission ID:** 1162

1277 Please stop the Poly-Met mine. Water is such a valuable resource in Minnesota, why would we jeopardize it? Minnesotan's value of our natural resources and do a lot of activities outdoors. As a small business owner PolyMet needs to step up to the plate and put down assurances that they'll run a clean mine. EOO,G7B

3258 How can we transition a national forest area into an industrial complex? The noise and dust pollution plus disruption of native habitat and wildlife that has been protected for 100's of years is intollerable. Only the people of the United States should profit from such a wilderness area, not corporations seeking profits for a few individuals. The Lessard Council in 2009 voted to protect 187,000 acres of forest for all to enjoy. We need to protect these large tracts of natural habitat from industrial mining. G2C

**Sender Last Name:**    Stitt **Submission ID:** 3301

3595 Dear Sir or Madam: I am very concerned about this project. Please do not carry out this mining project – it would waste a lot of rock and likely contaminate water and kill fish and water insects without producing adequate benefits to justify the drawbacks. EOO,G2C

**Sender Last Name:**    Stone **Submission ID:** 1103

1208 The Grand Rapids Area Chamber of Commerce would like to go on record as a strong supporter of the PolyMet Mining Project. Included with this letter is a copy of a resolution of support that was passed by our Board of Directors on August 27,2007. This resolution lists the reasons for our support and confirms our commitment to the PolyMet Mining Project. Thank you for the opportunity to comment on this very important project. EOO

1377 I have been paddling in the BWCAW since I was 16. I love that region more than I can express in words, and value greatly having access to clean air, clean water, and wild spaces. I have spent more than 120 days in the wilderness since age 16 -- as a visitor, guide, Forest Service wilderness ranger and Outward Bound Instructor. Not only does this proposed mine endanger my favorite recreation, it also endangers my career. If the mine pollutes the border lakes, it will harm one of the most sustainable sources of revenue in this region. Mining may only last a few years, but if we treat this area with care, the recreation industry can use it forever. G2B,G2C,G11

1599 Both my husband and I were born and raised on the Iron Range. We have lived and worked here all of our lives and now have children and grandchildren living in the area. We visit the BWCA W regularly for recreational purposes and support a clean environment. As both a scientist and a life long local resident, I support the Polymet project in Hoyt Lakes. We need the jobs to sustain our local economy and ultimately to support our American economy by reducing the need for foreign imports. Minnesota has a strict permitting process and regulatory controls in place to protect the environment and I have confidence in that process. There is no reason to believe that we cannot combine a strong local economy with environmentally sound mining practices. Therefore I strongly support Polymet's NorthMet project. EOO,G11

*Alphabetical by sender's first name*

**Comment ID    Comment Text** **Theme Codes**

**Sender Last Name:**    Storm **Submission ID:** 2919

3252 The PolyMet DEIS describes significant environmental issues associated with this proposed mine. These issues should be resolved before this mine is approved by the Minnesota Department of Natural Resources and the U.S. Army Corps of Engineers. We are very fortunate to have such a large area of fresh water. It seems extremely short sighted to put it at risk without failure proof methods for mining along with the financial guarantees that it will be the mining company who pays for the clean up and not the tax payers.

EOO

**Sender Last Name:**    Strain **Submission ID:** 2203

2611 Hello. I'm John Strain. I support the PolyMet project for the following reasons: One, for economic development, for job creation and for construction services that would be provided to build the facility. I also think it's our responsibility as U.S. citizens to supply our own natural resources, not to rely on Third World countries. I feel that the MPCA and the Minnesota Department of Natural Resources can manage this project in an environmentally sound fashion. Thank you. (Oral comment concluded.)

EOO

**Sender Last Name:**    Strebig **Submission ID:** 2204

2612 My name is Kelly Strebig. I have over 30 years experience in health and environmental research, and I'd like to just make a positive comment. This is an exceptionally good, clean mining and processing operation, and I hope it goes through as soon as possible. It's really well planned and well done from both a health and environmental standpoint. And that's the end of my statement.

G5

**Sender Last Name:**    Strom **Submission ID:** 3080

3469 I find it hard to believe that MN DNR would even let a project of this nature even get this far. They need to protect our irreplaceable natural resources and wild areas they if lost cannot be replaced.

EOO

**Sender Last Name:**    Struck **Submission ID:** 3531

*Alphabetical by sender's first name*

**Comment ID    Comment Text**

**Theme Codes**

3792 The cited EIS does not concern itself with the cultural implications of the proposed mine. Does anyone really care about the natural biotic community to be destroyed in this mine project? In our nation that loses nearly 2.2 million acres of land every year, do we not want to step back to consider what's at stake here? It's more than JOBS! In an area long noted for its boreal forests, water ways and wildlife, mining simply is not a compatible ingredient to add today. In spite of the oft-cited technology supposedly sufficient to "save" the area noted, we need to give attention to what we're destroying in the name of profits and jobs. I cannot imagine that future generations will support our decision to destroy up to 6,700 acres through mining rather than keep these northern areas free from such exploitation. Please note the following article. Thank you. R. Struck For: StarTribune January 21, 2009 Mining in NE Minnesota: Buyer Beware! A recent article in the Cook County NewsHerald, "New Technology Bringing Big Mining Dollars to the Northland" is a challenging story of huge implications, some good and a great deal that's bad. This feature follows an article in the StarTribune and a challenging follow-up article by columnist Nick Coleman on the same topic regarding the perils of "hard rock mining". The articles remind me of the old adage: If it sounds too good to be true, then it is! Why beware? As noted in the NewsHerald article, a quote directly from Range View, a publication of the Iron Range Association, "...New environmentally sound technologies are allowing the region to wring our maximum value from its existing natural resource base." This phrase may be politically correct for the mining industry but it hides the crude reality that to accomplish this task, thousands of northern forest and watershed acres will be permanently destroyed, an area of about five square miles, two of which are wetlands. The implications of acid mining drainage are staggering as a result. The Herald article did not note that The PolyMet mine would destroy, in addition to the 854 acres of wetlands, more than 1,700 acres of other vegetation, and that wetland credits mentioned can not replace this natural biotic community. Nor did the article note that this large open pit mine would probably be followed by a half-dozen or more copper mines stretching from the Ely area to Aitkin County. This tidbit was reported later in the Duluth Tribune. What Minnesotans need to know about hard rock mining is nicely captured in the flyer, "Metallic Sulfide Mining, Environmental Impacts", provided by Northeastern Minnesotans for Wilderness. This brochure cites several chilling situations which include: 1. In Canada, for every ton of copper produced, 99 tons of waste rock is discarded... the source of sulfide mining's biggest hazard: acid mine drainage. 2. In 1995, more than 300 snow geese were killed when they drank the contaminated water at the Berkley Pit, a closed copper mine in Butte, Montana. 3. Roman mine sites in Great Britain continue to generate acid drainage 2,000 years after mining ceased. 4. The US Environmental Protection Agency calls the drainage the "largest problem facing the U.S. mining industry." The numbers are astounding. More than 7,000 kilometers of streams in the eastern United States are affected by acid drainage. In the western U.S., the Forest Service estimates that between 20,000 and 50,000 mines are currently generating acid on Forest Service Land. 5. Acid mine drainage has already polluted more than 12,000 miles of rivers and streams and over 180,000 acres of lakes and impoundments in the U.S. 2 6. Neither PolyMet nor the Environmental Protection Agency has identified a single hard rock mining site that is totally safe from acid drainage.

G2A,G3,G7A,G7C,G14

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
3793	<p>7. The state of Wisconsin has a moratorium on sulfide mining. Wisconsin Act 171 requires that no mining company will be given a mining permit unless they can: A) Prove that an existing mine has operated in a sulfide ore body for 10 years without polluting the groundwater and surface waters with acid mine drainage at the tailings site or mine site, or from the release of heavy metals; and B) Prove that a mining operation that operated in a sulfide ore body and has been closed for 10 years has not polluted the ground and surface waters with acid mine drainage and other heavy metals. To date, no sulfide mining permits have been issued. The seduction of new wealth, jobs and growth of commercial enterprises emanating from the PolyMet mine, and other mines in northeastern Minnesota, is a compelling influence for many reasons. Good jobs are hard to come by and with Minnesota's \$1.2 billion revenue short fall already hitting the wage-economy of northern Minnesota, such a proposal has some positive issues going for it. Yet we need to step back and consider carefully what we're doing to our natural landscape. It's not enough to just say we need JOBS, JOBS, JOBS. There is more at stake than jobs and the shifting economic realities today. Consider for a moment: Why is it that we are willing to rush into a project that destroys so much of our northern forests and watershed areas for the sake of temporary jobs and profits? How is it that we feel we can manipulate that which gives us life and yet destroy it? How would we feel if such a mine is proposed close to the Twin Cities? Is not our life dependent on our landscape? Why do we think we can continue to destroy our natural resources, our land, water and air quality, and still live in the world as though nothing has changed? Are we content to accept this form of ecological genocide because we're not individually affected by the process or outcomes? I am not against jobs, profits or reasonable economic growth. But I am against such things if the costs are too high. If these mines come in, we stand to lose what is worth more than profits. We are putting at serious risk the very natural resources that have made Minnesota so attractive for generations, and those to come. Looking ahead, will future generations of Minnesotans inherit a landscape ravaged by mining or an intact, ecological community of great natural beauty? This is the challenge for all Minnesotans, not just those up north. ### Submitted by: Richard C. Struck 40 County Road 44 Grand Marais, MN 55604 theledge@boreal.org 218-387-2608</p>	EOO,G2,G12
<p><b>Sender Last Name:</b> Sturdy</p>		<p><b>Submission ID:</b> 245</p>
258	<p>Dear Sir: Give Polymet their permits. They have met the requirements that exist on the books today. The government agencies have done their job in the EIS, and they know much more about the permit and the permitting system than any obstructionists. Polymet has followed due process and shown that they can and will conform to the laws. Polymet deserves to be given their permits. They have earned the right to mine the ore they already own. Trickle down economics will prevail. The Polymet project will create over eight hundred new jobs in construction phase, and over four hundred long term new jobs working the plants and the mine. The Polymet company will be of enormous benefit to other ancillary businesses on the iron range. The Polymet project will be a benefit to the whole state of Minnesota. The Polymet project will put people to work when unemployment is over 10% nationally, and higher on the iron range of northern Minnesota. Ignore the lies of the radical far left evnviros. Give Poltmet their permits and let them conduct invironmentally safe mining on the iron range, where the regular folks know how to do mining, safely and at a profit, employing real people from the iron range and the state of Minnesota. It will be a happy day when the hard rock miners of the iron range can go back to work at Polymet and earn a living mining metals in a safe, profitable way. Sincerely,</p>	EOO,G6
<p><b>Sender Last Name:</b> Suelflow</p>		<p><b>Submission ID:</b> 1142</p>
133	<p>At this hearing I also request that it contain an open-mike period for questions by the public</p>	PRO6
3179	<p>Another concern is that the DEIS does not account for unforeseen circumstances and human error. As far as I am aware only deterministic modeling was used to analyze potential pollution transport and rates, rather than stochastic modeling which would account for more extreme scenarios. In the age of global climate change we are likely to see increased weather extremes that would impact seepage and drainage throughout the project area. I would like to see more stochastic modeling done to account for such extreme weather patterns before this type of sulfide mining is deemed ?safe?.</p>	WR1E,AQ3,AQ4



*Alphabetical by sender's first name*

<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
3181	PolyMet says only so much acid seepage and pollution will occur, but what will happen to the surrounding groundwater, rivers and wetlands if they are wrong and the rates are higher? Minnesotans need to be aware of the risks involved. Rarely does a process extensive as this proceed without incidence or error. What if trucks hauling ore are stalled in open air during a blizzard? What if a labor strike held up operations? What if a truck broke down during a heavy rainstorm and acid runoff from the rock/ore drained to the road? What if a waste rock or tailings pile collapses? How does PolyMet plan to address pollution that lasts beyond their 65 year wastewater treatment plan? Given the history of mining operations in MN and elsewhere, there is hardly a precedent of these companies responsibly compensating the public. Rather there is a precedent of damage to natural areas and clean-up/pollution costs left to the public. The final EIS needs to address these concerns in order to present a more realistic analysis of this project to the public.	WR1E,WR3I
3639	I find many flaws in this argument, the first being that 20 years of natural resource extraction by a foreign held corporation hardly qualifies as significant and sustained economic development for Minnesotans. Along with the U.S. EPA suggestion, stronger financial assurances need to be made to the public to insure that PolyMet is held responsible for any and all clean-up and pollution costs. Given the nature of sulfide mining it seems likely that there will be groundwater pollution and wetland contamination, and the impacts of these will extend well beyond even their 65 year wastewater treatment plan. If we as Minnesotans are going to allow in foreign-held companies to extract OUR natural resources they should at least be held financially responsible for any and all impacts they cause in this extraction process. Furthermore, PolyMet should be required to build any and all processing facilities in MN, rather than shipping ore to other regions.	PD4
3640	On our farm, we were once sold a ?leak-proof liner? for a pond, and a muskrat promptly chewed a hole in the liner, rendering it useless. While I understand that PolyMet's proposed waste rock pile liners will be more durable than our little pond liner, Kuipers et. al. (2006) demonstrated that mitigation measures such as dikes, pumps, liners, etc are the most common points of failure. What assurance can PolyMet make to the public if their liners do n't prove as reliable as they now claim?	PD2,PD8
3641	During the 20 year construction period the waste rock piles will be partially uncovered and the project plans to channel runoff through dikes to be pumped to the plant for treatment. What happens if there is a massive pump failure or flood situation that overwhelms the pumps? Again, mitigation measures are one the most common points of failure outlined in the Kuipers study. The final EIS needs to include realistic analysis of the potential for pollution damage in the event of extreme weather events, unforeseen disasters, etc.	WR3A,PD11
<b>Sender Last Name:</b>	Suggs	<b>Submission ID:</b> 3314
3607	PolyMet should NOT be allows to mine in Minnesota – Period. Our land and water are precious resources to us and worth more than any monetary amount. Do not spoil our lands with your greed!	EOO,G2
<b>Sender Last Name:</b>	Sulander	<b>Submission ID:</b> 2739
3184	Minnesota should not allow any mining proposal (such as PolyMets or others) that have such serious and long term pollution problems. These are flawed proposals that do not merit approval by Minnesota. Wisconsin has already prevented such proposals from proceeding until the mining process can be fully evaluated and determined to be safe in the long run for future generations. Minnesota should at least match Wisconsin's caution, and go even further to fully evaluate the PolyMet and other such mining proposals. What Minnesota will find: the long-term damage from this type of mining is not worth the small short term gain from a few mining jobs.	EOO,G12
<b>Sender Last Name:</b>	Sularz	<b>Submission ID:</b> 3182
3128	The wealth of the Boundary Waters is immeasurable by economic standards. To destroy, or even hurt, such an area that was here so long before us and will be here so long after us, is not only the wrong choice but a choice that does not belong to us.	EOO

*Alphabetical by sender's first name*

**Comment ID    Comment Text** **Theme Codes**

**Sender Last Name:**    Sullivan **Submission ID:** 200

198 Please accept these comments on the PolyMet Mining Corp. NorthMet mining project Draft Environmental Impact Statement. Public television recently ran a series about the history of our National Park, which makes it clear that there has always been tension between commercial development and the parks. I feel very strongly that the park system in Minnesota is a unique treasure whose preservation far outweighs the risk of damaging it through this and other projects. I am a business owner, and understand the need for industry, but there also needs to be some places where other priorities are more important. I understand the PolyMet proposal, and am concerned about the stability of the basin among other issues that could have a profoundly negative environmental impact. These issues should be resolved before this mine is approved by the Minnesota Department of Natural Resources and the U.S. Army Corps of Engineers.

EOO

**Sender Last Name:**    Sundbom **Submission ID:** 3170

3537 A project like this will be a welcome to area.It will be nice to see it happen in minnesota instead of another state. This is the next phase of minning in todays market place. If we as people of minnesota donot allow this to happen here it will happen in some other part of the US. It will be a well needed investment to the area.

EOO,G1

**Sender Last Name:**    Sundquist **Submission ID:** 1241

1390 This project should not be permitted without a state of the art water treatment plant built to last forever.

G7A

**Sender Last Name:**    Suttie **Submission ID:** 1072

499 I hope someone nas a rock solid agreement from Polymet that should there be damage as a result, the company will be held totally liable for repairing it, (if that can even be done.) - Please reconsider this craziness, it's not too late

PD4

521 I think this mine and others like it are insane being placed so close to one of the most beautiful areas in the country. I refuse to see how the BWCAW and probably Lake Superior watershed will not be damaged with the potential leaching of sulfuric acid from run-off from this mine.

WR3B,WR3D

**Sender Last Name:**    Swarts **Submission ID:** 1734

738 It the mine is to be implemented, the very least that can be done is to not cut corners when dealing with the waste. Already it will have environmental effects; the least that can be done is to mitigate those that are already known about.

GT2

1068 The impacts that the mines will have on the water of the area are unacceptable to me. I understand that the water leaching from waste rock piles at the site is expected to exceed water quality standards for up to 2,000 years. 2,000 years is a long time; it is unreasonable to expect that mining companies will be able to maintain water treatment facilities for that amount of time. Not only that, but in doing so we are passing on the burden to future generations. My children and the rest of my descendants will pay the price for our greed. Such long-term care will take a long term-financial commitment, and I doubt that any company will be willing or able to pay for its continual management.

PD2,PD4

1108 In addition, the DEIS predicts contaminated waters to be discharged from the mine site into the Partridge River after the mine's closure, as well as tailing's basin discharges high in sulfate concentrations. Other mines that claim to be environmentally friendly have had drastic impacts on the environment. It is already predicted that this one will release toxins into the water. It is unacceptable to me to continue on with a project that is predicted to have such drastic effects. After all, if the other mines claimed to be safe, and turned out not to be so, this one that predicts the pollution of the river is bound to have a drastic impact.

WR3A,FM1

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
2256	The PolyMet DEIS describes significant environmental issues associated with this proposed mine. These issues should be resolved before this mine is approved by the Minnesota Department of Natural Resources and the U.S. Army Corps of Engineers. When such a project involves so many generations of Minnesotans, the very least that we can do is spend more time assessing the technology and the impact.	G10
<b>Sender Last Name:</b> Swedberg		<b>Submission ID:</b> 3229
3136	This is a horrible idea with short term gains outweighing common sense. The potential for pollution of ground water, runoff and quite possibly Lake Superior is to great for this project to have any value to the Citizens of this State. The citizens of the Iron range are a vulnerable group of Adults and this proposal seeks to take advantage of them and then quite likely abandon them with an environmental mess. Who will be responsible for the safe maintenance of mining by-products/effects when Polymet declares bankruptcy or is sold to another party? We have the chance to stop this... and that is the greater good for all concerned	EOO,PD2,PD4
<b>Sender Last Name:</b> Swinda		<b>Submission ID:</b> 10
9	Mike Swinda from Chisholm, Minnesota. Just here to support PolyMet today. I'm a firm believer, I've grown up here on the Iron Range all my life, and third generation actually of mining and mining related. And I'm a firm believer that PolyMet has all the safeguards in place to protect our environment. The majority of the people there are from the area and they wouldn't, to the best of my belief, ever allow anything that would endanger our environment because we all live, hunt, play, recreation in this area. So I just wanted to come in and show support for the project. And also state that this is also going to be a big benefit for our community as far as jobs go. And all the spinoff from this project would be a tremendous boost for our economy, both local and statewide and further out, if you will, across the U.S. Many factories that I deal with, being a company owner here on the Iron Range, would benefit from this, and also all of their employees would benefit from this. So in closing, I'm just here to show my support today for PolyMet.	EOO
<b>Sender Last Name:</b> Synnes		<b>Submission ID:</b> 2327
2785	Please accept these comments on the PolyMet Mining Corp. NorthMet mining project Draft Environmental Impact Statement. I have serious concerns about the safety of this project and its potential impacts on Minnesota's natural resources. I live here and I really don't care to see PolyMet, or any other operation, destroy my home. There is simply no way to extract these minerals without damage to the environment and there is a significant risk of major damage to the waters on which I depend. I would ask that the PolyMet mine not be allowed to operate.	EOO,G2,G7
<b>Sender Last Name:</b> Szymialis		<b>Submission ID:</b> 3715
1	The cumulative effects analysis also fails to adequately address the overall cumulative impacts on the numerous ongoing and proposed projects within this region on wild rice, a significant Tribal and public resource which is already on decline throughout the 1854 ceded territory.	G9,WR5A,WI5
2	[see table included in comment document, page 66] As shown by these materials, and the attached map which includes an overlay of the map from the Copper Nickel Study on top of a map of the NorthMet mine site, the NorthMet mine site is clearly in the area identified by the Copper Nickel Study as having significant resources accessible only through an underground mine. 136 Assuming that the NorthMet DEIS assertion is true that underground mining is not currently economically feasible, it is reasonable to assume that underground mining at the NorthMet mine site will become economically viable in light of historical trends of increasing metal prices and the cost saving which will be experienced after the initial investments needed for the infrastructure to process the ore for the open pit mine are in place. Accordingly, it is reasonably foreseeable that an underground mining operation at the NorthMet mining site will be pursued and the cumulative impacts from this underground mining activity should be acknowledged and analyzed in the NorthMet DEIS.	G9

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
3	Even as these earlier environmental review documents indicate the extent to which an underground mine could be an alternative feasible technology with significant environmental benefits to the proposed open pit mine, the NorthMet DEIS now indicates that underground mining technology will not meet the purpose and need of the Project separate from economic considerations. The NorthMet DEIS must support its conclusions that an underground mine does not meet the purpose and need of the project with adequate documentation and analysis to allow the public to evaluate this alternative and the agency's conclusion that an underground mine will not meet the purpose and need of the Project.	ALT3
4	The Project requires formal Section 7 consultation because, if built, it will have tangible negative effects on designated critical habitat for the Canada lynx, including permanent destruction of designated critical habitat; destruction of suitable denning habitat <sup>38</sup> ; and habitat fragmentation that damages local and regional habitat connectivity. Formal consultation was not begun before publication of the DEIS, depriving the public of the opportunity to review and consider the information in the consultation materials.	WI1
5	Diminishment of the approaches to the corridors will diminish the value of the wildlife corridors themselves, and make it less likely that dispersing lynx can cross safely through less hospitable mined areas in the Range. The degradation of wildlife corridors and fragmentation of core lynx habitat areas conflicts with the Service's Final Lynx Recovery Outline, which emphasizes the importance of large habitat patches and the connectivity of those habitat patches, so that lynx may move between habitat patches, as they commonly do over substantial distances. <sup>51</sup> Generally speaking, for individuals in a species that must move across the landscape to find suitable denning, feeding, sheltering, or rearing habitat, the inability of individuals to disperse as they previously could can cause an influx, or crowding effect. The consequences of habitat fragmentation and the edge effect include higher mortality rates, decreased recruitment, and increased stress on surviving individuals unable to disperse as needed and in the direction desired. <sup>52</sup>	WI1
6	The DEIS does not include and fails to consider significant information showing that at least one lynx, known as "Lynx #11" or "L11," is known to have moved through the Project area. L11 was located at least once just off the southwest edge of the mine site, between Wetlegs Creek and the Partridge River, roughly one mile south of the mine site and road, and a half-mile south of the rail line. The location data was produced between February 12, 2003 (when L11 was live-captured and fitted with a radiocollar by the researchers of the Canada Lynx Project <sup>54</sup> ) and November 13, 2006 (when L11 was trapped and killed in Ontario). <sup>55</sup> The radio collar signal placed the lynx in T59N-R13W, approximately at the corner of sections 16, 17, 20, and 21.	WI1
7	In addition, a recent EPA Region 10 memorandum specifically addresses the issue of financial assurance information as related to NEPA. The memorandum states that: "a key component to determining the environmental impacts of a mine is the effectiveness of closure and reclamation activities. The amount and viability of financial assurance are critical factors in determining the effectiveness of reclamation and closure activities and, therefore, the significance of environmental impacts. This is particularly important when long-term water management and treatment will be needed." <sup>4</sup> The memorandum goes on to describe steps EPA Region 10 can take under NEPA to improve financial assurance at new and operating mines, notably indicating that financial assurance estimates for the preferred alternative should be included in the draft EISs authored by the EPA and that the EPA should adversely rate draft EISs that do not include adequate and complete financial assurance information, particularly where long-term water management is reasonably foreseeable. <sup>5</sup> In clear contradiction to these statements made by the EPA, the NorthMet DEIS claims that "[t]he amount of financial assurance associated with reclamation actions cannot be estimated until these actions are understood at a more detailed level of design", asserting that "[t]his detail is more typically available during the permitting process." <sup>6</sup> As discussed above, the EPA regularly requires environmental impact statements to include detail regarding required reclamation actions and mitigation measures needed to provide information regarding financial assurance as part of the environmental review process. The assertion made in the NorthMet DEIS that the level of detail regarding reclamation and required mitigation measures needed for financial assurance is "more typically available during the permitting process" is simply not true. <sup>7</sup> The EPA regularly requires this type of information in environmental impact statements, especially for hardrock mining operations for which long-term water treatment will be required, as is the case for the NorthMet Project.	PD4

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
8	Moreover, the DEIS fails to account for all the confirmed lynx tracks, sightings, mortalities, and scat locations discussed in the technical document upon which the DEIS relies. An area map <sup>56</sup> is provided in a technical supporting document, ENSR's 2006 Canada Lynx Assessment Final Report, and it does show locations of confirmed lynx scats collected in the winter of 2006, but it does not show the locations of L11 and other confirmed lynx nearby, and in any case the map is not provided as it should be, in the DEIS itself.	WI1
9	The DEIS also provides incorrect, out-of-date figures for lynx mortality from lynx-vehicle collisions. The DEIS cites DelGuidice et al. 2007, which reported five confirmed roadkilled lynx in Minnesota since 2000. <sup>57</sup> Since 2007, at least one additional road-killed lynx has been found. In addition, it is critical to note that not all road-killed lynx are reported or located; there are almost certainly more road-kills of lynx happening than we find out about. <sup>58</sup> Moreover, the DEIS is silent about the two confirmed lynx-train mortalities in the Arrowhead since 2002. Accordingly, there have been at least eight detected lynx mortalities due to lynx-vehicle collisions since 2000, rather than five, and it is likely that the true number is higher than eight.	WI1
10	Additionally, the Draft EIS cumulative effects analysis fails to address the amphibole or asbestos-like mineral fibers, which have been identified as existing pollutants in the Hoyt Lakes community water supply and thus their presence must be identified and analyzed in the DEIS.	AQ4C
11	The alternatives section is the heart of an environmental impact statement. 40 C.F.R. 1502.14. Agencies must therefore rigorously explore and evaluate all reasonable alternatives. <i>Id.</i> at 1504.14(a); see also <i>Muckleshoot Indian Tribe v. U.S. Forest Service</i> , 177 F.3d 800, 812-13 (9th Cir. 1999). An agency may not define a project so narrowly that it forecloses a reasonable consideration of alternatives. <i>Fuel Safe Washington v. Federal Energy Regulatory Commission</i> , 389 F.3d 1313, 1324 (10th Cir. 2004). The alternatives analysis for an EIS requires full examination of a "no-build" alternative (meaning status quo in an undeveloped state) and examination of a spectrum of "real" options, not just those tailored to the desires of the project proposer. See <i>Fuel Safe Washington</i> , 389 F.3d at 1324 (10th Cir. 2004); <i>Custer County Action Association v. Garvey</i> , 256 F.3d 1024, 1040 (10th Cir. 1002); <i>Muckleshoot Indian Tribe</i> , 177 F.3d at 812-13. For the proposed NorthMet project, both smaller scale proposals and underground mining alternatives should have been included in the alternatives analysis.	ALT2,ALT8
11	Due to the numerous and significant violations of state water quality standards, the Endangered Species Act, and other state and federal laws and requirements, as identified and explained above, the proposed NorthMet project cannot be permitted to proceed. And due to the numerous and significant problems with the Draft EIS, as identified and explained above, a revised Draft EIS must be prepared if the agencies decide to continue consideration of the proposed NorthMet mine. Thank you for the opportunity to provide comments on the Draft EIS, and please keep me on the mailing list regarding this proposed project.	G5A,G10
12	The Draft EIS is also seriously deficient in failing to analysis the impacts of past iron ore and taconite mining in this region on sulfate levels and mercury pollution, including the resulting impacts to fish and wild rice. The very purpose of an EIS is to inform the public and the decision maker in order to insure better decisionmaking for projects that may affect the environment. These purposes cannot be fulfilled until there a detailed, objective analysis of the past and ongoing impacts of past mining in this region on sulfates and mercury, prior to considering a new wave of future mining in the region. This is especially critical due to the fact that streams in the project area and downstream are already acknowledged to be substantially impaired due to current mercury pollution. While its easy to blame mercury problems on other states and regions, it is not simply a coincidence that areas downstream from the iron range have considerably higher mercury and sulfate levels than prior to the onset of decades of mining in this region.	WR5A

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
13	Overall, the NorthMet DEIS does not take the “hard look” required by law. Rather, much of the information provided is encyclopedic, describing ways in which the Project purports to fit within various regulatory regimes. In many areas the DEIS lacks real assessment of the environmental and health impacts resulting from the Project. Summary conclusions without any documentation supporting these conclusions are offered in place of rigorous evaluation that allows the public and regulators to weigh the true impacts of alternatives and the Project overall. As discussed, below, MCEA has identified substantial inadequacies in the DEIS. As a result of these inadequacies, it is not sufficient for the Minnesota Department of Natural Resources (“DNR”) and Army Corps of Engineers (“ACE”) to merely prepare a Final EIS. The DNR and ACE must first submit a revised Draft EIS for public review and comment. MCEA urges the DNR and the ACE to require additional evaluation of environmental effects consistent with these comments prior to publishing a final EIS for the NorthMet Project.	PRO3,PRO6
13	The Draft EIS analysis for mercury and sulfates is also deficient in failing to consider and include the related impacts that would be caused by destroying hundreds of acres of peat bogs and wetlands, which are known to sequester mercury, and which would further release mercury into the environment, streams and waterbodies.	WR4B,WR4E,WE2,WE8
14	The NorthMet DEIS indicates that under the No Action Alternative, groundwater levels and quality would remain similar to existing conditions. <sup>13</sup> However, the DEIS fails to provide accurate or reliable baseline data which can be used to determine what groundwater levels and quality would be under the no action alternative. Specifically, the DEIS fails to adequately characterize legacy leakage from the existing LTV tailings basin and associated contamination from the old LTV processing site and related Areas of Concern which have been identified as part of Minnesota’s Voluntary Investigation and Cleanup Program (“VIC”). Accordingly, the conclusions reached in the DEIS regarding environmental conditions under the no action alternative are suspect. The DEIS indicates that accurate baseline conditions have not been determined, yet bases its assessment of natural conditions related to the No Action Alternative on “relatively high concentrations of aluminum, iron, and manganese currently found downgradient of the Tailings Basin”. <sup>14</sup> The DEIS further assumes that under the No Action Alternative seepage of relatively high sulfate concentrations would continue to discharge into wetlands north of the Tailings Basin, notwithstanding the potential improvements in background environmental conditions if the contamination from tailings basin seepage were improved and the Areas of Concern cleaned up. <sup>15</sup>	ALT1
15	The DEIS describes likely aspects of the form climate change will take, regionally – warmer average temperatures, higher total rainfall, higher rates of evaporation, more frequent droughts, and fewer but more extreme rain events, etc. – but there is no analysis of how these changes would affect the assumptions in the DEIS and the long-term consequences of the Project. For example, would the higher temperatures increase rates of redox reactions in waste rock, hydrometallurgical tailings, the materials in the East Pit, and the highly reactive category 4 rock exposed in the pit walls? Would the more frequent periods of drought, reduction in ice cover in winter, warmer temperatures, and higher rates of evaporation cause water levels in the pits to drop substantially over a number of years or decades? If water levels do drop substantially, might the fewer but more intense rain events cause water levels to rise and fall, periodically exposing and re-submerging the more reactive categories 4, 3 and 2 material in the pit? Nothing we could find in the DEIS addresses questions such as these, which apply the acknowledged likely effects of climate change to the presumed functioning of the Project during and following operations and reclamation. Please address these issues directly in before the FEIS is released, and if they are already addressed, then please address them more fully.	AQ4A,AQ5

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<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
16	<p>The NorthMet DEIS failed to include in its cumulative effects analyses the current and anticipated mineral exploration in the Superior National Forest and the three other sulfide-metal mines (other than PolyMet) that are very likely to go into production in the not-too-distant future (presuming they could obtain the necessary permits). State and federal regulations require the NorthMet DEIS to analyze the cumulative potential effects of hardrock mineral exploration in the Superior National Forest, currently being considered by the U.S. Forest Service “Federal Hardrock Minerals Prospecting Permits Project”. This U.S. Forest Service project is currently in the scoping phase for an EIS to evaluate the environmental impacts from “current and anticipated future proposals” for hardrock mineral exploration in the Superior National Forest.<sup>122</sup> This Hardrock Minerals Prospecting Project will evaluate the environmental impacts from federal hardrock mineral exploration in the Superior National Forest for the following: 1) 32 current permit applications from Duluth Metals Corp., Lehmann Exploration Management Inc., Encampment Resources L.L.C., and Prime Meridian Resources Inc.; 2) future permit applications, current and future operating plans; and 3) future use and occupancy authorizations (Special Use Permits) on the SNF over the next 20 years.<sup>123</sup> An analysis of environmental impacts from these activities in an EIS by another federal agency is a clear indication that these types of activities fall within the parameters of a NEPA cumulative impacts analysis and should have been considered in the Polymet DEIS. Additionally, three other sulfide-mining companies – Duluth Metals, Franconia, and Teck Cominco – are developing hardrock mining proposals that are reasonably foreseeable and should be included in the cumulative impacts analyses. Nevertheless, the DEIS never mentions Franconia Minerals, or Teck Cominco. Duluth Metals is mentioned once, but not for purposes of analyzing Duluth Metals mine’s likely contribution to cumulative environmental effects.<sup>124</sup> The NorthMet DEIS does not explain why the Franconia, Teck Cominco, and Duluth Metals proposals are not included. Even if specific project details are not yet available, sufficient information shows that the projects are reasonably foreseeable. Plans do not have to be so far along as to “constitute actual proposals” to conclude that a project under current consideration is a “reasonably foreseeable future action.” See <i>Tex. Comm. on Natural Res. v. Van Winkle</i>, 197 F. Supp. 2d 586, 618 (N.D. Tex 2002) (remanding Corps EIS for failure to include reasonably foreseeable plans in cumulative effects</p>	PD4
17	<p>In short, these mines are engaging in development activities, and are receiving investment interest and capital influxes that are described as allowing funds for project development, such that there are more than reasonably foreseeable future actions. The development activities of these mining projects amount to much more than simply “exploratory drilling events.” An environmental effect is “reasonably foreseeable” if it is “sufficiently likely to occur that a person of ordinary prudence would take it into account in reaching a decision. <i>Mid States Coalition for Progress</i>, 345 F.3d 520, 549. Because it is reasonably foreseeable that these three mines will be built, all of their likely effects must be included and discussed in the DEIS sections discussing cumulative effects analysis.</p>	PD3
18	<p>The DEIS has failed to include the Duluth Metals, Franconia Minerals, and Teck Cominco sulfide mining projects in the cumulative effects analysis for GHG emissions and climate change effects. These omissions must be corrected in the DEIS before an FEIS is released for public comment.</p>	AQ4B
19	<p>The NorthMet DEIS should recognize the potential that underground mining could be pursued after the mineral deposits accessible through an open pit mine are exhausted and analyze the impacts from an underground mining operation at the NorthMet mine site as reasonably foreseeable. Significant mineral resources exist below those which are proposed to be accessed by the open pit mine under consideration in the NorthMet DEIS. The Minnesota Regional Copper-Nickel Study (“Copper Nickel Study”) specifically stated that “the copper-nickel mineralization in the resource zones is known to occur both near the surface and at great depths”, recognizing that “the creation of both open pit and underground mines appear to be distinct possibilities in northeastern Minnesota.”<sup>134</sup> As indicated in the map and table included, below, the Copper Nickel Study shows that the area in which Polymet is located (“Zone 5”) is within a region identified by the Copper Nickel Study as an area in which the amount and grade of the ore available through underground mining operations is significantly higher than that which would be accessible through an open pit mine.<sup>135</sup></p>	G9

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Comment ID	Comment Text	Theme Codes
20	The discussion of mitigation measures included in the NorthMet DEIS fails to meet the standards required by federal regulations. The NorthMet DEIS simply identifies a number of mitigation measures which might help address some of the environmental impacts from the proposed action, but fails to indicate if any of the mitigation measures will be required or even which of the mitigation measures are preferred. NEPA requires more. NEPA requires the NorthMet DEIS to discuss mitigation measures in sufficient detail to ensure that environmental consequences have been fairly evaluated. <i>Robertson v. Methow Valley Citizens Council</i> , 490 U.S. 332, 333 (1989). It is insufficient simply to list possibilities rather than include a reasoned discussion of the possibilities and the impact they would have. See <i>Northwest Indian Cemetery Protective Ass'n. v. Peterson</i> , 795 F.2d 688, 697 (9th Cir.1986), rev'd on other grounds, 485 U.S. 439, (1988). "CEQ regulations require that the agency discuss possible mitigation measures in defining the scope of the EIS, 40 CFR § 1508.25(b) (1987), in discussing alternatives to the proposed action, § 1502.14(f), and consequences of that action, § 1502.16(h), and in explaining its ultimate decision, § 1505.2(c)." <i>Robertson v. Methow Valley Citizens Council</i> , 490 U.S. 332, 352 (1989). "[O]mission of a reasonably complete discussion of possible mitigation measures would undermine the 'action-forcing' function of NEPA. Without such a discussion, neither the agency nor other interested groups and individuals can properly evaluate the severity of the adverse effects." <i>Id.</i> The bulk of mitigation measures listed in the Polymet DEIS amount to little more than suggestions of potential measures that might have some mitigating value.137	G2D
21	The failure of the NorthMet DEIS to provide information or specificity regarding the mitigation measure which could be used to ensure that the West Pit overflow will meet the Lake Superior mercury standards.138	WR4C
21	The failure of the NorthMet DEIS to provide information or specificity about the effectiveness of nanofiltration units to remove sulfates and other solutes or discussion of alternatives that might reduce sulfate concentrations in discharges closer to background (natural) levels.139	WR2G
21	The lack of accurate baseline data and use of existing contamination as natural conditions is significant as there is the distinct possibility that existing contamination at the old LTV plant site and seepage from the tailings basin is contributing to these high concentrations of metals and sulfate concentrations. However, the NorthMet DEIS fails to provide information regarding contributions from the old LTV plant site and seepage from the tailings basin to the high metal and sulfate concentrations downgradient of the tailings basin. The failure of the NorthMet DEIS to ascertain the extent to which existing contamination is contributing to these high concentrations of contaminants violates NEPA's mandate to take a hard look and establish baseline data on which the impact to the environment from the Project and different alternatives can be determine	ALT1
21	The failure of the NorthMet DEIS to provide information or specificity regarding stormwater management facilities that may be needed to manage sediment associated with stormwater runoff. The NorthMet DEIS indicates that stormwater management facilities may be needed it does not propose any in the DEIS and simply recommends that such storm water management controls be designed and installed.140	EOO
22	The concerns regarding the lack of specificity and information concerning mitigation measures discussed in the NorthMet DEIS listed above is a small sampling of mitigation measures inadequately addressed in the NorthMet DEIS. MCEA's experts identify numerous other mitigation measures included in the NorthMet DEIS which fail to include the level of specificity or information needed to allow the public to adequately weigh the environmental risks and availability of mitigation measures to address these risks associated with the Project.141 The type of broad generalizations and vague references to mitigation measures found throughout the NorthMet DEIS do not include the detail as to mitigation measures that would be undertaken, and their effectiveness as required by NEPA. <i>Neighbors of Cuddy Mountain v. U.S. Forest Service</i> , 137 F.3d 1372, 1381 (9th Cir. 1998). Without specific information regarding the available mitigation measures to address these and other environmental concerns identified in the NorthMet DEIS, MCEA is unable to properly evaluate the severity of the adverse effects associated with the NorthMet DEIS or the long-term environmental impacts anticipated from the Project. The DNR and ACOE must clearly indicate whether any of the mitigation measures identified will be adopted and how effective the mitigation measures would be if adopted, or given a reasoned explanation as to why such an estimate is not possible. <i>Id.</i>	G2D



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Comment ID	Comment Text	Theme Codes
23	<p>The approach taken by the NorthMet DEIS in regard to connected actions does not comply with state or federal regulations. Federal and state laws require that the environmental impacts of connected actions be evaluated in a single EIS. 40 C.F.R. § 1508.25(a)(1); <i>Thomas v. Peterson</i>, 753 F.2d 754, 757 (9th Cir. 1985); Minn. Rule 4410.200, subp. 4 (“connected actions . . . must be considered in total. . .”). A connected action includes any action that “cannot or will not proceed unless other actions are taken previously or simultaneously.” 40 C.F.R. § 1508.25(a)(ii). Under Minnesota Rules, connected actions include any projects where one induces the other or where one project is a “prerequisite for the other.” Minn. R. 4410.0200, subp 9b(A) and (B). The NorthMet DEIS fails to analyze the power source for the NorthMet Project and the land exchange between the Forest Service and Polymet as connected actions in violation of legal requirements under NEPA and MEPA. The NorthMet DEIS indicates that it “identifies and analyzes the potential alternatives and impacts for the Project based on the successful completion of a land exchange and elimination of National Forest lands from the Project.” The NorthMet DEIS states that “the USFS and PolyMet have been having detailed discussions exploring the feasibility for a land exchange. The USFS has identified approximately 6,700 acres of National Forest land to exchange to PolyMet for a yet to be determined non-federal land” indicating that “[o]nce the current discussions have been completed and a feasible land exchange proposal has been identified, the USFS will be initiating an Environmental Impact Statement (EIS) evaluating the proposed land exchange.”<sup>142</sup> The DNR and ACOE must include the land exchange as a connected action in the NorthMet DEIS. The failure of the DEIS to include the land exchange as a connected action is a fundamental inadequacy of the DEIS.</p>	PRO4
24	<p>Both federal and state regulations require that connected actions must be discussed together in the same environmental impact statement (“EIS”). See 40 C.F.R. § 1508.25(1), Minn. Stat. § 116D.04; Minn. R. 4410.2000, subp. 4. Two projects are considered connected actions if they are related and one project would directly induce the other; one project is a prerequisite for the other and the prerequisite project is not justified by itself; or neither project is justified by itself. The courts have defined connected actions as actions that would not take place independently of one another. <i>Native Ecosystems Council v. Dombeck</i>, 304 F.3d 886, 894 (9th Cir. 2003). The land exchange between the Forest Service and Polymet is clearly a connected action which must be evaluated in the Polymet DEIS under both NEPA and MEPA. The land exchange and the NorthMet project are related and the land exchange would not be necessary “but for” the NorthMet Project. The EPA specifically identified the failure of the DEIS to include impacts related to the potential land exchange as a ‘red flag’ issue and of considerable concern. The EPA noted that the land exchange is a connected action to the NorthMet project, indicating that discussion of the land exchange cannot be deferred to a separate EIS. (See EPA Comments, dated August 25, 2009). Notwithstanding the federal and state regulations requiring the DEIS to include the land exchange as a connected action and the EPA’s identification of this issue as recently as August 25, 2009, the DNR and ACOE issued the DEIS for public comment without including this critical information.</p>	PRO4
25	<p>The NorthMet DEIS cannot avoid the analysis of the true environmental impacts of the Project by stating that it intends to purchase power from Minnesota Power and fail to analyze the environmental impacts associated with the production of this energy as a connected action in the same environmental review document. The NorthMet DEIS indicates that electrical service would be provided for the Project by a new Minnesota Power electrical substation located on Minnesota Power property southwest of the Mine Site near the Dunka Road.<sup>146</sup> The NorthMet DEIS indicates that the Project will purchase 59.3 megawatts (MW) from one of Minnesota Power’s coal-fired power plants.<sup>147</sup> Supplying 59.3 MW of electricity to the Project requires electricity generation and the generation of electricity is a separate, connected action that has environmental effects. As indicated earlier, alternative energy sources must be considered. In any case, it is not sufficient for the NorthMet DEIS simply to identify a “power purchase” from Minnesota Power. The purchase will require Minnesota Power to generate additional electricity. The generation of electricity, whether from coal, natural gas, hydro or wind is a “connected action” with environmental effects that must be disclosed, analyzed, and if possible mitigated. The generation of this energy is a necessary and connected action to the Project that will have major environmental consequences.</p>	ALT8,PRO3

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**Comment ID    Comment Text**

**Theme Codes**

25 The land exchange is a connected action that must be addressed in this DEIS, but even if it were not a connected action, the environmental indirect and cumulative effects from the land exchange must be evaluated here. Indirect effects are those “caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable. Indirect effects may include growth inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems, including ecosystems.”<sup>143</sup> A cumulative impact is “the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.”<sup>144</sup> The land exchange is a “reasonably foreseeable future action.” Indeed, the DEIS admits that the project hinges on a successful land exchange. <sup>145</sup> The environmental impacts of the land exchange will occur as an indirect (if not direct) effect of the NorthMet Project and must be disclosed and analyzed here. The NorthMet DEIS did not include any analysis of the environmental impacts from a land exchange between the Forest Service and Polymet. The DNR and ACOE cannot defer analyzing the direct and indirect effects or of the cumulative impacts from a land exchange to a separate EIS as proposed. Inclusion of this analysis in the NorthMet DEIS is required for the DEIS to meet federal and state adequacy standards for an EIS. A land exchange between the Forest Service and Polymet is a reasonably foreseeable future action which will unquestionably have impacts on the environment, including impacts on wildlife, vegetation, wetland destruction and mitigation, green house gas emissions, and multiple other environmental impacts. The failure to include an analysis of the cumulative impacts from the land exchange in the NorthMet DEIS prevents the public from understanding the full scope of environmental impacts associated with the NorthMet Project. Inclusion of this analysis in the NorthMet DEIS is required for the DEIS to meet federal and state adequacy standards for an EIS.

PRO3,PRO6,ALT1

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Comment ID	Comment Text	Theme Codes
26	<p>The format of the informational meetings held by the DNR and the ACOE on December 10, 2009, in Blaine and on December 9, 2009, in Aurora did not meet the minimum requirements for public meetings required by federal and state regulations. The DNR and ACOE sponsored the meetings in Blaine and Aurora DNR “for the purpose of considering public comments on the Draft EIS”.<sup>148</sup> The DNR was required to hold an informational meeting on the NorthMet DEIS after the DEIS was completed and made available for public review and comment. Minn. R. 4410.2600, subp. 2. The ACOE was not required to hold an informational meeting under its rules or NEPA regulations. However, while NEPA did not require the agencies to hold an informational meeting on the NorthMet Project DEIS, once the ACOE decided to convene an informational meeting, it was obligated to conduct this meeting “in accordance with statutory requirements” applicable to the Army Corps of Engineers. 40 C.F.R. § 1506.6. The informational meetings held in Blaine and Aurora did not meet the statutory requirements for meetings or hearings sponsored by the ACOE. Federal regulations governing hearings and meetings conducted by the ACOE include specific requirements for the conduct of ACOE hearings. Specifically, pursuant to 33 CFR § 327.8, members of the public must be permitted to submit oral or written statements concerning the subject matter of the hearing, to call witnesses who may present oral or written statements, and to present recommendations as to an appropriate decision. 33 CFR § 327.8. While the meetings in Blaine and Aurora were billed as an “informational meeting” rather than a “hearing”, the involvement of the ACOE and controlling regulations required that the meeting be conducted in a manner to ensure a fair and unbiased presentation of information or to ensure that competing points of view were allowed to be expressed in a fair and equitable manner. The fundamental concept of due process and responsibility of government agencies to the public requires nothing less. As indicated in the attached declaration of Matthew Norton, the format of the informational meetings regarding the NorthMet DEIS failed to provide the public an opportunity to consider or discuss the environmental impacts of the Project in an open and unbiased manner.<sup>149</sup> While the meeting was ostensibly structured to provide the public with an opportunity to obtain a fair and unbiased assessment of the risks and benefits of the Project, the decision by the DNR and ACOE to allow policy-makers and elected officials to speak and provide their endorsement of the Project while denying other members of the public to express their concerns or disagreement with the positions voiced by policy-makers and elected officials resulted in a one-sided presentation which was weighted in favor of the Project. Rather than an even-handed, unbiased and accurate portrayal of the project, members of the public were provided, from the politicians, with personal endorsements and at times inaccurate representations of the project. There was no equal time provided to speakers who might have expressed different points of view about the project. Conducting the event in such a fashion violated the obligations of both the DNR and ACOE to ensure that the environmental review process for the NorthMet Project met fundamental standards of due process and public participation to which agency sponsored meetings should be held.</p>	PRO6

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Comment ID	Comment Text	Theme Codes
27	<p>Closely related to NEPA’s mandate that agencies take a “hard look” at environmental impacts is NEPA’s prohibition against agency reliance upon conclusions or assumptions that are not supported by scientific or objective data. NEPA’s implementing regulations require agencies to: [I]nsure the professional integrity, including scientific integrity of the discussions and analysis in environmental impact statements. [Agencies] shall identify any methodologies used and shall make explicit reference by footnote to the scientific and other sources relied upon for conclusions in the statement. 40 CFR § 1502.24 (Methodology and Scientific Accuracy). “Unsubstantiated determinations or claims lacking in specificity can be fatal for an [environmental study] .... Such documents must not only reflect the agency’s thoughtful and probing reflection of the possible impacts associated with the proposed project, but also provide the reviewing court with the necessary factual specificity to conduct its review.” Committee to Preserve Boomer Lake Park v. Dept. of Transportation, 4 F.3d 1543, 1553 (10th Cir. 1993). The CEQ regulations require that: “NEPA procedures must ensure that environmental information is available to public officials and citizens before decisions are made and before actions are taken.” 40 CFR § 1500.1(b). To ensure information is available to citizens before decisions are made and before actions are taken, underlying environmental data from which the agency drew its conclusions must be provided in the DEIS. 40 CFR § 1502.24. Courts have held that NEPA requires that the public receive underlying environmental data from which an agency expert derived her opinion (citing for authority 40 CFR § 1502.24). Idaho Sporting Congress, 137 F.3d 1146, 1150 (9th Cir. 1998). See also Siskiyou Regional Education Project v. Rose, 87 F.Supp.2d 1074 (D.Or. 1999) (holding an environmental assessment inadequate for lack of scientific support). Further, 40 CFR § 1502.1 mandates that NEPA documents be “supported by evidence that the agency has made the necessary environmental analysis.” Consequently, the DNR and ACOE have a duty to disclose the underlying scientific data and rationale supporting the conclusions and assumptions in the FEIS. Unsupported conclusions and assumptions in the NorthMet DEIS violate NEPA. Public availability to the underlying information on which DEIS conclusions are based is the key to fulfilling NEPA requirements. Massachusetts v. Watt, 716 F.2d 946, 951 (1st Cir. 1983) (“[U]nless a document has been publicly circulated and available for public comment, it does not satisfy NEPA’s EIS requirements.”); Dubois at 1287 (“Because of the importance of NEPA’s procedural and informational aspects, if the agency fails to properly circulate the required issues for review by interested parties, then the EIS is insufficient even if the agency’s actual decision was informed and well-reasoned.”). Each of MCEA’s experts identifies specific concerns regarding the lack of underlying documentation supporting key conclusions reached in the DEIS. The failure of the NorthMet DEIS to include the information on which the DEIS conclusions were based is a direct violation of NEPA.150 The DNR and ACOE must provide the information identified by MCEA’s experts to the public and allow the public an opportunity to evaluate this information and comment on it prior to the release of a Final Environmental Impact Statement (“FEIS”).</p>	PRO2,PRO3
28	<p>The DEIS recognizes that potential improvements in environmental conditions could result from the No Action Alternative. However, notwithstanding this recognition, the NorthMet DEIS continues to reference “baseline conditions” which include contamination from the old LTV site and violations of NPDES permits as its basis for the assessment of environmental conditions under the No Action Alternative. The NorthMet DEIS must include information regarding the extent of environmental improvements associated with remediation of the Areas of Concern and reissuance of the NPDES permits in its assessment of environmental conditions under the No Action Alternative. The NorthMet DEIS should provide this information to allow the public to have an accurate understanding of the environmental benefits associated with the No Action Alternative.</p>	ALT1
28	<p>A number of Areas of Concern which are part of Minnesota’s Voluntary Investigation and Cleanup Program (“VIC”) are still outstanding at the old LTV plant site and tailings basin. In addition, ongoing violations of the NPDES permits have been identified through daily monitoring reports provided by Cliffs Eerie to the Minnesota Pollution Control Agency. Under a “no action” scenario, clean-up of Areas of Concern and NPDES permit enforcement would likely improve water quality conditions in and around the site. Therefore, the “baseline” conditions which have been used in the NorthMet DEIS do not accurately reflect baseline conditions under the no action alternative. Federal regulations require the Minnesota Pollution Control Agency to ensure that corrective actions are taken by the permit holder to address these ongoing NPDES violations. The NorthMet DEIS indicates that these corrective actions could reduce sulfate loadings of impacted waters yet still bases its assessment of baseline conditions used for the No Action Alternative on the existing contamination.16</p>	ALT1

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Comment ID	Comment Text	Theme Codes
29	The NorthMet DEIS did not adequately consider an underground mining alternative or provide adequate justification for eliminating this alternative from consideration. An underground mine could be a feasible and prudent alternative with a significant environmental benefit to the proposed open pit mine. While the NorthMet DEIS indicates that an underground mine would not meet the purpose and need of the Project, the DEIS provides no justification for this separate from economic considerations.17 The NorthMet DEIS fails to explain why an underground mine cannot meet the stated purpose of the mine, “to produce base and precious metal, precipitates, and flotation concentrates from ore mined at the NorthMet deposit by uninterrupted operation of the former LTVSMC processing plant site.”18 Earlier drafts of the NorthMet DEIS recognized that underground mining technology could meet the purpose and need of the project, was technically feasible, was an available technology, and could possibly offer significant environmental or socioeconomic benefits when compared to the proposed project.19 Additionally, the Response to Public Scoping Comments recognizes that underground mining technology could offer environmental benefits to using the proposed open pit mining technology to mine the ore deposit.20 Likewise, the NorthMet Mine and Ore Processing Facilities Project Final Scoping Decision (“Final Scoping Decision”) recognizes that environmental benefits may be associated with a smaller footprint from an underground mine.21	ALT3
30	While the underground mining alternative was ostensibly rejected due to the additional cost associated with it, the environmental impact of an underground mine involves a smaller environmental footprint than an open pit mine. Considering the anticipated amount of financial assurance which would be required to address the larger-scale environmental footprint of an open pit mine, the additional costs of an underground mine could be offset by the smaller environmental footprint of the mine and likely smaller financial assurance requirement for this type of mine. The NorthMet DEIS fails to rigorously explore and objectively evaluate an underground mine as a viable alternative or to justify its exclusion from consideration as an alternative as required by NEPA.22	ALT3
31	The NorthMet DEIS also fails to consider alternatives for electricity consumption which would significantly affect the project’s impact on the environment. Consideration of alternative energy sources should be a major component of the EIS given the enormous variation in environmental impacts between different sources. See, e.g., U.S. Department of Energy, Carbon Dioxide Emissions from the Generation of Electric Power in the United States ( <a href="http://www.eia.doe.gov/cneaf/electricity/page/co2_report/co2report.html#electric">http://www.eia.doe.gov/cneaf/electricity/page/co2_report/co2report.html#electric</a> ). The environmental consequences of generating power for the Project, along with an evaluation of alternative energy sources, must be evaluated in the EIS. See additional discussion of this issue, <i>Infra</i> , pp. 52-56.	ALT8
32	While there is some uncertainty regarding the impacts from increased sulfate loading on methylmercury rates, the NorthMet DEIS also underrates current scientific understanding of mercury biogeochemistry and the environmental factors controlling methylation rates.26	EOO,FM1
33	The NorthMet DEIS indicates that the West Pit overflow might not meet the Lake Superior mercury standard.29 The potential exceedance of the Lake Superior mercury standard by the West Pit overflow must be more fully discussed in the NorthMet DEIS, including a clear identification of mitigation methods which can be used to ensure that the West Pit overflow complies with the Lake Superior mercury standard. The NorthMet DEIS may not simply put off consideration of an identified and necessary mitigation measure until some point in the future. The NorthMet DEIS must clearly discuss potential issues in water quality associated with the West Pit overflow and measures which can be taken to prevent these water quality violations.	WR3I,WR4C
34	The NorthMet DEIS fails to include a comprehensive reclamation plan or financial assurance information regarding the cost associated with closure of the Project. The failure of the NorthMet DEIS to include specific information regarding reclamation plans and the associated financial assurance which will be required to ensure that the reclamation will be completed is a fundamental inadequacy of the DEIS. By failing to include this information in the DEIS, the public is not able to assess the true environmental risks associated with the Project. The inclusion of information regarding financial assurance is critical to allow the public to fully understand and assess the effectiveness of reclamation and closure activities which serve to inform the public about the potential long-term environmental impacts of the mine and the potential risk to the public in the event the public has to assume responsibility for the cost of the reclamation.	PD12,G9
35	MCEA shares the concerns articulated by the tribal agencies regarding the impact from increased sulfate levels on wild rice stands	WR4F

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Comment ID	Comment Text	Theme Codes
36	Assessments conducted by the Minnesota Pollution Control Agency in the late 1990's suggest that the Biwabik Iron Formation could be a sole-source aquifer. <sup>30</sup> These MPCA studies recognize the impact mining activity and mine pits can have on ground-water recharge and water quality of aquifers used for public water supplies. The MPCA specifically identified nonferrous minerals mining as a potential risk to groundwater and single source aquifer water quality. <sup>31</sup> The DEIS must identify and discuss the potential that the Biwabik Iron Formation could be a sole-source aquifer and the impacts from the NorthMet Project on water quality in this aquifer and related impacts on public water supplies	WR2A
37	The DEIS inadequately characterizes wetlands in the Project area. As a result, the DEIS also inadequately characterizes the environmental impacts from the proposed Project. With the actual types and numbers of wetland acres cast into doubt and the connectivity of these wetlands to groundwater, the selection and discussion of wetland mitigation sites, total acre, and options is left without basis in scientific fact and reasoned basis, and must be redone after proper wetland typing is conducted. <sup>33</sup>	WE1,WE2
37	In addition, the NorthMet DEIS should provide the public with information regarding special protections under federal law for sole source aquifers due to the significance of these water sources as sole or principal drinking water sources for an area. <sup>32</sup>	WR2A
38	The DEIS' wetland classification was, "based on a generalized, largely physiognomic scheme that was not effective for characterizing wetlands...." <sup>34</sup> To the extent that vegetative species data was collected from the mine site wetlands, much of it indicated serious conflicts between that botanical data (in which one can generally have a fairly high degree of confidence) and the wetland classifications that the DEIS assigned to those wetlands. <sup>35,36</sup> It is not possible to rely upon wetland replacement ratios that are based on the reported wetland classifications, because in light of the very strong conflicting information about the wetlands, the classifications lack a rational scientific basis. Due to the aforementioned flaws in the wetland classification, the DEIS does not contain sufficient information to allow the reviewer to determine whether the suggested wetland banking projects identified in the DEIS, are proper sites capable of mitigating for all wetland losses.	WE1,WE3
39	The revised DEIS must include a more careful field assessment so that a revised wetland classification of the Project area is based on sound scientific data. The classification should be reviewed carefully to ensure that classifications do not conflict with species data. The mitigation plan must also be revised to include a re-worked analysis of wetland acres and types necessary to provide proper mitigation. MCEA suggests that careful consideration be given to restoration of the Alborn fen-bog complex. <sup>37</sup>	WE1,WE3
40	The DEIS requires substantial improvement in several important areas, including: more complete lynx location data	WI1
41	The DEIS requires substantial improvement in several important areas, including: disclosure of low snowshoe hare numbers wher the ENSR 2006 winter survey was conducted	WI1
42	The DEIS requires substantial improvement in several important areas, including: failure to discuss the need for and proposed content of a habit conservation plan, in the even a federal-private land exchange convers the mine site to private ownership	WI1
43	The EPA's National Hardrock Mining Framework (hereinafter, "Hardrock Mining Framework") indicates that: "EPA should evaluate the adequacy of EISs for mining operations in predicting the long-term environmental impacts of mining operations. Assessment of financial assurance mechanisms that will be utilized to provide funding of required long term environmental management systems is critical to this analysis." <sup>1</sup> Including financial assurance information in an Environmental Impact Statement is becoming standard practice, especially for mining operations which are reasonably anticipated to require long-term water treatment. (See attached letters from EPA, Region 92, and Region 103, concerning mining operations in which the EPA sought financial assurance information as part of the environmental review process.)	PD3
44	The DEIS requires substantial improvement in several important areas, including: failure to include all current and reasonably foreseeable future projects in the required catalogue and analysis of cumulative impacts	WI5

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**Comment ID    Comment Text** **Theme Codes**

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| 44 | A portion of the destroyed habitat, mainly representing the area covered by stockpiles of overburden and low-grade ore, will be destroyed and unavailable to lynx for a period of time lasting at least several decades. Roughly a decade after the mine closes and reclamation has been completed, the stockpiles may by then have become partially revegetated. Still, that partially-restored habitat will never regain the same quality it possesses now. Thus, the stockpile areas will be temporarily destroyed and permanently adversely modified by the Project. <sup>39</sup> The remainder of the destroyed suitable lynx habitat and designated critical habitat, mainly representing fenced areas, steep-sided and/or flooded mine pits, will be destroyed as lynx habitat, completely and permanently. <sup>40</sup>  | WI1 |
| 45 | Destruction and degradation of suitable lynx habitat (especially designated lynx critical habitat) causes habitat fragmentation. Habitat fragmentation has been called “the most serious threat to biological diversity,” and “the primary cause of the present extinction crisis.” <sup>41</sup> Fragmentation has other serious implications for lynx conservation, including <sup>42</sup> : (1) reduction of area and patch size of late-successional forest and of optimal snowshoe hare habitat; (2) creation of openings that facilitate access by potentially competing carnivores <sup>43</sup> like coyotes, which have been found near the Project area <sup>44</sup> and possibly bobcats; (3) increased densities of edges between early successional and other forest types; and (4) changes in the amounts and structural complexity of seral forest stands within landscapes. In addition: Although landscape-level studies have not determined how fragmentation affects lynx ecology and population persistence (Koehler and Aubry 1994), rare species associated with wilderness, such as the lynx, generally are considered most susceptible to fragmentation (Bright 1993). Likewise, habitat specialists with large individual spatial needs, including the lynx (Quinn and Parker 1987; O’Donoghue et al. 1998), are likely to be impacted by habitat fragmentation (Andr n 1994). This is so because generalist predators tend to dominate the predator guild in fragmented landscapes (Oehler and Litvaitis 1996). <sup>45</sup> In short, habitat loss in one location also has significant effects that extend to immediately adjacent and local surrounding habitat areas. | WI1 |
| 46 | In addition, the habitat loss and adverse modification resulting from the proposed Project would contribute to lynx critical habitat fragmentation on a regional scale. The Project would impair two of the rare remaining wildlife corridors through the 115 mile-long Mesabi Iron Range. <sup>46</sup> Wildlife corridors 11 and 12 (Barr denotes them as 16 and 17) are two of just 13 (18) wildlife corridors that connect suitable habitat to the north of the Iron Range with suitable habitat to the south of the Iron Range. Absent the few remaining wildlife corridors, the Iron Range would block direct travel between the northwestern third and the southeastern third of designated lynx critical habitat.  | WI5 |
| 47 | If and when the mine is established, the fenced mine pits and overburden stockpiles will eliminate some habitat permanently, narrowing the funnel leading to the corridors, and thereby making it less likely that lynx attempting to travel to the north or northwest would encounter the corridors.  | WI1 |
| 48 | During the life of the mine and for some time thereafter, the activity at the tailings pile and tailings basins (not to mention the possibility of tailings basin expansions to the east), will diminish the funnel of habitat approaching the corridors from the north and west.  | WI5 |
| 49 | The Project will leave large, wide-open, and for a long time unvegetated, expanses of tailings piles and settling ponds, steep rock stockpiles that are miles long. “[L]arge openings (greater than 100 m across) may create barriers to lynx movement and travel corridors are needed for cover for lynx.” <sup>4</sup>   | WI5 |
| 49 | Habitat fragmentation by loss of corridors also tends to facilitate competition by generalist predators, <sup>50</sup> including bobcats.  | WI1 |

**Sender Last Name:** Taggart

**Submission ID:** 1054

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| 1158 | It is Important that" PolyMet be pennitted to start operations as soon as -possible. Jobs in our'region and in our country are v"ital to all aspects of our economy. Mining Is being done in a safe and responsible manner and can provide long term, high paying jobs that feed local, state, and national businesses with economic value. This In turn is very positive for a wide variety supporting industries. | EOO |
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**Sender Last Name:** Tammen

**Submission ID:** 3686

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
1	Hydrological data at the mine site. The model of impacts to the Partridge River and adjacent wetlands is based on inadequate data. According to the EIS, ten single-well tests were done in the surficial aquifer at the mine site, which covers several square miles. The scarcity and quality of data are such that the assessment of impacts to the Partridge River and adjacent wetlands is virtually meaningless. Without this data, a determination of the potential acreage of impacted wetlands is impossible, as is a determination of the potential drawdown of the Partridge River. As the CPEIS concludes, “the potential for widespread drawdown of the water table within the surficial and wetlands deposits cannot be evaluated from the available study.” Monitoring wetlands and stream flow after the mine is built is not an alternative to collecting the data for the draft EIS. The whole point of the environmental review process is to reveal these impacts before decisions are made to permit the project.	WR1E
1	Bob Tammen, Soudan, Minnesota. I'd like to comment that the process should not have been changed for this meeting. In previous hearings we've had the opportunity to address the issues in public so we could hear what both supporters and opponents of the project have to say. It's good information for us to have, whether people support it or oppose it. And the format they have here tonight, nobody hears my comments here, I don't have the opportunity to hear anybody else's comments, and it's like having a trial where the prosecutor and defense don't get to hear the trial. And so I'd request that we have additional hearings on this issue, that they be held at least in Duluth and Rochester so other parts of the state can have input and that they can hear what the issues are. Thank you.	PRO6
2	Predicted mine inflow rates are provided as single-value numbers. As discussed above, there is not enough data to make these predictions with any level of certainty. This section should provide information on the degree of certainty in these predictions, which should then be carried over into the discussions of decreased stream flow and groundwater drawdown. While the agencies are not required to include a “worst case analysis” in the EIS, they are required to explain the degree of certainty of their predictions. To the extent that the predictions are uncertain, the EIS must provide more information on the consequences if the drawdown proves to be greater than predicted.	WR1E
3	All of the water quality analyses need to include aluminum. In some of the water quality modeling, aluminum was not modeled because it is already present above water quality standards. Yet it appears likely that the sources in question will increase the aluminum concentration in ground and surface water. The fact that background water quality already exceeds standards does not mean that an increase is not a significant impact. Just the opposite; once standards are exceeded, any additional amount is problematic.	WR3I
4	All of these impacts will cumulatively affect the Partridge River. In addition to be more forthcoming about each of the impacts individually, the DEIS needs to describe the cumulative impact.	WR5A
5	Lack of indirect wetland impact assessment, including delineation of wetlands in the Embarrass River watershed.	WE1,WE2



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Comment ID	Comment Text	Theme Codes
6	<p>The cumulative impact analysis of wetland impacts for the NorthMet project is fatally flawed. It is inappropriate to limit the analysis of cumulative wetland impacts to the Partridge River. GLIFWC staff reiterate that wetland impacts related to regional mining operations throughout the area as well as large wetland impacts of the proposed PolyMet project to the Embarrass River watershed must be included. In addition, the analysis must include impacts related to changes in wetland functional values, only impacts related to direct fill. At a local scale, PolyMet is likely to impact wetlands in the Embarrass River watershed as water that percolates through the bottom of the tailings facility enters that shallow aquifer. This water, which is likely to have degraded quality, will re-emerge at the surface within wetlands of the Embarrass River watershed. The high chemical load of this water will affect wetlands by degrading water quality and altering the wetland functional values. In addition, PolyMet air emissions may deposit contaminants in the watershed of the Embarrass River and further degrade wetland quality. The full extent of wetland impact resulting from 20 years of emissions from the proposed PolyMet project via air and water must be quantitatively characterized. This quantitative analysis should be done using model output (air, surface and groundwater). A quantitative assessment of changes to functional values should include an analysis of the effects of 20 years of surface and groundwater emissions along with the additive effects of air emissions for Embarrass River Wetlands. Finally, the PolyMet project as proposed includes a possibility of post-closure contamination of surface and groundwater. The wetland cumulative impact analysis must include a quantitative analysis of the long-term effects of mine effluent on wetlands of the Embarrass River. If mine related effluent is to be perpetual, this section must discuss the effects of perpetual mine discharge on wetlands. In regards to the Partridge River watershed, the analysis correctly focuses on 3 timeframes of analysis; Pre Settlement Resources, Existing Resources, and Future Resources. However, the cumulative impact discussion includes only wetland loss due to direct fill. There is no attempt in the document to assess cumulative impacts that result in changes to functional values. The issue of changes to wetland functional value has been highlighted to the Army Corps of Engineers (ACE) and the Minnesota Department of Natural Resources (MDNR) during technical meetings. The DEIS should provide a quantitative analysis of the cumulative changes in wetland functional values for the Partridge River. This analysis must include the functional value changes related to maintenance of features of the closed mine (e.g. changes in water quality of mine site wetlands, changes in water flow through mine site wetlands, etc.). At a regional scale, Iron Range taconite mining has impacted wetlands through direct wetland fill as well as indirect impacts due to air deposition of mine related contaminants, water quality degradation, and the flooding/de-watering of wetlands which lead to changes in wetland functional values. There are two additional geographic scales at which wetland cumulative impacts should be characterized: St. Louis River Watershed. The Fond du Lac band of Lake Superior Chippewa has identified this watershed as an area of concern. The cumulative impact analysis should quantitatively characterize the following: 1. The additive effect of PolyMet related air and water emissions to the Partridge and Embarrass River watershed wetlands and their impact on water quality of the St. Louis River. 2. The loss of wetlands and changes in wetland functional values in the St. Louis River watershed during the 3 timeframes, including a characterization of the potential for future mining impacts and the long-term maintenance requirements of the PolyMet mine as currently proposed. 1854 Ced</p>	WE1,WE5
7	<p>Lack of identified wetland mitigation for the amount of wetland impacts that are identified.</p>	WE3
8	<p>GLIFWC staff reiterate that the impacts to these wetland acres is significant. In addition, 475 acres of required mitigation has not been addressed. Finally, the DEIS should also indicate that this would be the largest wetland fill ever permitted by the St. Paul District of the Corps of Engineers.</p>	WE3
9	<p>The DEIS states that there is no current documented tribal use of resources in the area of the proposed project. GLIFWC staff stress that most band members do not report their harvest sites and therefore it is not surprising that no records are available. The DEIS should not assume that no tribal natural resource use has/is occurring. Army Corps consultation with potentially affected tribes had not been completed at the time of publication of this DEIS. Therefore, historic and current Tribal harvest has not been determined for either the Plant or Mine Sites.</p>	CR2

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Comment ID	Comment Text	Theme Codes
10	Mercury transport modeling. In several situations, mercury seems to have been deliberately left out of modeling and analysis presented in the (DEIS). Since all of the water bodies in the mining area are either known to be or can be assumed to be above the water quality standard for mercury, this is a curious omission. As an example, the discussion of water quality impacts on the Partridge River omits mercury because “predicted concentrations for mercury were not available for the liner leakage of the stockpiles (RS53/RS42, SRK, 2007a) and groundwater recharge from the East Pit and West Pit (RS31, SRK, 2007b).” These predictions “were not available” because PolyMet has not done them, despite doing equivalent work for a number of other constituents that are far less likely to result in violations of water quality standards. It is incumbent upon the DNR to demand that this work be done so that it can be included in the EIS. The failure of the DEIS to address mercury release and transport is discussed further below.	WR4A
11	Wetland delineation and field data. The impacts of mine dewatering are likely to extend to wetlands far beyond those that have been delineated and described in the (DEIS) and the wetlands permit application. The lack of information on the hydrology of the mine site cannot become an excuse for failing to identify the full extent of potential impacts on wetlands. All of the wetlands that may be impacted must be delineated and field surveyed.	WE1
12	The (DEIS) is very unclear about discharges to surface water. In the first of many disingenuous statements, the text reads, The NorthMet Project proposes a wastewater management strategy that would eliminate the need for a surface discharge of process wastewater, including mine pit dewatering, to surface waters of the state from either the Mine or Plant Sites. At the Mine Site, leachate from stockpiles and ‘contact’ storm water (i.e., storm water that has contacted the stockpiles) from disturbed surfaces would be collected and treated in a wastewater treatment system prior to being transferred to the tailings basin, where it would be stored for reuse in the processing plant. There would be no discharge from the facility with the exception of seepage to ground water from the tailings basin. This statement is misleading because the seepage to groundwater from the tailings basin will surface in wetlands and the Embarrass River. While it may be technically true that there will be no “surface discharge . . . to surface water” that does not mean that there will be no discharge to surface water. And yet that is exactly the impression that the above paragraph gives. The mining company and its supporters are already flagrantly misrepresenting the situation in the local press and to elected officials. It is incumbent on this EIS not to contribute to that campaign of misinformation.	EOO
13	The question of whether a NPDES permit is needed for the wastewater discharge through seeps is a question for the discharge permit proceeding. However, I think it is worth noting here that EPA and most federal courts require a NPDES permit where it is clear that a discharge to dry land or to groundwater is contributing pollutants to nearby surface water. The EPA has stated that “the Agency interprets the Clean Water Act to apply to discharges of pollutants from a point source via ground water that has a direct hydrologic connection to surface water.” 66 FR 2960, 3015. Most federal courts that have addressed the issue have agreed with this interpretation. Following an extensive review of the case law, one court concluded, “The logic of these cases is compelling: since the goal of the CWA is to protect the quality of surface waters, any pollutant which enters such waters, whether directly or through groundwater, is subject to regulation by NPDES permit.” <i>Washington Wilderness Coalition v. Hecla Min. Co.</i> , 870 F.Supp. 983, 990 (E.D. Wash. 1994). This conclusion is particularly compelling here, where discharges to the Embarrass River and its tributary streams and wetlands through groundwater seeps have been treated as surface water discharges for decades. There is no rational reason to treat seeps that reach ground level at a point that is covered by water differently than seeps that reach ground level in a dry area. PolyMet appears to be seeking to take advantage of what it sees as a loophole in permitting requirements, and this attempt must not be accepted by the permitting agencies. The paragraph quoted above is also untrue in that PolyMet plans to discharge mine pit overflow to surface water (the Partridge River) after the mine closes. It is incredible that because this discharge will not be happening within the current NPDES permitting cycle, the discussion of necessary permits treats it as if it does not exist. Once again, the public is led to believe that the mine will not discharge pollutants to surface waters, and this is completely untrue.	WR3I

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<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
14	(It is noted that) pursuant to the federal Endangered Species Act, the Army Corps of Engineers is required to consult with the Fish and Wildlife Service prior to issuing a 404 permit. The CEQ regulations state, To the fullest extent possible, agencies shall prepare draft environmental impact statements concurrently with and integrated with environmental impact analyses and related surveys and studies required by the Fish and Wildlife Coordination Act (16 U.S.C. 661 et seq.), the National Historic Preservation Act of 1966 (16 U.S.C. 470 et seq.), the Endangered Species Act of 1973 (16 U.S.C. 1531 et seq.), and other environmental review laws and executive orders. 40 C.F.R. § 1502.25(a). According to the statute itself, Prior to making any detailed statement, the responsible Federal official shall consult with and obtain the comments of any Federal agency which has jurisdiction by law or special expertise with respect to any environmental impact involved. 42 U.S.C. § 4332. As noted above, the draft EIS “must fulfill and satisfy to the fullest extent possible the requirements established for final statements.” Thus the draft EIS must include the comments and opinions of the Fish and Wildlife Service regarding impacts on lynx and lynx habitat.	WI1,PRO3
15	One of the greatest concerns surrounding the NorthMet project is the number of operations and activities that will need to continue for decades or centuries after the mine closes. When the avoidance of significant environmental impacts is dependent on closure activities extending indefinitely into the future, the EIS should say so, and explain the risks. To the extent that these operations and activities are described in the EIS, very rarely is a timeframe mentioned. We cannot tell from the EIS if a particular water treatment activity is likely to be needed for five years after mine closure, or for five thousand. At the very least, the EIS should identify the longest time frame that the activity might need to continue. This information is critical to evaluating environmental risks. Any activity that may be needed for years after mine closure presents significant risks that failures of the financial or regulatory systems will lead to a failure of the closure or mitigation activity. The longer the activity might need to continue, the greater the risk. In addition to a discussion of the potential length of time these activities might need to continue, the EIS should include a description of the potential impacts if the operation or activity ends prematurely. This is not a complete list, but some of these activities include monitoring and upkeep of wetland treatment systems; monitoring and upkeep of fencing around the pit lake; restricting tree growth on the top of bench areas in the waste rock stockpiles; pumping and piping drainage from stockpiles and the tailings basin; operation of the wastewater treatment facility; monitoring (and potentially treating) discharge to the Partridge River; pumping of water from Colby Lake to the tailings basin pond; monitoring and pumping drainage from the hydrometallurgical residue cells; and maintenance of the pit wall cover.	ALT8,WR1A
16	Liner integrity has not been established with any degree of confidence. Dr. David Blowes, Canada, UMD Geology Department lecture circa 2005, provided evidence that waste rock liners and acid mine drainage barriers inevitably fail. Considering the implications of toxic drainage from liner cracks into ground and surface water, the DEIS should include an in-depth study of liner designs and failures, especially from his research and development work in Canada. Per NEPA this evidence and information is available and cannot be ignored. Probable causes of liner failure are compressive and shear stresses combined with stress risers and aging of liner materials. These stresses could well exceed the limits of the liner material and must be reviewed as part of the DEIS in terms of safety factors. Potential seismic events during and after the full waste rock pile loading are also a factor in this type of risk analysis.	PD2,PD9,GT1

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Comment ID	Comment Text	Theme Codes
17	<p>The (DEIS) states that impacts to groundwater will be assessed at the property boundary or the nearest discharge to surface water, whichever is closer. This is poor policy (as it assumes that groundwater under the site will be sacrificed to mining contamination) and does not comply with state law. Under Minnesota law, “waters of the state” include groundwater. Minn. Stat. § 103G.005(17). Minnesota law protects the quality of all groundwater, regardless of location. See Minn. R. 7060.0300(6) (“‘ Underground water’ means the water contained below the surface of the earth in the saturated zone, including, without limitation, all waters . . .” (emphasis added)). Groundwater is thus a public rather than a private resource. As such, impacts to that resource must be revealed to the public and considered in agency decision making regardless of where the groundwater is located. An impact to groundwater below the project property is an impact to resources of the state. Minnesota regulations provide that the highest and best use for all groundwater is as potable water. Minn. R. 7060.0400. Regulations forbid the deposit of waste “in such place, manner, or quantity that the effluent, or residue therefrom, upon reaching the water table, may actually or potentially preclude or limit the use of the underground waters as a potable water supply, nor shall any such discharge or deposit be allowed which may pollute the underground waters.” Minn. R. 7060.0600(2). The prohibition on discharges of pollutants to groundwater is not meant only to ensure that water quality standards are met, but rather “to preserve high quality waters.” Id. I am not aware of any law or legal precedent that allows property owners to contaminate the water under their property as long as water quality standards are met at their property boundaries. The (DEIS) states that groundwater compliance points will be determined in the discharge permit process. According to the groundwater regulations, the compliance point is at the point of contact with the water table. Although variances are available, to my knowledge no such variance has been applied for, and the (DEIS) says nothing about the need for a variance. The (DEIS) should not assume that a variance will be granted, or that compliance points will be located no closer to the project than the property boundary.</p>	WR2J
17	<p>It appears that the assessment of water quality impacts from the tailings basin will be based on a comparison with water quality at groundwater monitoring well GW002. The well appears to be located at an industrial dumpsite and well within the area that has been disturbed by previous mining activity. A more pristine, upgradient site should be identified for baseline water quality data.</p>	WR1E
18	<p>Minnesota and federal law both recognize that the degradation of water quality in high-quality waters can be significant even if the impact does not reach the level of violating water quality standards. The permitting regulations that apply to discharges to both surface water and groundwater thus include “nondegradation” requirements. Minn. R. 7050.0185 (all waters); 7052.0300 (surface waters of the Lake Superior basin); 7070.0500 (groundwater). The discussion of impacts to water quality should thus not be limited to constituents for which water quality standards may be violated. The increased level of all pollutants over background levels should be assessed and disclosed.</p>	WR3I
19	<p>The (DEIS) states that for wetland impacts, “a threshold of 1- foot of simulated water level change will be used when evaluating numerical model results.” Aside from the problems of insufficient data to determine this threshold with any degree of accuracy, many wetlands are sensitive to drawdown of less than one foot. No citation or rationale is given in the (DEIS) as the basis for this cut-off.</p>	WE2

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Comment ID	Comment Text	Theme Codes
20	Unfortunately, the (DEIS) gives no citation, table, or figure by which a reviewer can compare the outcomes of the deterministic and probabilistic models. Specific discrepancies are indicated in the text (i.e., for cobalt, copper, and fluoride for the Category 1/2 waste piles), but no specific information is given for the majority of constituents from the majority of the sources. Numbers given in tables and figures are based only on the deterministic modeling; despite an occasional footnote saying as much, these table and figures are misleading. The numbers presented do not represent the full range of water quality impacts predicted in modeling. The problem is exacerbated in additional text that provides deterministic results with no mention of the degree of uncertainty or the results of probabilistic modeling. In sum, the (DEIS) presents somewhat arbitrary numbers as to what the water quality might be, rather than revealing the full extent of the potential impacts on water quality. As a subsequent portion of the text states, “Presented with ranges for values, the decision on what effect constitutes an “impact” then become a decision for the managing State or Federal agency.” However, the (DEIS) does not present ranges of values. I have heard that the DNR has requested additional design work on the tailings basin, and expect that a new round of modeling will be done to predict impacts, and thus I have not reviewed this section of the (DEIS) in detail. I would like to note, however, the (DEIS) text that reads, In any case, similar to the conclusions from the limited uncertainty analysis for the Proposed Action, it is considered that a thorough uncertainty analysis for the Mitigation Design is likely to indicate that solute concentrations could range between several times higher and several times lower than these [deterministic] predicted values. It is absolutely critical that the uncertainty analyses be done before the DEIS is put on public notice, and that they be included in the DEIS.	WR1E
21	It is unclear from the discussion whether the water quality impacts presented in the CPEIS incorporate the assumptions that discharge water will be treated passively in the East Pit wetland prior to discharge and that the wall rock cover will remain perpetually sound. It appears from the CPDEIS that the DNR is not yet convinced that these assumptions are warranted. If that is indeed the case, the estimate of potential water quality impacts should be revised accordingly.	WR3L
22	Similarly, section () states, “The proposed Category 1/2 stockpile liner system does not appear to provide adequate containment.” It is unclear whether water quality predictions took account of this inadequacy. Is the efficacy of the proposed liner reflected in the “high liner leakage” scenario, or will leakage potentially be even greater than assumed in that scenario? If it might be greater, once again the water quality impact predictions should be revised. The absence of an adequate slope stability assessment for the waste rock stockpiles is also noted. Although this discussion does a slightly better job describing impacts, it needs to provide some sense of how large an impact a slope failure might have on water quality.	EOO
23	The (DEIS) states that under the no action alternative, “Natural dissolution, mobilization, and transport of PCOC’s would still occur at current rates due to past mining and milling activities.” Similar statements are made in other sections. Hopefully they are untrue. Much of the plant and tailings basin site is subject to ongoing efforts at remediation. As described in the CPDEIS, the facility has been out of compliance with its discharge permit for many years. Mobilization and transport of PCOCs will not continue at current rates if the owners and permittees of the property are required to comply with state and federal laws.	ALT8,WR3I
24	In regards to the Dunka Pit stockpiles, the (DEIS) states, “Although monitoring of the site has produced a detailed long term record of stockpile drainage chemistry, uncertainty in rock composition and drainage pathways led to elimination of this drainage chemistry as an analogue for stockpiles proposed at NorthMet.” Although I understand that it might not be appropriate to use this data in quantitative modeling, the experience at the Dunka Pit is extremely pertinent to the NorthMet project and at the very least should be qualitatively described. The Dunka Pit is geographically much closer to the NorthMet site than other sites from which data was used, and illustrates the uncertainty of predictions and the problems with addressing impacts that turn out to be greater than expected. In several other sections, the authors of the (DEIS) cite professional judgment and experience to downplay other types of potential impacts. For instance, insufficient data on area wetlands is excused by stating that experience at taconite mines indicate that wetlands in areas adjacent to mines are often not affected. The experience at Dunka Pit is at least as relevant to decision makers as other experience on the Iron Range that is incorporated into the (DEIS). I believe it would be of value to decision makers to describe the situation at Dunka Pit and the difficulties MPCA and the DNR are having in dealing with it.	PD3

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Comment ID	Comment Text	Theme Codes
25	The statement “Depending on the customer’s requirements, two methods would be considered for loading the dried concentrate into storage containers and unloading the concentrate from those containers into rail cars for shipping:” implies that processors other than PolyMet would be either contracting for concentrate from PolyMet or having their ore processed at this plant. In either case the analysis and recommendations on this DEIS would be altered and need in-depth review per NEPA and MN rules. The movement of concentrate with 20% sulfur content itself has serious environmental consequences. Would contract processing affect the projected volume of material being processed in the benefaction and waste management areas?	PD2
26	Despite indications from humidity cell tests that leachate from waste rock will have a mercury level five times the surface water quality standard, PolyMet did not include mercury in its water quality model, and the (DEIS) gives no data on the potential impact of leakage and discharge from the stockpiles and pit lakes on mercury levels in the Partridge River. Given that mercury is known by everyone involved to be one of the most sensitive issues for any industrial facility in the Lake Superior Basin, it is difficult to interpret this omission as anything other than an attempt to avoid the prohibition on new discharges of mercury to Lake Superior tributaries.	WR4A,WR4B
27	It may or may not be true that the ground that the stockpile leakage passes through on its way to the Partridge River will adsorb mercury to the extent that it will meet surface water quality standards where it discharges to the river. It is beyond belief, however, that PolyMet (and apparently the DNR) do not believe that that any further analysis is needed to make that determination. Both during and after mining, stockpile leakage containing mercury will discharge to groundwater in close proximity to the Partridge River. The Category 1, 2, and 3 stockpiles are located less than one-eighth of a mile from the river. Unlike other constituents, the Category 1 and 2 stockpile might be the largest source of mercury releases, as mercury leaching is not dependent on sulfur content. A mile-long stretch of this stockpile is located about one-eighth of a mile from the Partridge River headwaters.	WR4B,WR4B
28	The (DEIS) is equally lacking in information about mercury discharge from the tailings basin. While I understand that percolation through taconite tailings is likely to reduce the concentration of mercury originally present in the discharge, PolyMet needs to present something more than conclusive statements that the mercury level will be below the surface water quality standard when it discharges to surface water. The company has not provided scientifically defensible justification for this conclusion. A very high volume of water will travel through the basin, some of which will flow under the collection system and emerge in surface waters. Some of these waters (such as Trimble Creek and several lakes) are considerably closer to the tailings basin than the Embarrass River, and have been ignored in the analysis so far.	WR4A,WR4B,WR4B
29	In light of this statement, the DNR’s failure to require the same analysis of mercury release and transport as was performed for other constituents is incomprehensible. The Draft EIS must provide a quantitative analysis of the discharge of mercury to the Partridge and Embarrass River from these pathways during and after mining, and from direct surface discharge from the West Pit after mining.	WR4A
30	A mitigation plan that covers all wetland impacts needs to be available at the time the DEIS is put on public notice. The (DEIS) estimates indirect impacts at 328 acres, and states that 300 of these acres are not yet included in the mitigation plan. First, given the lack of information on hydrology, this number is a very rough estimate. Information on uncertainty needs to be included, along with some disclosure of what the largest impacted acreage might turn out to be. Second, mitigation plans must be identified prior to release of the Draft EIS and included in that document. Because replacement of wetlands is regarded as reducing the significance of wetland destruction, it is impossible to assess the significance of wetland impacts without knowing what the mitigation will be.	WE3

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<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
31	<p>The federal and state wetland mitigation requirements are unequivocal regarding the preference for mitigation within the watershed. It is not up to the permittee to decide that the opportunities for mitigation within the watershed carry too high a price. The DNR and Army Corps of Engineers should insist that PolyMet restore wetlands within the St. Louis River watershed if an appropriate location can be found, regardless of the added cost. The very size of the wetland impact in this case is going to make the purchase of additional land appear unreasonable, but it is actually the size of the wetland impact itself that is unreasonable; the cost of mitigation follows directly from the size of the impact. Similarly, if a number of smaller mitigation locations are available within the watershed, the fact that it is more difficult to undertake several smaller projects than one or two large ones cannot be used as an excuse to go outside the watershed. The enormity of the impact seems to be creating a situation that makes it easier to receive permission to mitigate the impact outside of the St. Louis River watershed, and that is unacceptable. The policy should be just the opposite; the greater the impact to the watershed, the greater the need to keep compensation within the watershed. If permitted, an entire subwatershed of one of the St. Louis River's main tributaries will be sacrificed to this and past mining projects. The least that can be done in mitigation is to improve conditions in other subwatersheds of the St. Louis River if locations are available. The Aitkin and Hinckley mitigation sites are a long way south of the PolyMet project, and virtually none of the values and functions of the wetlands at the mine site can truly be compensated for there. In addition to the hydrological and water quality values of these wetlands to the Partridge and St. Louis Rivers, the PolyMet site provides habitat for a number of wetland species, including lynx, wolves, moose, and a number of bird species that are not found as far south as the Aitkin site. In addition to the difference in climate, tree and plant species that are heavily affected by deer density may have more difficulty at the mitigation sites, and it is questionable whether comparable ecosystems can be established there. For too long, the mitigation rules have been used to ignore the actual impacts of wetland destruction. The National Research Council report that led to the new federal wetland mitigation rules found that while as a nation we may have halted the loss of wetland acreage, we have by no means halted the loss of wetland value and function.<sup>2</sup> The new Army Corps of Engineers rules<sup>3</sup> were supposedly designed to change this so that the wetland permitting process actually identified the specific values and functions that were being lost and designed mitigation geared specifically to replace those losses. My understanding is that this would be the largest wetland loss ever permitted in the St. Paul region. The Corps has the opportunity on such a large project to use its new regulations to usher in a more responsible era of wetland mitigation. PolyMet needs to be sent back to the drawing board to design one or more mitigation projects that actually compensate for the functions and values lost.</p>	WE3
32	<p>The impacted wetland acreage from this project is so large that it will significantly impact at least the North Branch of the Partridge River. That impact cannot be ameliorated by restoration of wetlands in any other watershed, and yet there isn't a site large enough to replace the wetlands within the North Branch watershed. As a result, this project proposes to sacrifice the North Branch of the Partridge River to mining. I do not believe this is a legally permissible outcome regardless of the mitigation rules. Portions of the (DEIS) downplay the impact by focusing on a higher watershed level (e.g., section 4.2.7.4 on cumulative impacts); the DEIS should more consistently describe the degree to which the North Branch of the Partridge River will be destroyed by this project.</p>	WE2,WE3
33	<p>Wetlands that will be created at the mine site after closure as mitigation wetlands are listed. Many of these wetlands are also slated to provide treatment of water that may not meet water quality standards after closure of the mine. Wetlands that will receive discharges of water that does not meet standards and that are used as a passive treatment system cannot be counted as wetland mitigation.</p>	WE3,WE6

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Comment ID	Comment Text	Theme Codes
34	<p>The (DEIS) gives no information about the extent of surveys for rare plants or wildlife, nor the time of year when surveys were conducted. I cannot be sure from the information I have, but the only reference I have found regarding multi-species plant surveys appears to be to the data from a single survey, apparently conducted in August of 2004. If this is actually the case, more work needs to be done before concluding that there are no additional rare plant species present on the site. The (DEIS) makes several statements that lead me to believe that the site has not been extensively surveyed for wildlife. For instance, the (DEIS) states “Significant populations of Wood Turtle, however, are unlikely to be found at the Project.” It is unclear if anyone has actually looked for Wood Turtles at the project site. Similarly, “the Heather Vole has not been recorded within 10 miles of the Project by the Minnesota Natural Heritage Program (NHP). It was also not found in nearby surveys of small mammals on the Chippewa National Forest (Christian 1999) and in Cook County (Jannett 1998).” It is unclear if anyone has looked for the Heather Vole at the project site. The text does provide a reference to a survey by “ENSR,” but no information is given about the extent of that survey or its findings. It would help to have this basic information included in the DEIS text.</p>	WI2
35	<p>Assumptions concerning hydraulic conductivity in the bedrock beneath the Tailings Basin and the general direction of groundwater flows beneath and surrounding the Tailing Basin are inadequate to form a basis for assessing the need for an NPDES Permit for the Tailings Basin. Outflows to surface waters of the Partridge and Embarrass rivers from both identified and unidentified seeps plus the resurfacing of polluted groundwater have not been identified. Lack of specific hydrologic subsurface flow data from the Tailings Basin in itself makes the DEIS inadequate. From the Ref. “Groundwater Sensitivity and Solid Waste Disposal in Minnesota” by Stuart Grubb, PG; U of Minnesota, 5.7.2009, in Igneous and Metamorphic Aquifers, “...localized flow patterns can be unpredictable”. Further, “Groundwater flow from such sites is typically via one or more conduits and the probability of intersecting the relevant conduit with any rational number of monitoring wells is vanishingly small. Contaminants routinely are not detected in these site monitoring wells but show up in off-site wells or springs long distances from the site. However, the springs may be inaccessible, for example, beneath lakes or rivers.” The same paper concludes, “Tracer tests are the established and preferred method of documenting groundwater flow velocities and directions in Karst and fractional flow aquifers. And, “time of travel is a good surrogate when accounting for other factors might reduce contaminant concentrations and groundwater sensitivity, such as sorption and chemical reactions.” Since no such data exist for this Tailings Basin area, predictions of pollutant discharges would need to be made long after the fact of construction and operation. The DEIS does not account for this problem with respect to NPDES permitting justification or need. NEPA requires a detailed explanation of this issue. Per “Kuipers-Maest et al, 2006, “Comparison of Predicted and Actual Water Quality at Hardrock Mines”, 100% of existing mine plans predicted compliance with water quality standards before operations began and over 75% exceeded (failed) water quality standards after the fact. The mine being in a wet environment such as that found at this proposed Project site makes potential of preventing acid mine drainage and metals leaching very low. Modeling of Mine and Plant site hydrology comments in the DEIS admit to pollution problems with leakage from storage heaps and cells. For example in Section 4.1.3.1, Environmental Consequences, Proposed Action, Post-Closure , After year 65, “the surface seepage to Second Creek (Seeps 32-33, Figure 4.1-14) is expected to continue indefinitely based on experience after closure of LTVSMC Cell 1E”. And from section Effects on Groundwater Levels, Evaluation Methodology, P. 4.4-57, “The MnDNR believes that actual hydrogeologic characteristics of the Project site do not fit the model assumptions of homogeneous porous media flow (uniform vertical and horizontal conductivity) for the bedrock and till layers.” The potential for acid generation from the 394,082 tons of waste rock (Table 3.1-7) is huge. Using the MnDNR chemical mass balance equation <math>4\text{FeS}_2 + 15\text{O}_2 + 14\text{H}_2\text{O} = 4\text{Fe}(\text{OH})_3 + 8\text{H}_2\text{SO}_4</math> (Lapakko, 2009) indicates that tens of thousands of tons of acid generation potential exists in the waste rock from the proposed Project. Apparently the seeps are expected to continue indefinitely. NEPA requirements are not satisfied by satisfied by proceeding with long term water pollution assured. The consequences must be addressed in the EIS.</p>	WR2A,WR3I



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Comment ID	Comment Text	Theme Codes
36	<p>I found the treatment of state endangered, threatened, and special concern species quite problematic. Despite the fact that a very significant percentage of the statewide populations several species will or may be affected by this and other foreseeable projects, the (DEIS) dismisses each one as insignificant. For instance, the (DEIS) first determines that 17% of the state’s known populations of pale moonwort, a state endangered plant, may be destroyed by this and other projects. It then dismisses the significance of this percentage by insinuating that the plant is not “really” endangered but probably just has not had many of its populations identified, and that because it is found on disturbed sites, these projects are unlikely to affect its presence in Minnesota. If only 64 populations have been found in Minnesota thus far, however, it is clear that tolerance for disturbed sites does not correlate with widespread presence. It is completely unclear why impacting more than one-sixth of all of the known populations is not a threat to the presence of the species in Minnesota, regardless of tolerance for disturbed sites. The discussion of floating marsh marigold is particularly troubling. Half of the state’s known occurrences of this plant occur on or closely downstream from the mine site. According to the text, eight of the thirteen populations at the mine site “are believed to be sufficiently removed from potential direct and indirect affects [sic] of the Project so as not to be affected.” The document does not reveal how far downstream these populations are, but given the lack of knowledge about hydrology in the area and what the actual indirect impacts on wetlands, streamflow, and water quality will be, the DEIS should treat these populations as potentially impacted by the project. Furthermore, even if “only” five populations of this species are impacted, this is 20% of the state’s populations of a state-listed endangered plant, and has to be treated as significant. Similarly, impacts on 21% of Minnesota’s known populations of neat spike-thrush, a state-listed threatened species, has to be considered significant. The speciousness of this entire discussion is reflected in a statement regarding the clustered burr-reed: “Enforcement of existing wetland regulations, which require avoidance and minimization of wetland impacts, reduces the likelihood that known populations of this species would be significantly affected over the long term.” If enforcement of existing wetland regulations is not going to avoid impacts on nine percent of the known state populations under discussion here, at what point will the wetland regulations begin to be effective?</p>	WI2
37	<p>The (DEIS) states, “Water quality modeling of the potential for [groundwater discharge] to impair water quality indicates that predicted concentrations of the modeled parameters in the Partridge River will meet Minnesota water quality standards, and therefore is expected to be protective of aquatic life.” As explained earlier in the text, the range of potential levels of many of the constituents of concern is very broad. There is no certainty that leakage from the stockpiles and pit lakes will not violate water quality standards where it discharges to the Partridge River. The range of uncertainty needs to be discussed here, along with the potential impacts on aquatic life if acid drainage turns out to be more significant than PolyMet expects.</p>	WR2F,WR2F
38	<p>Furthermore, what the text does not tell us is that mercury is not one of “the modeled parameters.” We have been given no predicted concentrations of mercury and do not know if it will meet Minnesota water quality standards. The conclusion that water quality “is expected to be protective of aquatic life” is thus unwarranted.</p>	WR4A,FM2,FM5
38	<p>As discussed below, I have found no support for this statement in the record. Deposition and run-off of metals and sulfur needs to be modeled to determine whether this statement is true.</p>	WR3M,AQ4A
38	<p>One of the significant impacts of this project that is virtually certain to occur is the reduction in base flow in the North Branch of the Partridge River. The (DEIS) acknowledges this (“Reduced habitat quantity resulting from this reduction in flow may be of sufficient magnitude to appreciably alter the structure and function of biotic assemblages in the Partridge River in the vicinity of SW002 and to a lesser degree in the vicinity of Stations SW003 and SW004 further downstream”), but hides the acknowledgement three-quarters of the way through a page-long paragraph. It is thus unlikely to be noticed by any but the most persevering reader.</p>	WR3E

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<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
39	Another likely impact on the North Branch of the Partridge River is the rising of temperature due to reduced groundwater discharge. As groundwater begins to flow toward the mine excavation, a greater percentage of water in the stream will stem from precipitation and surface flow. In addition to reducing stream flow, this water generally has a higher temperature than groundwater. Particularly in mid- to late summer, streams are dependent on groundwater inflow to stay cool enough to serve as fish habitat. Reducing the groundwater discharge to a stream presents the double-whammy of raising temperatures due to less volume and slower movement, and also due to the temperature of the source water. The DEIS should provide an assessment of the likely impact of the project on temperatures in the Partridge River.	WR2A
40	The single most likely form of impact from air emissions is the local deposition of sulfur and metals, and their ultimate run-off into local water bodies. This issue does not appear to be covered by any of the criteria listed for the impacts analysis. The (DEIS) lists the various emissions calculations and modeling that were performed, and then concludes “Considering the composition and magnitude of fugitive and stack emissions, airborne deposition is not a likely pathway of contamination leading to significant impacts on fish or macroinvertebrates in local streams and lakes.” No scientific support for this statement is given here or in any of the supporting documents. According to the (DEIS), the project will emit up to six tons of nickel per year. In a similar mine permitting proceeding in Michigan, deposition modeling indicated that most metallic emissions are deposited in close proximity to the mine. <sup>4</sup> The emission of 1300 pounds of copper per year at that site led to the prediction that a nearby stream that is similar in size to the North Branch of the Partridge River would exceed the water quality standard for copper due to run-off of deposition, particularly during snowmelt. PolyMet prepared an analysis of the potential deposition of sulfur and nitrogen in Class I areas, twenty miles away or more. It also prepared an analysis of the impact of the emissions of metals on air quality in the project vicinity. Clearly the means are available to model local deposition of these same substances. MPCA staff are well-versed in estimating the run-off of deposition into surface waters from their studies of mercury deposition. The impact on local water quality from deposition is potentially significant and must be studied.	WR3M,AQ4
41	The discussion of the loss of access to resources retained by Ojibwa tribes under treaties with the United States demonstrates the problem with preparing a DEIS before important aspects of the project have been determined. It is stated, “A potential land exchange is currently being considered by the USFS for National Forest System lands proposed to be used by the Project; should this occur, access to natural resources on the additional land by 1854 signatory tribes may be made available, although it is unknown whether or not this would compensate for or result in a net loss of access rights to ceded territory.” This lack of information on impacts that are critical to local tribes is unacceptable. As explained above, it is not sufficient to say that these impacts will be assessed in a separate EIS. All of the impacts of the project must be reviewed together in one document.	ALT8,PD8,G3,CR1,CR4

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**Comment ID    Comment Text**

**Theme Codes**

41 The position that this Project area emissions are below “major source” thresholds for the PSD Increments for PM10 has not been sufficiently supported by data or modeling. There are no correlations given to show that the Annual Point Source Criteria Air Pollutant Emissions for PM10 and PM 2.5 (Table 4.6-5) meet the Allowable Class II Increments for PM10 in Table 4.6-3 on either the PM10 24-hour or the annual averaging period. The units are incompatible and it should not be left to the reviewer to make this determination. What is the equivalent of tons per year in micrograms per cubic meter in this comparison? Further, based upon the rationale for selecting coefficients and constants for algorithms used in modeling each individual air pollutant emission source, the calculated values are subject to a great deal of individual interpretation. For instance in the mine site section a great deal of discussion is centered on subjective justification for picking a value for a constant out of a reference book. For example, on P. 42, RS57A, 3.2.4 Dunka Road Sources, “...site specific silt content data is not available. Therefore, the “most representative value” from AP-42 Table 13.2.2.1 was used. This was “taconite mining and processing, service road” with a mean value of 4.3%.” Why was the mean value selected rather than another value? Modeling errors have significant negative consequences in a case involving irreversible pollution. On P. 39, section 3.2.1 Raw Material Handling, a “mean wind speed” of 9.3 mph was obtained from “climates of the States” Vol. II, Water Information Center, 1974 for International Falls, MN. This dated data was used to calculate lb/hr emissions of PM and PM10. How would this method of selecting coefficients provide a range or degree of confidence scenario for generation of PM or PM10 at this location? The coefficient for high winds applied to the calculation would produce a much higher value for PM10 and PM in any case. These constants are usually tabularized or written into a higher order equation for use in modeling. With these examples in mind, the projected emission for PM10 (3t/y) and PM 2.5 (1 t/y) appear very low for an “upper bound” calculation. There are no ranges or confidence intervals expressed for any of these numeric values which is unusual in cases where subjective selection of modeling coefficients and constants occurs. The degree of confidence in these modeling results is very important since pollution control strategies for both this and future projects would depend upon the size of this Increment. The maximum Increment value would determine the PSD source designation. This Project could very well be a “major source”. Ambient monitoring data from open pit metallic sulfide mines exists and in most cases demonstrates that air quality in the vicinity of the open pit mines and processing plants is impaired beyond NAAQS, MAAQS and PSD increments. Evaluation of this project on a partial plant capacity basis does not meet NEPA criteria requiring that all potential scenarios for generation of air emissions be evaluated.

AQ4

41 The discussion of socio-economics must include detrimental aspects of mining economies. Socio-economics cannot be reduced to the amount of money and jobs the project will ostensibly bring to the area.

SE3

41 As someone who (along with many others involved in reviewing the PolyMet project) has been very involved in fighting for reductions in emissions of pollutants like mercury over the years, it is disheartening to find that rather than resulting in permanent reductions, our efforts are being used to allow new emissions. The cumulative mercury emissions analysis indicates that statewide reductions and additions will result in a statewide emission level of 2,337 pounds by 2015, down from 3,638 in 2000. The state goal is 789 by 2025. Simply to state those numbers is to understand how unlikely it is that we will meet the goal if these new emissions are permitted. The (DEIS) repeats the tired excuse that most of the mercury deposited in Minnesota comes from somewhere else. Yes, and the mercury emitted in Minnesota falls somewhere else, creating problems for others. The Minnesota mercury reduction goals were chosen to reflect the degree of reduction that everyone will have to make before Minnesota waters will become “fishable” again. If we do not meet our goal, we have no business asking anyone else to meet that goal, and yet we need them to meet the goal to make our fish edible. By permitting these increases in mercury emissions, we are likely contributing to a worldwide failure to reduce emissions to a level that would clean up Minnesota’s water in the foreseeable future. Global climate change is perhaps the ultimate cumulative impacts issue, and yet the (DEIS) omits this from its discussion of the cumulative impacts of air emissions. The DEIS should include a cumulative impacts analysis similar to the ones done for other pollutants and issues. Furthermore, I disagree that the amount of CO2 this project will either emit or be responsible for (due to electric production and transportation) is insignificant. By stating the amount as a percentage of worldwide emissions, of course the amount appears miniscule. A better indicator of significance would be comparison to total U.S. industrial emissions, along with a discussion of reduction targets and what they would mean for the State of Minnesota.

WR5A,FM3,AQ3,AQ4B,AQ

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Comment ID	Comment Text	Theme Codes
42	The (DEIS) does provide numbers that reflect the fact that historically, mining has had more of a negative than a positive impact on communities. According to the (DEIS), East Range communities, most of which are mining-based, have lower education levels, lower median income, and higher poverty rate than St. Louis County and the State of Minnesota as a whole. It is indicated that of the selected East Range cities, Tower is the only one with less than 10% of its workforce employed by the mining industry; It is indicated that while Tower has a lower median income than some of the cities that are heavily affiliated with mining, it also has a much lower poverty rate and a higher percentage of employed adults. This makes intuitive sense. Virtually anyone in Northeastern Minnesota who pays attention understands that mining jobs pay comparatively well, but are not stable over the long term. These statistics are also in line with studies of economic conditions in mining communities. <sup>5</sup> Rather than simply list statistics, the DEIS should provide some interpretation to make the numbers meaningful.	SE3
43	The (DEIS) ignores the volatility of the mining industry, assuming that jobs will continue uninterrupted for the predicted life of the project. It has no more to say about mine closure than “Unless new industry is developed in the East Range area prior to completion of these activities, it is assumed that 95 percent of working-age people formerly employed by the NorthMet Project would need to secure alternative local employment or would leave the area after this time.” This complete lack of concern for the impacts of mine closure is particularly galling given the fact that the taconite industry is currently suffering yet another downturn, and miners are being laid off as the DEIS is written. The DEIS discussion of socio-economics needs to include a discussion of the impacts of relying on a cyclical industry as the major economic driver of a community.	SE3
44	In addressing environmental justice it is concluded that because the affected community does not have a significant Native American population, Native Americans are not disproportionately affected by the project. However, members of local tribes do have a disproportionate interest in the resources at risk; their culture is dependant on continued access to such resources, and their current access to resources at the mine site is protected by treaty. In contrast, the destruction of plants and wildlife habitat may mean little to the majority of the European-American population. The impacts of the proposed project would thus fall disproportionately on tribal members. One of the points behind environmental justice concerns is that a more privileged segment of society often makes decisions that disproportionately affect less privileged segments of society. This is exactly what appears to be happening here. The majority non-native population is making a decision to permit the destruction of resources that are of particular interest to the native population. Tribal members, who will be most affected by the loss, are apparently being given little or no say as to whether that loss will be permitted. This is precisely the type of situation that environmental justice is meant to address.	SE2
45	The PolyMet project is likely to have impacts on several receptors and from several sources that are not included in the (DEIS). These include water quality in local wells at residences downgradient from the tailings basin; the impact of pit water quality on wildlife; mercury and sulfate impacts downstream from the tailings basin and mine site; and impacts from the generation of electricity used by the project. All of these should be added to the draft EIS.	G7A,G8
46	Based upon previous comments herein, the assumptions that this project would not be considered a “major source” for PSD considerations is not supported by the modeling analysis pursuant to PSD regulations. Being the first metallic sulfide mine in the State of Minnesota and the DEIS not having been supported by data from equivalent projects elsewhere, the Project is experimental in nature at best. A hydrometallurgical metals separator of this size has never been built. The business model as well as the pollution modeling is designed to need post-build calibration if the Project were permitted. Use of uncalibrated, site specific modeling results to set “upper bounds” for assessing potential impacts does not meet NEPA criteria. Irreparable damage would occur from this experimental approach to a major Project design. Also, potential mine expansion and contracting for processing material from other similar mines must be assessed in the EIS per NEPA. These would be “indirect effects” and must be considered in analyzing air quality impacts. We support and hereby incorporate by reference all comments submitted by Tribal cooperating agencies, as set forth in Appendix D to the Draft EIS, and also set forth within footnotes throughout Volume I of the Draft EIS. This includes comments concerning the effects of releasing reactive waste rock dust into wetlands. This would contribute to increased methylation of mercury and must be evaluated in the DEIS.	AQ1,AQ4,AQ4B

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Comment ID	Comment Text	Theme Codes
47	As stated, fugitive emissions are expected to occur from the Tailings Basin. Dust control mechanisms described include the use of wet tailings, floatation slime and existence of capillary action at the water and tailings interface. In no other known instance in MN or elsewhere have these mechanisms prevented huge peak releases of fugitive dust during high winds. The shell game of identifying previously captured PM10 and PM2.5 material transported from the Plant to the Tailings Basin as fugitive dust and excluding it from being included in the determination of a major source must be addressed under NEPA. This is an “indirect source” of criteria pollutants directly connected to Plant emissions. Modeling fugitive emissions using average wind velocities of (9.3 mph) from International Falls grossly underestimates the emissions of these PM10 criteria pollutants. Selection of coefficients for modeling is also affected by both the alteration of the nature of tailings material and non-linear effects of friction coefficients. As discussed earlier herein, there are no confidence limits given on the data presented. The projected PM10/2.5 emissions from the mine site appear very low based on fiber monitor data from the Babbitt, Silver Bay and Beaver Bay sites. The effects of increased PM2.5 emissions and impacts must be stated in the criteria pollutants summaries per NEPA rules.	AQ1,AQ4
48	• There is no data showing sampling methods and data to verify that amphibole mineralization does not occur either at the Northmet deposit or at other deposits that would feed the 2/3 plant capacity not being included by PolyMet in the DEIS assessments.. • The Stevenson Thesis (Amphiboles at the Base of the Duluth Complex, Minnesota, Robert J. Stevenson 12/1982 University of Minnesota) and other technical observations indicate that intrusions of extremely toxic ferroactinolite and other amphiboles occur at and in close proximity to the Northmet mine site. Stevenson analyzed ten samples from South Kawishiwi and Partridge River intrusions including the Inco Spruce Road and Maturi sites plus the Dunka Pit Site. Amphibole content varied from zero to 13.1% by volume with a median value of .43% by volume. Samples were taken from both overburden material and at varying underground site depths. Hornblende, actinolite and cummingtonite fiber concentrations were found at high levels. • Recent (1/7/2008 through 10/26/2009) fiber monitoring data from Hoyt Lakes and Babbitt, MN demonstrate that amphibole fibers are present in the ambient air in the vicinity of the Northmet mine and LTV ore processing sites on a continuing basis. Amphiboles were detected in 14 of the 61 samples or 34% of the time at the Hoyt Lakes monitor site. The comparable value at the Babbitt site was 75% indicating that the ambient air in the entire area is currently filled with toxic amphibole fibers. Adding the proposed project would result in a cumulative toxic effect not described in the DEIS. Peak levels of 8175 fibers per cubic meter in Hoyt Lakes and 12023 fibers per cubic meter of air in Babbitt should be cause for concern even before considering adding a new source in this area. • Fiber monitoring at scientifically defined sites should continue on a regular schedule as long as there is any activity at this Project location since the amphibole intrusions occur randomly and would not be identified by other means. This is a public health issue on-site and in surrounding areas. • Scientific work regarding the toxicity of ferroactinolite, cummingtonite-grunerite and other asbestos-like fibers has been conducted since the early 1980s at the EPA’s Duluth Water Quality Laboratory by experts familiar with material from this area. (e.g. Ref. “Interpretation of the Carcinogenicity of Amosite Asbestos and Ferroactinolite on the Basis of Regained Fiber Dose and Characteristics in Planned Class II increment analysis shows 24 hour PM10 predicted concentrations just under the PSD increment of 30 micrograms per cubic meter. No confidence or statistical bounds are given to support this data. Similarly, the review for compliance with NAAQS shows that the expected 24 hour PM2.5 predicted total ambient impact plus the background to be just under the 35 microgram per cubic meter NAAQS for PM2.5. NEPA requires a more detailed study and justification of the conclusion that this data validates the claim for designation as a minor source for PSD. As supporting evidence for a major source PSD designation, the recently completed fiber monitor tests by MPCA at the Babbitt, MN, a site close to the proposed Project, show that the air is filled with amphibole fibers of the PM10 and PM 2.5 class in this area. True BACT would be appropriate for the PolyMet Project especially in view of the potential for both sulfide and amphibole fibers filling the air. The Plant Site Projected Actual Emissions for PM10/PM2.5 potential in Table 4.6-5 may also be understated. Adding bag houses on the front end of the processing plant is desirable. However, the waste from the filters is sent to the tailings pond and its potential for emission is not included in the emissions calculations. These are highly concentrated sources of P10/PM2.5, amphiboles and asbestos-like fibers. This should be considered for major source PSD increment definition and pollution abatement practices. There are numerous examples of serio	AQ4A,AQ4C

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<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
49	Staff remain, as they have for many months, primarily concerned about two issues: 1) that the draft EIS cannot withstand NEPA scrutiny because it does not meet the requirements for a federal EIS, and 2) that the project, as proposed, cannot be permitted by either the state of Minnesota or the Army Corps of Engineers. The following issues have the potential to fall into one of these categories and are more fully described in the attached comments: C the applicant has not proposed sufficient mitigation acreage to cover identified wetland losses caused by the project; C the structural stability of the waste rock stockpiles has not been demonstrated; * the effectiveness of the wetland treatment system has not been demonstrated given the predicted water quality; * the technical feasibility of a 95% capture efficiency required for the tailings basin alternative has not been demonstrated; * the draft EIS does not contain sufficient detail regarding financial assurance, particularly if very long term water treatment is needed; and * the draft EIS fails to reasonably predict indirect hydrologic impacts to wetlands. * the draft EIS is flawed in that it predicts substantial improvements to groundwater quality through the addition of sulfide mine waste to an existing tailings basin.	G8
50	GLIFWC staff reiterate that the method presented in this section (Figure 4.2-8) is inadequate to assess indirect wetland impacts. This method ignores the fact that there is an area of uplands north of cell 2W which has constrained the movement and direction of tailings basin seepage. Therefore, using the northern extent of wetland impacts of 2W for 2E, north of which there are no uplands, is unjustified. Ignoring the presence of the upland area north of cell 2W creates an underestimation in the extent of wetland impacts due to seepage. Tribal cooperating agencies have suggested a more conventional method for indirect wetland impact estimation to the lead agencies (Methods for evaluating indirect hydrologic impacts to wetlands, March 26, 2009, Attachment #8). This method could be applied at both the mine site and the plant site. The method proposed by tribal cooperating agencies was based on work by a consultant for the Army Corps for use in another sulfide mine project EIS (Attachment #7). In addition to having been developed by the Army Corps, this method has been presented by tribal technical staff at professional conferences (Society of Wetland Scientists Conference, 2009 and 55th Annual Meeting of the Institute of Lake Superior Geology, 2009). Tribal cooperating agencies do not agree that the unconventional method described in the DEIS can produce defensible results for indirect hydrologic impacts to wetlands. A more robust method should be used and the analysis presented in the DEIS so the public can review a science-based assessment of potential impacts.	WE1,WE2
51	GLIFWC staff reiterate that there is a serious inconsistency between this wetlands section and information presented in Section 4.1.3.1 of this document. Section 4.1.3.1 page 4.1-65 states: "Therefore, future impacts to the hydrology of the aquifer and wetlands downgradient of the Tailings Basin were estimated by comparing predicted seepage rates for the Proposed Action (Hinck 2009) with the estimated groundwater flux capacity of the aquifer (155 gpm)(Technical Memorandum: TB-2 and TB-14: Tailings Basin Seepage Groundwater Quality Impacts Modeling Methodology). The current seepage rate toward the Embarrass River from the Tailings Basin (Cells 1E/2E and 2W) is estimated at 1,795 gpm, which continues to result in the upwelling of seepage water into the wetlands as the seepage rate exceeds the aquifer flux capacity by over 1,600 gpm. Under the Proposed Action, the unrecovered seepage rate is predicted to increase to a maximum of approximately 3,800 gpm in Year 20, over 2,900 gpm of which would be attributable to PolyMet (Hinck 2009). Therefore, under the Proposed Action, a significant increase (>100%) in groundwater upwelling relative to existing conditions would be expected. Some of this seepage water would drain to existing streams, but because of the generally flat topography and extensive wetlands, much of this water would be expected to form ponds and inundate wetlands." GLIFWC staff reiterate that the latest relevant information developed for the water resources section has not been incorporated into the wetland impact section. The presentation of two different methods is confusing and does not provide an adequate assessment of wetland impacts. A thorough hydrologic impact analysis that incorporates actual seepage rates from the tailings facility should be conducted. In addition, these seepage rates should be used, in conjunction with tailings basin water chemistry information, to assess the effects of this untreated discharge to the biota and functional values of the Embarrass River watershed wetlands.	WR2A,WE2

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Comment ID	Comment Text	Theme Codes
52	For the DEIS to state that "The aerial extent of this impact (degraded groundwater) is unknown due to the lack of a monitoring well network, but based on the limited data available, no offsite contamination has been documented" would appear to be disingenuous. Private wells north of the basin show high levels of constituents found in basin water and well GW009, north of the property boundary, demonstrated high levels of the same constituents found at the toe of the basin. Should it receive permits for its project, PolyMet will assume responsibility for all legacy contamination caused by the tailings basin to surface water, groundwater and wetlands. Therefore, tribal cooperating agencies take the position that the current exceedances both on-site and off-site, which are the result of decades of untreated discharges from the tailings basin, must be addressed by PolyMet as part of its closure plan.	WR1E,WE2
53	As previously stated, GLIFWC staff disagree with these conclusions and take the position that that acreage totals for indirect impacts are underestimated. GLIFWC staff reiterate that data from the wetland delineations indicate that bogs are not the most prevalent wetland type. In fact, it appears that wetlands that require groundwater inputs: forested rich peatlands and poor fens are the most prevalent.	WE1,WE2
54	GLIFWC staff note that potentially impacted wetlands that are part of the 100 Mile Swamp were identified by the forest biologist in 1997 as "lacking ecosystem representation in protected areas." (SNF 1997, January) Interest in protecting the unique character of these wetlands was based on their "watershed integrity, the presence of riverine ecosystems, and large amount of interior forest present." This information was further substantiated in a report by the MNDNR titled "Evaluation of Selected Potential Candidate Research and Natural Resource Areas." (SNF 1997, December) This document describes the 100 Mile Swamp wetlands as "these sites represent the highest quality remaining examples of characteristic ecosystems in each ecological Landtype Association on the Superior National Forest." Tribal cooperating agencies take the position that this information must be included in the functional assessment for this project and included in the development of mitigation requirements for this project.	WE2,WE3
55	GLIFWC staff reiterate that the additional delineations needed for this project should occur for inclusion in a revised DEIS so that the public can review a complete set of potential impacts from the project.	WE1,WE2
56	GLIFWC staff believe that the large acreage of wetlands to be directly impacted and the high quality of the wetlands warrant a mitigation ratio of greater than 1.5:1	WE3
57	The DEIS does not identify sufficient wetland compensation for the impacts that have been identified. This omission is compounded by the likely underestimation of the acreage of wetlands that will be impacted. GLIFWC staff reiterate that the mitigation for the additional 475 wetland acres be identified in the DEIS. If this information is not available, impacts to these 475 acres must be considered as unmitigated impacts.	WE3
58	GLIFWC staff object to the unilateral editing of tribal position statements by the DNR in this section of the DEIS.	EOO
401	We want to keep our water clean in Buck Lake and all affected areas	G7
19615	The DEIS states that there is no current documented tribal use of resources in the area of the proposed project. GLIFWC staff stress that most band members do not report their harvest sites and therefore it is not surprising that no records are available. The DEIS should not assume that no tribal natural resource use has/is occurring. Army Corps consultation with potentially affected tribes had not been completed at the time of publication of this DEIS. Therefore, historic and current Tribal harvest has not been determined for either the Plant or Mine Sites. In addition, GLIFWC staff note that if species of tribal concern 'relocated' to other lands and these other lands were private lands, there would be a loss of opportunity to harvest.	WI3,CR2,CR4

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
19616	GLIFWC staff note that this list of impact criteria is incomplete. This section should also analyze the effects of the project on species harvested and gathered by tribal members on public lands. An example of the analysis that is missing from the DEIS, Recent studies from the MN DNR, the Natural Resources Research Institute at University of Minnesota-Duluth and Tribal natural resource management staff indicate that preservation of wetlands may be one of most important factors in maintaining the moose population in Northeast Minnesota (Attachment 9). The loss of moose habitat associated with this proposed project should have been assessed and the impacts to tribal harvest opportunities described. Finally, the Corps did not complete the consultation process with the potentially affected tribes prior to the release of the DEIS.	WI2,WI3,CR1,CR2,CR4
19617	GLIFWC staff reiterate that the conclusion that the effect on statewide lynx populations would be insignificant is not based on complete information. This analysis does not consider the possibility that the Mine Site might include critical components of lynx habitat present, such as den sites. In addition, the restoration of 'lynx habitat' described in the DEIS ignores the fact that good bobcat habitat will be created first. Bobcats are superior competitors to lynx and thus may prevent lynx from returning to the site.	WI1
19618	The DEIS states that no impacts to bald eagles are expected to occur. GLIFWC staff disagree with this conclusion because impacts to Bald Eagles could result from eagle feeding sites within or adjacent to the project area. Contaminants from the mine site, specifically mercury and heavy metals, could affect prey species thus having secondary impacts on eagle reproduction.	WI1
19619	In the impact discussions for lynx and wolf, the DEIS assumes that these animals would move to other suitable habitat in response to the disturbance at the mine site. This conclusion is overly simplistic and incorrect. GLIFWC staff maintain that displaced wildlife tend to suffer higher mortality just by having to leave familiar territory. This mortality is caused by a lack of knowledge of the new territory, lack of knowledge of the available food sources and competition with animals that are already occupying the area. A complete analysis of the effects of habitat loss on lynx and wolves is required for this project.	WI1
19620	GLIFWC staff note that the discussion regarding pit water quality is misleading. The DEIS states that water quality will improve over time. While technically true, the DEIS should note that pit water quality is expected to exceed standards for hundreds or thousands of years.	WR3C,WI2
19621	· Lack of demonstration of the effectiveness of the wetland treatment system given the expected water quality.	WR3L,WE6
19622	GLIFWC staff strongly disagree with the conclusions presented in the wetlands section. As detailed in comments and tribal positions for section 4.2, the methodology used to predict the acres of wetlands indirectly impacted by dewatering are not adequate to assess indirect wetland impacts. Therefore, any conclusions in this section that are derived from the flawed wetland analysis are invalid.	WI2,WE2
19623	GLIFWC staff reiterate that the loss of mature forest is a significant impact, and note that the activities on the mine site will prevent more forest acreage from reaching this mature community state, representing a nearly permanent loss of habitat.	WI2
19624	GLIFWC staff note that the Emmons and Oliver report (Attachment 10) provides a well researched and clear summary of the expected impacts to travel corridors. However, the DEIS provides greater weight to an analysis provided by the consultant for the applicant (Barr Engineering). GLIFWC staff concur with the Emmons and Oliver report in stating that Corridor 11 is currently a poor and obstructed corridor pending the long term success of a proposed revegetation corridor, and #12 will likely be degraded as a corridor by the Project. We agree with the Emmons and Oliver report that these impacts should be considered significant.	WI5
19625	GLIFWC staff reiterate that per Emmons & Oliver (Attachment 10), any new impacts to the existing wildlife migration corridors is by definition significant, and should require mitigation. For the entire time period (decades) of mine development and operation, Corridor 12 would experience a significant direct loss or fragmentation of wildlife habitat, and impact the ability of many wildlife species to migrate throughout their ranges. Also, until the Section 106 consultation process between the USACOE and the tribes is complete, it is not possible to determine the potential impacts to treatyprotected wildlife.	WI3,WI5



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<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
19626	GLIFWC staff reiterate that noise contour maps should be developed for inclusion in this DEIS. Noise contour mapping would allow reviewers to assess the impacts of noise to all publicly accessible lands in the vicinity of the project which include large sections of the Superior National Forest immediately adjacent to the mine site (See figure 4.9-1). An assessment of noise impacts to all public access lands is important information for assessing cultural impacts to tribes with hunting, fishing and gathering rights in the 1854 ceded territory.	N1,CR2,CR4
19627	GLIFWC staff reiterate that this document does not estimate the potential degree of disturbance to tribal members who may be involved in traditional natural resource harvests on national forest lands. The Corps had not completed the consultation process with the affected tribes prior to the release of the DEIS. Finally, the data included in this section does not permit a characterization of noise impacts to lands that tribal members can access in the vicinity of the proposed project.	N1,CR2,CR4
19628	The DEIS states that the continuous generation of noise at the Plant and Mine Sites would have an insignificant effect on the noise environment during mine operations, Closure, and Post Closure. GLIFWC staff reiterate that this document does not present enough information to make this claim.	N1
19629	GLIFWC staff do not believe that an adequate cumulative impact of noise impacts analysis has been done. Meeting ambient noise standards is a different question than assessing impacts. Impacts should be fully characterized in this document and contour maps showing overlapping noise pollution from different projects provided. Without this information, it is not possible for the public to review the cumulative impacts of noise. In addition, the cumulative impacts of mine related vibration have not been assessed.	N3
19629	GLIFWC reiterates that to fully describe the no action alternative, this section should include discussion of the remediation that would occur at the site under this alternative and it's compatibility with the MFRC Landscape Management Plan.	CPLU1
19629	GLIFWC staff note that the project depends on the successful completion of a land swap with the USFS. This land swap and the NEPA process required for it are clearly linked actions to this DEIS. The DNR should not proceed with this DEIS without fully exploring all issues related to the land exchange process.	PD8,CPLU4
19630	· Lack of incorporation of results of the mercury methylation study and an assessment of the adequacy of said study.	WR1E
19631	GLIFWC staff are concerned that this section does not provide a complete picture of mine related socioeconomic consequences. This section as a whole fails to acknowledge or account for any negative social impacts associated with the loss of natural features that will occur as a result of the Project. It also fails to adequately assess the economic and social impacts to local communities at and postclosure, or as a result of a temporary shutdown. The tribal cooperating agencies note that a recent report by Dr. Thomas Powers entitled "The Economic Role of Metal Mining in Minnesota: Past, Present, and Future," (Attachment 11) addresses some of the impacts that are inadequately addressed in the present draft and should be used in developing this section for the DEIS.	EOO,SE3
19631	GLIFWC staff reiterate that any impacts to natural resources will disproportionately affect tribes due to their subsistence consumption of wild rice, fish, and other wildlife within the 1854 Ceded Territory. We note that the Army Corps had not concluded the consultation process with the affected tribes prior to the release of this DEIS.	SE1

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
19632	GLIFWC staff reiterate that the use of a few visual receptors to assess PolyMet related visual impacts is not adequate. Using this method means that the conclusions presented in this chapter apply only to those visual receptors and do not apply to any other publicly accessible area in the vicinity of the proposed project. Tribal cooperating agencies have requested that a more complete Visual Impact Assessment (VIA) be developed for inclusion in this PDEIS (GLIFWC Comment letter of June 30, 2008 and GLIFWC comment letter of February 6, 2009). Methods for a complete VIA were developed and used for other mine proposals as part of the Army Corps federal EIS process (Crandon Mine EIS Preliminary Draft Technical Memorandum: Visual Resources Section of Draft Chapter 3, November 2002). Despite these comments and Corps precedent, a complete VIA has not been included in this iteration of the PDEIS. A complete VIA would allow the public to review the impacts of project features to all publicly accessible lands in the vicinity of the project which include large sections of the Superior National Forest immediately adjacent to the mine site (See figure 4.9-1). A VIA of all public access lands is important information for assessing cultural impacts to tribes who have retained the right to hunt, fish and gather on national forest lands.	VI1
19633	GLIFWC staff reiterate that the impact criteria are incomplete. The Army Corps had not completed consultation with potentially affected tribes prior to the release of the DEIS. Therefore, this document does not estimate the degree of disturbance to tribal members who may be involved in traditional natural resource harvest harvests on national forest lands.	CR2
19634	GLIFWC staff reiterate that a cumulative impact of visual impacts analysis is needed. A thorough VIA following past Army Corps practices has not been conducted for this project and tribal consultation regarding cultural impacts was not completed. Therefore, this conclusion is premature. Finally, the Tribal cooperating agency position is that the introduction of non-native, invasive species as a revegetation measure may have long-term visibility impacts to the site.	VI2
19635	GLIFWC staff strongly disagree with this approach and note that it is not consistent with the federal EIS process. The purpose of this document is to provide information for all reasonably foreseeable impacts. The lack of a stability analysis for the stockpiles is a serious data gap given the serious environmental consequences of a structural failure of a stockpile.	GT1
19636	GLIFWC staff reiterate that the structural stability of the tailings basin has been a serious concern since the Polymet project was first proposed. This concern has led to the development of at least 3 different tailings basin designs that have been presented in various draft documents. Contractors reviewing these designs have expressed serious concerns with both the short-term and the long-term stability of the facility. Given the history of design problems, a serious analysis of the structural integrity of the latest tailings basin design must not be postponed until the permitting stage. A complete stability analysis must be included in the DEIS to comply with NEPA and so that the public can review a complete set of possible environmental impacts associated with this project. The DEIS acknowledges that there are stability concerns related to the proposed tailings basin. The DEIS deals with this concern by postponing a serious stability analysis until the permitting process. GLIFWC staff strongly oppose this approach as it is not consistent with the federal EIS process. The hydrometallurgical residue facility would contain the most hazardous waste materials produced by this project that, if released to the environment, would cause serious and long lasting contamination. The unknowns listed in this section of the DEIS are a serious data gap and GLIFWC insists that the analysis should be conducted and included in the DEIS to comply with NEPA and so that the public can review a complete set of possible environmental impacts associated with this project.	GT1
19637	As previously stated, GLIFWC strongly disagrees with waiting to conduct a serious stability analysis until the permitting process. This approach is not consistent with the federal EIS process. The EIS must identify alternatives and mitigation methods that address potential problems with the project. Sufficient data must be collected so that a complete structural integrity analysis can be performed and included in the DEIS.	GT1
19637	As previously stated, GLIFWC strongly disagrees with waiting to conduct a serious stability analysis until the permitting process. The purpose of an EIS is to identify mitigation measures that address potential problems in the project. The analysis described in this section must be conducted prior to permitting and included in the DEIS.	GT1
19637	GLIFWC reiterates that the structural stability analysis must be conducted prior to permitting and included in the DEIS.	GT1

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Comment ID	Comment Text	Theme Codes
19639	GLIFWC staff strongly state that given the lack of confidence in the structural integrity of the tailings basin, the dam break analysis and risk assessment must be conducted prior to permitting and the results included in the DEIS so that the public can be fully informed about the risks associated with this project. This position is supported by the following comments that were provided by the DNR Dam safety section to the Pre Draft EIS (DNR comments are available on the DNR FTP site): “Dam safety is concerned that the DEIS pushes addressing potential environmental impacts into the permitting process because the chapter is vague about what the final plan will be and it seems that all potential mitigation measures are on the table. It would have been better to review a conservative design with safety measures possibly deleted during permitting than the current design that may require possible additional safety measures to be added during permitting. The permitting process should smoothly flow from the EIS, but this chapter does not address the environmental impacts of potential changes to the design during the permitting process or provide good guidance for the dam safety permitting process. It would seem difficult to determine the environmental impacts without knowing the final plan. We are concerned that the responsibility for addressing the potential environmental impacts of any changes to the design will fall on the dam safety permitting process.” We agree with DNR technical staff and reiterate that stability analysis of the stockpiles and tailings basin are vitally important in the impact analysis for this project and must be performed prior to permitting.	GT1
19639	· Lack of tailings basin stability analysis.	GT2
19640	· Cumulative impacts to plant and animal species that are not listed as threatened or endangered. The focus of the EIS on listed species is understandable but other species that are important to tribal and non-tribal members would likely be impacted by mining projects. Moose, for example, are likely to be impacted through disturbance along the few wildlife corridors remaining along the Mesabi range and through wetland impacts of this project. At a time when moose populations in Minnesota are declining, this analysis is particularly important and should be done as part of this EIS.	WI5
19640	· Cumulative impacts to wild rice. Wild rice is a valuable tribal resource that has been declining throughout the 1854 ceded territory. Mine effluent is often associated with levels of sulfate that has impacted wild rice and hydrologic changes from pit dewatering and seepage from tailings basins can also impact wild rice, which is dependent upon a relatively stable hydrologic regime. The cumulative impacts to wild rice have not been assessed.	WR5C
19640	The Cumulative effects of noise and vibration. These issues have not been analyzed although they were raised by the public during scoping.	N3
19640	The Cumulative risk analysis of transportation of hazardous materials. This issue has not been analyzed.	HM3
19640	· Climate Change implications of the proposed project. The project would disturb extensive areas of peat (Section 4.2) Peat is known to be an important carbon sink. Wetlands in general are recognized as important carbon sinks and areas where wildlife will seek refuge as the climate warms. Changes in the frequency and intensity of precipitation events are expected to occur within the next 50 to 100 years. Increased severity of storm events and increased intensity of rainfall events have already altered the way in which municipal stormwater collection systems are designed. The tailings basin and stockpile designs, for which stability concerns remain, are designed assuming that the traditional climate normals still apply. This assumption is incorrect and further increases the likelihood that these facilities will fail in time.	AQ3
19640	The Cumulative risk analysis of transportation of hazardous materials. This issue has not been analyzed.	HM3
19640	GLIFWC staff believe this analysis is overly simplistic and contains numerous flaws. In general a qualitative analysis is attempted but important factors are often omitted or left uncharacterized. Furthermore, the qualitative analysis is carried forward in the document even where data are available to conduct a more robust quantitative analysis.	G8

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Comment ID	Comment Text	Theme Codes
19643	GLIFWC staff reiterate that even though cumulative effects to groundwater, vegetation (other than threatened and endangered species), visual and noise effects, hazardous materials, and cultural resources weren't considered during the initial scoping period, they were identified later in the process and therefore should have been made a part of the cumulative impacts analysis and incorporated into the DEIS. As previously indicated, the scoping period for a federal EIS does not end until the issuance of the DEIS. These topics must be properly analyzed in order to comply with NEPA.	G9
19644	The spatial scale described for loss of wetlands in table 4.14-1 is too small to properly assess the cumulative impact to wetlands. Decades of taconite mining have destroyed thousands of acres of wetlands. These previous impacts by mining activity should be part of the cumulative impact analysis. In addition, the temporal scale is too short. The proposed project includes a number of components that will last for thousands of years. Therefore, the temporal scale for wetland impact analysis should also last for thousands of years. As previously stated for wetlands, the temporal scale of habitat fragmentation cumulative impact analysis should also last for thousands of years given the duration of post-mine treatment and maintenance needs.	WE5
19645	· Lack of stockpile stability analysis.	GT1
19646	The DEIS states that “ The Project and future actions would add new mercury emitting sources; however, the implementation of mercury reducing legislation will cause a reduction in existing mercury emissions in the region. This reduction will serve to off-set the new mercury sources and result in a net decrease in mercury emissions. Therefore, there would be no cumulative impact to fish from mercury deposition and bioaccumulation.” GLIFWC staff strongly disagrees with this conclusion. Section 4.1 describes the potential for increased mercury methylation associated with this project on the St. Louis River Watershed. The conclusion presented is speculative at best and is not based on quantitative methods.	WR5A,AQ4,AQ6A
19646	GLIFWC staff strongly disagree with the estimates of wetland loss and the potential impacts of that loss in table 4.14-2; see discussion in Section 4.2 for further detail. A cumulative impact assessment should be conducted after the flaws in the wetland section have been addressed.	WE2,WE5
19646	GLIFWC staff reiterate that the DEIS fails to adequately analyze cumulative impacts to either the Partridge or Embarrass Rivers. Cumulative impact analysis is hobbled by lack of baseline data. In Colby Lake, the community water supply for the city of Hoyt Lakes, aluminum, iron, copper, and mercury concentrations already exceed Minnesota Water Quality Standards (“WQS”). The existing large number of water-quality exceedances and the suite of constituents, particularly trace metals, exceeding WQS shows the site has not been remediated from previous mining activities. Additionally, amphibole or asbestos-like mineral fibers, known to cause digestive tract cancers in high concentrations, have been identified as existing pollutants in the Hoyt Lakes community water supply and their presence should be identified in the DEIS. Related cumulative-impacts issues such as groundwater drawdown or mounding due to multiple mine projects, water quality in aquifers impacted by previous and existing other mine projects, and surface waters such as the Partridge and Embarrass Rivers and Second Creek that are impacted by multiple mines need further analysis.	WR1E,WR5A,WR5C
19647	Regarding streamflow and water quality information presented in table 4.14-2. GLIFWC has commented extensively on the fatal flaws of section 4.1. GLIFWC staff strongly reiterate that there is no scientific basis for the conclusions presented in this cumulative impact section. This analysis should be done after adequate data has been collected and after a proper analysis has been done for section 4.1.	WR5A
19647	GLIFWC staff strongly object to the unilateral removal of tribal position statements submitted for this section by the DNR. Watershed GLIFWC staff strongly object to the unilateral removal of tribal position statements submitted for this section by the DNR. Hydrology GLIFWC staff reiterate that it is not possible to write a cumulative impact section because there is no credible data on the hydrologic impacts of this project.	G8C

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<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
19647	GLIFWC staff disagree with the conclusions in table 4.14-2 that impacts to wildlife corridors would be minimal. Regarding the cumulative impacts of mining on wildlife corridors, section 4.4.5.3 states “These impacts should be considered significant” . The significant nature of the impacts is clearly stated in the Emmons and Oliver report (Attachment 10). GLIFWC staff are concerned that the analysis in the report has not been carried forward to the cumulative impacts section.	WI5
19649	GLIFWC staff reiterate that this is not an adequate cumulative impact assessment for water quality impacts. An adequate cumulative impact analysis would have quantitatively assessed the impacts of the multiple projects in the Embarrass and Partridge River watersheds for all parameters and not just sulfate and mercury. Data are available for the existing and predicted water quality impacts of Mesabi Nugget Phase I and II, the existing water quality discharges of Laskin Energy, and the legacy water quality for pit lakes for the other projects in the watershed. Predicted air quality emissions from NorthMet and Mesabi Nugget Phase II have also been developed. None of these data appear to have been used in the cumulative impact analysis. The tribal cooperating agency position is that a complete cumulative impact analysis should be conducted.	WR5A
19650	In addition to the methodological flaws mentioned above, GLIFWC staff reiterate that factual errors remain in this section. This section states that the NorthMet project is expected to meet all water quality standards. GLIFWC staff disagree. Sulfate, mercury, and specific conductance are already being exceeded in both the Partridge and Embarrass Rivers. Aluminum is being exceeded in the portions of the Embarrass River below the old LTV tailings basin and area Pit 5NW, as stated in the Water Resources section. Colby Lake (the Hoyt Lakes community water supply) already has several constituents including aluminum, iron, copper, and mercury in concentrations that exceed Minnesota Water Quality Standards. The existing large number of water-quality exceedances and the suite of constituents, particularly trace metals, exceeding WQS shows the site has not been remediated from previous mining activities. Therefore, this Project will have a cumulative effect on the waters in Colby Lake, the Partridge River and the St. Louis River.	WR31,WR5A
19652	· Lack of full analysis on the underground mining option (as required by the final scoping document).	PD1
19652	The Emmons and Oliver report on the cumulative impacts on travel corridors states that impacts are significant. This section also states that cumulative impacts are significant but then attempts to minimize that conclusion by stating that the NorthMet contribution to these impacts would not be significant. This last statement is irrelevant because it is the cumulative impact that is being discussed in this section. Furthermore, GLIFWC staff disagree with this final statement and we do not believe that it is supported by the available data	WI5
19653	GLIFWC staff reiterate that the Proposed Action has a number of serious flaws that must be addressed, both from the perspective of the substantive environmental impacts of the Proposed Action and from the perspective of presenting an adequate assessment of the potential impacts that the Project may cause. These include the likelihood of structural failure at the tailings facility, the lack of structural integrity information for the proposed stockpiles, and the need for perpetual water treatment and perpetual synthetic cover replacement to avoid contamination to surface and groundwater resources.	EOO
19654	GLIFWC staff reiterate that the tailings basin alternative is also seriously flawed due to the lack of accounting for the interaction between basin seepage and the existing tailings and the long-term water quality treatment that would be needed to prevent significant environmental impacts. The Permeable Reactive Barrier (PRB) that is proposed to be pilot tested during operations may require periodic recharging/replacement that would last for as long as water treatment is needed. The length of time that water treatment would be needed for tailings basin effluent has not been defined in this document but is likely to last centuries. In addition, it is likely that the proposed discharge of untreated tailings basin water to the Partridge River that is part of this alternative would further exacerbate water quality violations already occurring.	ALT4

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Comment ID	Comment Text	Theme Codes
19654	As previously stated, GLIFWC staff believe that the environmental impacts associated with the mine site alternative have not been adequately defined. It is not possible to completely evaluate the environmental impacts of this alternative to surface water, groundwater, or wetlands due to the lack of baseline water quantity and quality information, the lack of knowledge on groundwater flow and the lack of understanding of the interconnections of groundwater and the extensive wetland complexes in the area. What data is available for the mine site, suggests that water treatment would be needed for an unspecified period of time (likely centuries) in order to avoid contamination to the Partridge River. It is the position of the Tribal cooperating agencies that these serious data and knowledge gaps should have been addressed prior to the release of the DEIS.	ALT2
19655	GLIFWC staff believe that this section is flawed. The DEIS mentions in several areas that analysis vital to impact assessment will be postponed until the permitting process (closure plan, tailings basin stability analysis, etc.). This lack of information does not allow for the development of adequate mitigation measures. GLIFWC staff do not see how a complete list of mitigation, that address reasonable and foreseeable impacts can be developed if the impact characterization is incomplete.	ALT9
19656	GLIFWC staff object to the way in which monitoring is used in this DEIS. As previously stated, the DEIS does not include vital information needed for impact characterization. Instead, the DEIS proposed to substitute monitoring of the project for an analysis that can be included in the DEIS. For example, the complete extent of indirect wetland impacts have not been determined. The DEIS acknowledges that some indirect wetland impacts will occur in addition to those impact identified in the document. The DEIS states that a wetland monitoring system will be used to detect impacts after the project is underway. This method is not acceptable to GLIFWC and does not meet the intent of NEPA.	ALT5
19657	This section states that monitoring program for the project operations and closure is included in RS 52. RS 52 is the applicants closure plan that was extensively reviewed and determined to be inadequate by state and tribal technical staff. In addition, RS 52 was produced in 2007 and there have been numerous changes to the project, including new tailings basin designs, new alternatives and new mitigation measures. There have also been changes to the proposed monitoring and it is unlikely that the original closure plans are valid. Finally, vital monitoring information regarding indirect impacts to wetlands are still being developed by the Corps. These plans should be finalized and included in the DEIS.	PRO3
19658	GLIFWC staff reiterate that the existing rail cars would spill ore along the length of the rail line the replacement of outdated rail cars should be added to the mitigation measure table.	ALT5
19659	· Lack of demonstration of the technical feasibility of the 95% capture efficiency required for the tailings basin alternative.	PD3
19659	· Lack of demonstration of a mechanism for the addition of Polymet tailings to cause ground and surface water quality improvements in the Embarrass River watershed.	WR1E
19659	The DEIS does not adequately asses the impacts of the proposed project to surface and groundwater quantity and quality. The analysis in the DEIS is based on faulty assumptions and inadequate data. The DEIS relies on professional judgment in areas where empirical data are needed to properly assess impacts. Finally, the DEIS does not characterize existing contamination of groundwater, surface water, and wetlands surrounding the existing LTV tailings basin. Without characterizing baseline contamination, it is not possible to properly assess future impacts and mitigation needs. The fatal flaws in section 4.1 are detailed below.	WR1E
<b>Sender Last Name:</b> Tammons		<b>Submission ID:</b> 1187
1302	Considering that this project will mine less than 1% copper, I believe that the waste, destruction, and pollution that this will cause is not worth the price we must pay. Wetlands will be destroyed (6700 acres) in our Superior National Forest is another negative regarding. Will our future generations be thanking us for what we let you (Polymet) do to our water, streams, lakes, and wetlands. Please think about this and say no to Polymet.	EOO,G7B,G7C

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
<b>Sender Last Name:</b> Tarnow <span style="float: right;"><b>Submission ID:</b> 2730</span>		
3180	We need to make sure our water and air are protected, so before we give anyone permission to do anything, it needs careful evaluation.	G2B,G7
<b>Sender Last Name:</b> Tepp <span style="float: right;"><b>Submission ID:</b> 2303</span>		
2745	The PolyMet DEIS describes significant environmental issues associated with this proposed mine. These issues should be resolved before this mine is approved by the Minnesota Department of Natural Resources and the U.S. Army Corps of Engineers. It is disheartening that companies can continue to abuse our natural resources for the benefit of a few. Please stop this now!	EOO
<b>Sender Last Name:</b> Terwilliger <span style="float: right;"><b>Submission ID:</b> 3631</span>		
3913	Thank you for your work on behalf of the Polymet DEIS. I have read quite a bit of it and have paid special attention to the issue of water quality. I have a graduate degree in biology which includes work in both liminology and geology, so the DEIS is comprehensible for me. The site for waste rock appears to be designed adequately for the relatively short term and for most probable situations. The long-term however, appears to be not the case. The decades following the likely active life of this mine are the most threatening in the DEIS: the volumes of rock will be greatest, the surface area exposure will be greatest. All materials will be at or near the limits of their containments, and he mine company will have lost the incentive to comply with regulations. I herby request that you consider "over-engineering" the site for this phase of the mines life; it's when we who live here and our children, will have the most to lose.	EOO
<b>Sender Last Name:</b> Teselahl <span style="float: right;"><b>Submission ID:</b> 3373</span>		
3663	I think the proposals to mine this beautiful area of wilderness is absurd. This is an area that people from all over the world come to enjoy and get away from every day life. Mining this structure is not worth the reward or [illegible] of this area. Destroying the Boundary Waters area for this project would be very unethical. A solution needs to be proposed to protect this area from the devastation and loss that mining would cause this great place.	G2,G11
<b>Sender Last Name:</b> Tessneer <span style="float: right;"><b>Submission ID:</b> 2197</span>		
412	Has there been adequate public input on this issue? No. The public comment period needs to be extended until at least March, more hearings need to be planned in order to get an accurate perspective of public input.	PRO6
413	pollution. We must extend the public comment period so that Minnesotans have the opportunity to weigh in on mining proposals that will hurt Minnesota's great outdoors. Thank you.	PRO6
2006	Is there any way to ensure that the pollution will be cleaned up? No. At this point any cleanup would be the responsibility of the State, paid for by the taxpayers, and in the past has cost tens of millions of dollars.	PD3,PD4
2007	Taking all of this into consideration, we must require that the mining companies proposing projects that I will negatively impact Minnesota's environment prove that they have financial resources to clean up waste and	PD3,PD4
2604	Are there precautions to be taken to protect the environment? The mining company says yes. The technology is too new to have any guaranteed effect.	G6

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
2605	Has this type of mining been done safely elsewhere? The mining company again will say yes, but 89 percent of the mines that have said that they would not pollute actually have.	G6
<b>Sender Last Name:</b> Tewes		<b>Submission ID:</b> 314
328	I am writing to you today to show my strong support for PolyMet Mining's NorthMet Project in Hoyt Lakes, Minnesota. I am an Architect in the Duluth, Minnesota, and the spin-off jobs from this mining operation will bring needed construction that would require Architecture and Engineering Services. I attended an American Institute of Architects (AIA) conference in Minneapolis last week and I heard sobering news from my colleagues. The architects in Minnesota are at an unheard of unemployment rate of 40-50% (a quote from the AIA-MN Executive Vice President). If you include architects at reduced hours this number could be as high as 54%. The work by PolyMet would provide new design opportunities for Architects in Northern Minnesota, and ease these troubling unemployment statistics. Our firm seeks to benefit directly from this work in that we have been contracted by PolyMet to provide Architectural Services in the form of code analyses on a number of existing buildings at the PolyMet site. We have not had a chance to start this work because we are waiting the results of the \$20 million, 5-year EIS. Once this process is complete, we will be able to begin work on our portion of the site in Hoyt Lakes. Beyond my firm's direct contractual obligations with PolyMet, this work will mean jobs for my colleagues ranging from the design of new business buildings, updating existing buildings, designing housing and upgrading/new school buildings. PolyMet has shown due diligence in preparing the EIS. It is a complete, clear and concise document that definitively shows that PolyMet will protect the air, water and land of the Hoyt Lakes region. Thank you for taking the time to read my letter of support for the PolyMet Mining's NorthMet Project. I believe that this work will provide a huge economic impact to Minnesota, the Minnesota Arrowhead region and Architectural/Engineering firms in Northern Minnesota.	EOO,G6
<b>Sender Last Name:</b> Thastin		<b>Submission ID:</b> 1129
104	I request that a public hearing be scheduled for Duluth as it is the largest population center near and shares a watershed of the proposed mine area.	G10
105	I request that the comment period be extended to 180 days, the existing comment period is inadequate for professionals much less the general public.	PRO6
1237	I oppose the Polymet/Northmet project due to a high risk of serious environmental damage that may be impossible to control.	EOO
<b>Sender Last Name:</b> Thell		<b>Submission ID:</b> 1636
2059	Thank you for taking the time to read these concerns that everyone is sending. The Boundary Waters are not just a wilderness land, but an escape. They are there to remind people of what was here before humans. It is a peaceful retreat that brings people together. The Boundary Waters is a symbol of teamwork and unity because without that people could not survive. Polluting the Boundary Waters just shows that humans cannot keep anything pure. Efforts to try to clean the Boundary Waters will arise, but the Boundary Waters will never be the same. It will have the essence of being touched by man. The escape will not be a full escape.	EOO,G7B,G11
<b>Sender Last Name:</b> Therbjornseu		<b>Submission ID:</b> 1146
1258	400 jobs for 20 years is not worth permanent environmental damage.	EOO
<b>Sender Last Name:</b> Thieret		<b>Submission ID:</b> 3251



*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
3144	I support the no-action alternative in the EIS. The mining should NOT be allowed to proceed. I do not believe it can proceed without adverse affects to water and air quality. This is an area too close to the BWCA to tamper with in such an extreme way.	EOO
<b>Sender Last Name:</b>	Thomas	<b>Submission ID:</b> 1200
1315	I have been coming to the BWCA since 1971. I am a high school teacher and I regularly bring students to the BWCA for a week-long canoe trip. I am concerned that allowing open pit mining will contaminate the water of a large area of Minnesota, causing permanent damage. I strongly oppose allowing PolyMet Mining to proceed with their proposed mine.	EOO,G7B,G11
3187	I'm a conservative and support economic development in our state. I am also a sportsman and boater. I attended the PolyMet/DNR meeting Dec 10 in Blaine. It was clear to me by the bus-loads of union people there are folks needing jobs and it's natural they support this project. I came away from that meeting with many more questions than answers. There's a finite timeframe this mine will be useful. What happens to the land and water after PolyMet has their profits? What assurance do we have this technique is safe in the long-term? Don't screw up a treasure like the Boundary Waters Canoe Area because some Canadian company wants to make money or because we've got people on the iron range that need jobs.	EOO,G1,G2,G4
<b>Sender Last Name:</b>	Thomason	<b>Submission ID:</b> 2920
3254	The PolyMet DEIS describes significant environmental issues associated with this proposed mine. These issues should be resolved before this mine is approved by the Minnesota Department of Natural Resources and the U.S. Army Corps of Engineers. For what will only be about 20 years of mining operations generations of possible natural destruction is too high of a price.	EOO
<b>Sender Last Name:</b>	Thomey	<b>Submission ID:</b> 1322
1543	Very concerned of the environmental imput. We are cabin owners on Laolette Lake. It angers me to see how blindsided [illegible] can be. The potential for environmental disaster is great while polymet will be generating a small number of jobs. I realize this is a desparate economic [illegible]- time to move on people. Healthy vs. wealthy	G11
<b>Sender Last Name:</b>	Thomme	<b>Submission ID:</b> 3553
3816	Just recently I learned of the proposed PolyMet Mine in the Superior National Forest. As a landowner in that area and a citizen concerned with the environment and the impact of our activities on fish and wildlife I urge you to look very closely at the potential impact of this mine. Based on information I received from the Izaak Walton League I have particular concern related to the following issues:	G2C,G15
<b>Sender Last Name:</b>	Thompson	<b>Submission ID:</b> 341

*Alphabetical by sender's first name*

<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
365	After review of the NorthMet EIS, I believe that a major positive impact should be a domestic source of strategic precious metals. Based on USGS statistics, 90 percent of palladium consumed in the US is imported, primarily from Russia and South Africa. Canada has one PGM mine source. The United States has two small PGM mines, both in Montana. Most of the remaining ten percent was recycled from originally imported sources. Based on 2005 USGS data, there are no Nickel producing mines in the US, even though there were 221,000 metric tons of nickel consumed in the United States. At least 55 percent of the world's production came from third world or emerging markets. Some of the major producers are countries that do not have the best interest of the United States in mind, such as Venezuela, Indonesia, Cuba and Russia. I will let you decide the environmental considerations that the major PGM and nickel mining countries have when it comes to the mining and refining of these products. A major positive impact should be a domestic source of strategic precious metals. It is an issue of national security.	G1
366	Furthermore, I believe that the primary objective of not all, but many of the environmental groups is to eliminate mining in the United States. Civilization cannot survive without mining.	EOO
397	It is my understanding that PolyMet proposes to use an existing mine tailings basin for the disposal of its tailings and toxic materials - but that the basin already has stability issues making it unsafe. Any failure of this basin to hold its contents would result in long-lasting and serious contamination. PolyMet should complete a stability analysis of the basin and devise an acceptable design before being able to proceed with this project.	GT2
661	Concerning impacts on water quality, I understand that the water leaching from waste rock piles at the site is expected to exceed water quality standards for up to 2,000 years. This is unacceptable to me. It is unreasonable to expect that mining companies will be able to maintain water treatment facilities for that amount of time and it is an unfair burden to pass on to future generations of Minnesotans who will inevitably be left to pay for these operations. Additionally, it will be all but impossible to calculate sufficient financial assurance for a mining operation that is going to require such long-term care. In fact, a possible "mining moratorium law" such as in Wisconsin should be considered.	PD2,PD4
704	In addition, the DEIS predicts contaminated waters to be discharged from the mine site into the Partridge River after the mine's closure, as well as tailing's basin discharges high in sulfate concentrations. High sulfates can turn mercury into forms that make fish dangerous to consume. It is unacceptable to proceed with a mine that already predicts these kinds of pollution outcomes.	EOO,WR4B,FM1
1248	Clean water for our future please...	G7B
1597	I am writing to you as a citizen of Minnesota concerned about the PolyMet NorthMet sulfide mining project proposed on 6,700 acres of public land in the Superior National Forest. Please accept these comments on PolyMet's Draft Environmental Impact Statement. I have serious concerns about the safety of this project and its potential impacts on Minnesota's natural resources.	EOO,G10
3467	While all of us are concerned about the economy and the needs for jobs for Minnesotans, relaxing environmental standards to meet a short term goal is not wise in the long term. Minnesota's natural resources are one of its prizes, and the priority we Minnesotans give to protecting our natural areas is something that makes our quality of life the envy of so many. Please do not approve licensing to PolyMet, or any other company with a like project, unless it can be proven safe, as Wisconsin has insisted.	EOO,G1,G2
3708	Furthermore, the continued operation of Polymet or other companies involved is not guaranteed. It is paramount that money be paid up front to pay for correcting any pollution or accidents that may occur and for clean up, restoration and environmental maintenance when the mine closes. This money should stay with the mine in case the mines ownership changes.	PD4
3709	There should be on going testing of air and water quality by a third independent party near the mining site. If there is any pollution exceeding federal or state regulations, remediation should be immediate or the mining process terminated. Timetables should be established with fines being given on a daily basis for foot dragging.	EOO

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
3783	I am currently of Madison, Wisconsin, but I plan to return to Minnesota to live within the next 5 years. With many fond memories and hope for future expeditions, I am very distressed by the environmental threats posed by potential new mining operations up in Superior National Forest so close to the BWCAW. Such mining has a shown history of destruction, and only after a thorough evaluation and approval by the public should the public's lands and natural heritage be put at risk. Everyone who stands to lose should have a voice	EOO,G11
3791	I believe more needs to be done to determine the total carbon footprint of this mining project to assure there won't be an increase in CO2 emissions for the region. Consideration needs to be given to needs to be made for electricity needed to mine and process ore, transporting ore and other materials into and out of the mining/processing site, destruction of forest, bog and wetland areas that currently take CO2 from the atmosphere and any other potential carbon emissions that could occur because of activities of the mining operation and/or other businesses that could develop to compliment the activities of Polymet.	G2B,G8
3893	I enclose a copy of my brochure my husband and I and my 3 part time workers have worked very hard for over 10 years to make this a sustainable business in northern minnesota. It is not compatible with H2SO4 mine drainage into our Laurentian Divide water courses and wetlands. Most businesses which have been built up even for generations in this region wil not thrive with the mine drainages, noise, particulates in the air, and even "ambience" of Cu-Ni mining. If Cu-Ni mining is allowed in this area you will be exchanging established jobs in tourism with sustainability and built-up good will over a long period if time, for the "premise" of jobs which will suffer every recession in the same downward curve as iron mines. Is my buisiness/job of so much less value that the "premise" of some cu-ni mining job?	G11

**Sender Last Name:** Thorbjornsen

**Submission ID:** 194

8	It is my understanding that PolyMet proposes to use an existing mine tailings basin for the disposal of its tailings and toxic materials – but that the basin already has stability issues making it unsafe. Any failure of this basin to hold its contents would result in longlasting and serious contamination. PolyMet should complete a stability analysis of the basin and devise an acceptable design before being able to proceed with this project.	GT2
13	Concerning impacts on water quality, I understand that the water leaching from waste rock piles at the site is expected to exceed water quality standards for up to 2,000 years. This is unacceptable to me. It is unreasonable to expect that mining companies will be able to maintain water treatment facilities for that amount of time and it is an unfair burden to pass on to future generations of Minnesotans who will inevitably be left to pay for these operations. Additionally, it will be all but impossible to calculate sufficient financial assurance for a mining operation that is going to require such long-term care.	PD2,PD4
18	In addition, the DEIS predicts contaminated waters to be discharged from the mine site into the Partridge River after the mine's closure, as well as tailing's basin discharges high in sulfate concentrations. High sulfates can turn mercury into forms that make fish dangerous to consume. It is unacceptable to proceed with a mine that already predicts these kinds of pollution outcomes.	EOO,FM1
190	Please accept these comments on the PolyMet Mining Corp. NorthMet mining project Draft Environmental Impact Statement. I have serious concerns about the safety of this project and its potential impacts on Minnesota's natural resources.	EOO
191	The PolyMet DEIS describes significant environmental issues associated with this proposed mine. These issues should be resolved before this mine is approved by the Minnesota Department of Natural Resources and the U.S. Army Corps of Engineers.	EOO

**Sender Last Name:** Tillman

**Submission ID:** 3226

3555	I and my household are in favor of Polymet mining in Minnesota. The nation and the world are using the metals that will be mined. Polymet has shown to me that they can process and contain any hazards. The metals will be processed else where in the world at much greater polution and it will travel to us. With all the new technology available today, Polymet has our blessing to start mining as soon as possible. Thank You	EOO
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*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
3894	In have reviewed the Draft EIS for the Polymet Project and am in total support of the project. I believe they have a plan that will produce a good resource for our Country, and will not jeopardize the natural resources while doing it. This will be a great use of the former LTV site, and will bring much-needed jobs to the area.	EOO
<b>Sender Last Name:</b>	Tindall	<b>Submission ID:</b> 3155
3532	I have heard quite a bit of uproar about the impact of this project on the St. Louis River, and the questionable history of the people proposing this project. I hope the DNR does the necessary work to ensure that this project is environmentally safe should it pass. Mike	G6,G7
<b>Sender Last Name:</b>	Tinglv	<b>Submission ID:</b> 2151
2555	As a Minnesota native, I appreciate the many lakes rivers and streams that makes our state beautiful and attractive to visitors. Protecting these resources is more valualbe than the jobs that minning would create. Please carefully consider the long term affects of this project	G7
<b>Sender Last Name:</b>	Tomassoni	<b>Submission ID:</b> 34
31	I've got 35 years in the mining industry, and mining has taken a quantum leap since I started working back in 1974. Companies today employ employees not only to be good workers but also to become safety professionals, quality inspectors, and environmental stewards in our business. Employees receive extensive training in the environment. And I just feel strongly that PolyMet is a great project for Northeastern Minnesota and with training, that people will become good environmental stewards and will make PolyMet a company that will set benchmark standards for other companies.	EOO
367	I am writing in full support of the Polymet Mining Project for Northeastern Minnesota! After being in the mining business for 35 years, I've seen many major and positive changes in the mining business. By far the top three improvements have been in the safety, quality and environmental fields! A business can no longer remain profitable (and in business) if these goals and values are not in line with all governmental rules and regulations. Being in the mining business at both Minntac and Keetac, United States Steel Leadership drove these values to each and everyone of us! Our top management team which included former USS employees, Joe Scipioni, Jim Swearingen, Paul Brunfelt, Jim Teiberg, Dave Draves and Latisha Giezten are now working at the Polymet and lead our team to run a very successful and environmental friendly business! They lead our team not because they were told to do so, but because they truly cared about the area and the people that call this area our home! Doing the right thing, being safe, having a quality product and being a great environmental steward were goals that these people held close to their hearts and minds! Some people in the state and from around the country are trying to drive fear, false information and the idea of uncontrolled pollution into uninformed minds. With the help of the State of Minnesota's mining and environmental permits along with federal and state guidance, the dedicated Polymet management team (along with its future 400 plus employees and countless vendors) will do the right thing and make Polymet a reality! A reality that I know in my heart and soul will be a flagship and a trend setting operation that will be used to bench mark other operations not only in the state, but in the rest of the country! We badly need these jobs in northeastern Minnesota now! We need these precious metals to strengthen and build our country now! I know the Polymet team will deliver on these promises to us in a safe and environmentally responsible manner! I also hope that the State of Minnesota and the U.S. Army Corp of Engineers will help Polymet succeed by giving its full support! I support the Polymet Mining Project 110 percent and hope that you will approve this project and help get our country working again! Together we can help the State of Minnesota and the United States diversify its economy and become a leader in a new precious metal mining business!	EOO

*Alphabetical by sender's first name*

**Comment ID**    **Comment Text**    **Theme Codes**

1163 This .email is show my support for the Polymetmining project for northeastern.MN near Aurora. Simply said, northeastern MN needs jobs I Good EOO  
paying jobs to support our area, to help 'our economy and local schoo,ls. We have been hard hit and ,mining is truly in our blood. I know from  
friends and family that Polymet is a well run with ahanest hard working 'group of local people that care about our areal With the help of the  
MPCA, Army Corp of Engineers and the EPA, Polymet will keep our waters and air clean! We live in a very modern and progessive time,  
Polymet will follow the' rules and with government oversite: it wilf help make sure that all the rules are followed and that our area will be safe  
and that we will continue to enjoy what God has given us in Northeastern MN. In closing, I again want to say that I fully support the potymet  
project and hope that we can make this a success story and to help the people of northemeastern Minnesota and the State of Mi'nnesota as well.

**Sender Last Name:** Tomassonia

**Submission ID:** 1020

1120 I am writing in full support of the Polymet Mining Project for Northeastern Minnesota! After being in the mining business for 35 years, I've seen EOO  
many positive changes in the mining business. By far the top three improvements have been in the safety, quality and environmental fields! A  
business can no longer remain . profitable (and in business) if these goals and values are not in line with all governmental rules and regulations.  
Being in the mining business at both Minntac and Keetac, United States Steel Leadership drove these values to each and everyone of us! Our top  
management team which included former USS employees, Joe Scipioni, Jim Swearingen, Paul Brunfelt, Jim Teiberg, Dave Draves and Latisha  
Giezten are now working at the Polymet, lead our team to run a very successful and environmental friendly business! They lead our team not  
because they were told to do so, but because they truly cared about the area and the people that call this area our home! Doing the right thing,  
being safe, having a quality product and being a great environmental steward were goals that these people held close to their hearts and minds!  
Some people in the state and from around the country are trying to drive fear, false information and the idea of uncontrolled pollution into  
uninformed minds. With the help of the State of Minnesota's mining and environmental permits along with federal and state guidance, the  
dedicated Polymet management team (along with its future 400 plus employees and countless vendors) will do the right thing and make Polymet  
a reality! A reality that I know in my heart and soul will be a flagship and a trend setting operation that will be used to bench mark other  
operations not only in the state, but in the rest of the country! We badly need these jobs in northeastern Minnesota now! We need these precious  
metals to strengthen and build our country now! I know the Polymet team will deliver on these promises to us in a safe and environmentally  
responsible manner! I also hope that the State of Minnesota will help Polymet succeed by giving its full support! I support the Polymet Mining  
Project 110 percent and hope that you will approve this project and help get Minnesota working again! Together we can help the State of  
Minnesota diversify its economy and become a leader in a new precious metal mining business!

**Sender Last Name:** Tomassonia et. al.

**Submission ID:** 1017

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
1117	<p>We appreciate the opportunity to participate in the public comment process on the Draft Environmental Impact Statement (DEIS) for PolyMet Mining Company and to add our voices to the thousands of Minnesotans who want to create jobs and produce metals that we all use every day and protect our environment for future generations. PolyMet Mining Company offers the State of Minnesota a win-win-win opportunity that we cannot afford to pass up. PolyMet is an economic win. It will create jobs at a time when the unemployment rate is more than 7% and as high as 14% in some cities on the Iron Range. During construction, PolyMet will require 1.5 million hours of labor so skilled workers will be on the job and not on the bench. Once fully operational, PolyMet will provide jobs to more than 400 workers at good salaries that families can live on. In St. Louis County alone, the spinoff jobs are anticipated to be more than 500. PolyMet also will generate millions of dollars in state, local and federal taxes each year. PolyMet is a strategic win. The copper, nickel, platinum, palladium, gold and cobalt that PolyMet will produce are essential to our way of life. They are found in electrical wiring, hybrid cars, wind turbines, stainless steel, jet engines, cell phones, computers, blood sugar test strips, artificial joints, catalytic converters and a myriad of other products, but the United States imports from 40% to 90% of these metals. We import them from countries that don't follow our stringent environmental laws, that subject miners to unsafe working conditions and that contribute to the global pool of pollution circulating in our atmosphere. Then, we contribute to greenhouse gas emissions by shipping them to another country for processing before we ship them to the U.S. And PolyMet wins by demonstrating environmental safety - not only because it is more environmentally sound than importing metals but also because PolyMet has shown that it will operate in a way that protects our air, our water and our land. The DEIS is an impressive review of the project and all its potential impacts -- along with alternatives that make it even better than originally proposed. The DEIS documents the many steps the company will take to operate in an environmentally sound manner -- from being a minor source of air emissions to the exhaustive waste rock stockpile management efforts. When mining ceases, financial assurance will be available to pay for closure if, for some reason, PolyMet is unable to do so. As elected officials representing the Iron Range, we are confident that after more than four years of PolyMet working with scientists and biologists and spending upwards of \$20 million, that the DEIS is covering all the bases. The products that will be mined are extensively used in our society. The data shows, a safe mining operation, one that has the controls to address the environmental concerns. We want mining to take place in Minnesota, where we know that the regulations are stringent and that regulators are tough on enforcement. We want mining to take place in Minnesota so that we can call upon our long tradition of mining excellence and show the world how nonferrous mining can be done the right way. Finally, we want it done in Minnesota so our country has its own supply of precious metals and will not have to rely on foreign dictators or polluting countries to make the products our green economy will need to be successful. The DEIS should receive an adequacy determination. Permitting on this win-win-win project should begin immediately.</p>	EOO
<p><b>Sender Last Name:</b> Tomonowich</p>		<p><b>Submission ID:</b> 3616</p>
3895	<p>Yes, after mining this country for over a hundred years other streams, rivers, mountains and lakes are in [illegible] shape. Compare this with the other half of the globe and you have concerns that are a hundred times greater than any risk we will take with mining. Our mining companies are environmentally sound. At this point in time they have strong safety regulations and environmental concerns. As far as I know there is nothing to keep the environmentalists from going to the other parts of the globe to clean up the environment in mining and health issues.</p>	EOO
<p><b>Sender Last Name:</b> Tomsich</p>		<p><b>Submission ID:</b> 3717</p>
1	<p>Because there is much more to indicate these projects will be pursued to environmental review, permitting, and likely construction, the exclusion of these three sulfide-metal mine projects, among others, from cumulative effects analysis is a major failing, and it must be corrected during the DEIS's revision.</p>	WI5

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
1	Accurate and up-to-date lynx mortality numbers and locations must be included in the DEIS revision. An estimation of undetected lynx mortalities, in absolute numbers or in relationship to confirmed mortalities, must be included in the DEIS revision, along with a direct discussion of the data, assumptions, reasoning, and supporting scientific analysis underpinning an expanded treatment of lynx mortality.	WI1
1	As already discussed, the DEIS omits available and reliable data showing that at least one lynx, L11, has occupied the Project Area. <sup>60</sup> It may have been for a day, a week, or longer, depending upon the frequency with which locations were determined for L11.	WI1
1	In addition, the DEIS fails to discuss when, i.e., at what point in the lynx-hare population cycle, the 2006 winter tracking survey was conducted. The winter 2006 survey of the Project area may have occurred at or near a low in the Canada lynx population cycle. Because lynx populations cycle, an accurate determination of lynx usage should not be based on surveys conducted during a population low, but rather when lynx populations are high, or possibly in the first winter postpeak. The matter of timing in the lynx population cycle should be addressed in the DEIS revision.	WI1
1	These three sulfide-metal projects must be considered along with the Project, in analyzing the Project's cumulative effects on wildlife. Specifically, the three sulfide-metal mining projects would widen the Mesabi Iron Range substantially in the vicinity of Polymet and Teck Cominco, and would lengthen the Mesabi Iron Range to the northeast by approximately 10 miles. The cumulative effects on lynx movement would include significantly more impairment in an area where there are a lot of lynx being detected. The 115-mile long Mesabi Iron Range would be lengthened by nearly 9%, and significantly more designated lynx critical habitat would be destroyed. More habitat would be adversely modified in a permanent way, and still additional habitat would experience adverse effects lasting many decades.	WI5
1	These failings in the DEIS must be addressed by incorporating and considering the significance of all existing lynx location information, including at a minimum the confirmed lynx scat sample location data now being collected by the U.S. Forest Service, <sup>59</sup> and lynx location data collected by the Canada Lynx Project during its east-side lynx capture-collar-track study.	WI1
1	The NorthMet DEIS inadequately describes the wind direction and conditions at the Project site. The NorthMet DEIS, Volume II, provides a wind rose for Hibbing, Minnesota, implicitly suggesting that the Hibbing wind rose is relevant to determining wind conditions at the Project site. More detailed wind roses for two other locations - Ely and Virginia-Eveleth - are readily available but were omitted from the DEIS.	AQ4
1	Ely and Virginia-Eveleth are nearer to, and bracket, the Project site. Their wind roses also differ from the wind rose for Hibbing. First, the Hibbing wind rose is an annualized wind rose, meaning that a single diagram depicts the entire year's averaged winds. <sup>66</sup> The Ely and Virginia-Eveleth wind roses present monthly wind rose data. <sup>67</sup>	AQ4
2	Moreover, in order to be capable of providing more definitive conclusions about lynx presence and use of the Project area, the DEIS should have included winter lynx tracking data from several consecutive years, but it did not. The DEIS states that it is based on the 2006 winter tracking survey, and other general wildlife summer surveys. Summer surveys are not of value in determining lynx presence or absence. The fact that summer surveys at the Project area in 2000 and 2005 detected no lynx carries no probative value in answering whether lynx were present in the Project area at the time, because it is far rarer to sight an uncollared lynx in the summer than it is to encounter lynx tracks left in the snow. Any conclusions about lynx presence or absence based on summer habitat studies are suspect for lack of data. <sup>61</sup> For that reason, any suggestion of reliance on summer wildlife surveys to conclude that lynx were not present in the Project area at the time, should be qualified accordingly or deleted in the DEIS revision.	WI1

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
2	Second, the Hibbing wind rose provided in the DEIS indicates that winds from the northwest and from the southeast predominate; southwest winds are far less common in Hibbing. This is significant, because it is southwest winds that are far more likely to blow pollution into the Boundary Waters Canoe Area Wilderness (BWCAW). In comparison, it is evident from looking at the wind roses for Virginia- Eveleth and for Ely that during many months of the year, southwesterly winds are among the most common. June, July, August, and September, when southwesterly winds are most common in Ely and in Virginia-Eveleth, are also the months when visitors to Minnesota's Class I areas (the BWCAW and Voyageurs National Park) is at its highest. In other words, from the perspective of human enjoyment and perception, the Project may be sending more of its pollution more often into the BWCAW than the DEIS reflects. It is not clear, from reading the appropriate sections of the DEIS, whether predictions of haze and visibility impacts from the Project on the Class I areas, were based on the wind data from Hibbing.	AQ4,AQ8
3	The DEIS should have included site-specific wind data, and the absence of that data is a meaningful flaw and could easily have been avoided. The DEIS must include better wind rose data, preferably from the processing plant and mine sites within the Project area. The DEIS should explain exactly how the Hibbing wind rose data was used, and must re-do whatever work incorporated the Hibbing data, using the Ely and Virginia-Eveleth data if site-specific data is not collected.	AQ4
3	The DEIS contains no recommended mitigations for the Project's negative effects on lynx, other than post-closure mine site reclamation. <sup>62</sup> The DEIS should have included mitigation measures that eliminate or minimize adverse effects on lynx. The mitigations for lynx suggested in this comment would also mitigate the Project's effects on other wildlife known to move through the Project area including, among others, wolf, moose, and herpetofauna.	WI1
4	DNR and ACE have not provided a sufficient basis or explanation for being unable to estimate financial assurance requirements associated with reclamation. If the adequate "detailed level of design" is not available for financial assurance purposes, how is it available for determining the extent of significant environmental impacts of the project, whether during operation or following operation? The DEIS offers no reasonable distinction between the amount of design detail required for financial assurance and the amount of design detail to evaluate the project's environmental impacts. If PolyMet has not yet offered a level of design detail to allow the agencies to evaluate end-of-life impacts, reclamation and financial assurance, then it also have not offered a level of design detail to allow the agencies to adequately evaluate the project's significant environmental effects.	PD3,PD4
4	The Forest Service specifically noted that emissions from the NorthMet Project over the course of each year are anticipated to cause a 10% change in light extinction for one day and a 5% change in light extinction for 36 days as compared to natural background. <sup>71</sup> The significance of the Project's contribution to visibility impairment in the BWCAW can be illustrated from the fact that the Haze SIP recognizes that a significant contribution to visibility impairment from an entire state equals a contribution over five percent. The fact that the NorthMet Project, by itself, is anticipated to cause a 10% change in light extinction for one day and 5% change in light extinction for 36 days as compared to natural background conditions is significant when considering that a five percent contribution towards visibility impairment from an entire state is considered significant by the MPCA.	AQ6
4	It is particularly troubling that the preliminary closure cost estimate summary which was included in the NorthMet DEIS fails to include projected costs for long-term water treatment. The NorthMet DEIS includes the following preliminary closure cost estimate summary, indicating that "[t]he costs provided were primarily intended only to provide an indication of the scale of the task and therefore were very rough estimates." <sup>8</sup> [See table in comment document] Notably, this preliminary closure cost contains no mention of the costs of long-term water treatment upon closure. The information included in the Closure Cost Estimate Summary misleads the public and creates the appearance that closure costs will be significantly less by leaving out the closure cost for what the EPA has identified as one of the most significant environmental issues associated with the NorthMet Project. The failure of this cost estimate to include costs associated with long-term water treatment leaves out what promises to be the most significant cost associated with the closure of the NorthMet Project.	PD3



*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
4	Post-closure reclamation will neither bring back the permanently-destroyed habitat, nor make up for the three- to four-decade-long, up-front loss of reclaimable habitat. Post-closure reclamation also cannot compensate for the degraded condition of reclaimed land compared to the original habitat condition, pre-mining. But other mitigation strategies and opportunities exist and should have been explored. For example, in addition to post-closure reclamation at the Project area, the DEIS could and should have considered requiring PolyMet to begin immediate reclamation and revegetation on old mining areas that were never appropriately reclaimed and revegetated. Areas could be selected for reclamation and revegetation, so as to improve and expand existing wildlife corridors through the Mesabi Iron Range. Starting large-scale reclamation and revegetation in wildlife corridors beyond the Project area, concurrently with mining operations in the Project area, would likely improve (to some extent) habitat conditions for lynx in half the time required for post-closure reclamation.	WI4
4	Another example of mitigation that could have been considered is the purchase and retirement of conservation easements on lands adjacent to the north and south of wildlife corridors. Simple land management changes designed to benefit lynx and snowshoe hare could yield improvements in the value and function of wildlife corridors, simply by revegetating and creating larger blocks of core habitat connected to the corridors.	WI4
4	The DEIS should provide additional documentation to justify the elimination of these mitigation measures from consideration. Specifically, the DEIS indicates that the use of waste heat from the autoclaves to assist in the space heating requirements could ultimately achieve a 65% reduction in the overall NOx emissions. However, the DEIS eliminates this mitigation measure from consideration, “due to concerns over possible changes to the Project water balance,” <sup>75</sup> without providing any information or supporting documentation regarding these concerns to allow the public to weigh the potential benefits to air quality in relation to the changes to water balance. Considering the significant reductions in NOx emissions which could be achieved through the use of waste heat from the autoclaves for interior work space heating requirements, the DEIS should provide additional documentation to support the elimination of this mitigation measure from consideration.	AQ5
5	A second category of negative effects on lynx is the increase in expected lynx mortality resulting from the Project. The 4,000 miles of daily vehicle traffic between the mine site and processing plant site will make wildlife corridors ## 11 and 12 more deadly to lynx. The Project area is an area that currently experiences very little traffic, particularly in the corridor between the processing plant site and the proposed mine site. Increased rail and road traffic in that corridor will increase expected lynx-vehicle collisions and mortalities. <sup>63</sup>	WI1,WI5
5	To mitigate the on-site effects – increased chances of lynx-vehicle collisions and mortalities – the DEIS should have considered requiring the Project proponent to remodel the haul road and railroad line, so as to install bridges and wildlife underpasses in likely places, like stream valleys and vegetative funnels. In conjunction with the bridges and over/underpasses, wing-fencing (a.k.a. “drift” fencing) must be installed, inspected, and maintained so as to funnel wildlife to the safe crossing areas. Due to the funneling of wildlife to certain crossing areas, trapping on the property would have to be prohibited for as long as the road and/or rail corridor remain in use. When the Project is closed and reclaimed, the road and rail corridor should be obliterated and the fencing removed.	WI1
5	The proposed reductions in emissions included in the Haze SIP fail to meet the visibility goals of the Regional Haze Rule. Addition of new sources prior to a determination that visibility goals can be achieved, should not be permitted.	AQ6
5	The NorthMet DEIS does not adequately explain how the goals of the Regional Haze Rule will be met, notwithstanding the additional emissions from the NorthMet Project. The NorthMet DEIS needs to include an analysis and explanation of how the goals of the Regional Haze Rule will be met if the Project is built.	AQ4,AQ6
5	Further, the DEIS indicates, “that discussions are currently in progress with PolyMet, MPCA, and the FLMs to evaluate additional potential control measures that may be applicable to the Project,” that, “mitigation options exist that are being considered and could be evaluated in the Final EIS,” and that, “[t]he investigation is expected to be completed during the permitting process with MPCA and the FLMs.” <sup>76</sup> Information regarding additional mitigation measures that could be used to improve visibility conditions in the BWCAW and other Class I areas should be provided, to allow the public an opportunity to review and comment on mitigation measures which could help Minnesota achieve the visibility goals of the Regional Haze Rule.	AQ5

*Alphabetical by sender's first name*

**Comment ID    Comment Text** **Theme Codes**

5 Mitigation measures should include, but not be limited to, actions that improve habitat post-closure, inside the Project area. If mitigation consists only of actions within the Project area, then the mitigation will come too late in time to be as effective as is possible. The mine will operate for 20 years, after which another 10, 20, or more years will be needed before vegetation re-growth may yield lynx-friendly habitat on the less-productive mined landscape.

WI4

6 The NorthMet DEIS failed to include an analysis of the cumulative impacts of all reasonably foreseeable activities on visibility in Minnesota Class I areas. Specifically, for example, the NorthMet DEIS failed to include an analysis of cumulative impacts on visibility from hardrock mineral exploration in the Superior National Forest, and entirely omitted the three additional sulfide-metal mines that are currently in advanced stages of exploration and development, in the assessment of cumulative impacts on visibility. The cumulative impact from these activities should be included in the NorthMet DEIS.

AQ4B

6 As noted elsewhere in this comment letter, the DEIS fails to include any discussion about three reasonably foreseeable, likely to be developed, sulfide-metal mines, among other projects. *Infra*, pp. 59-63. The DEIS cumulative effects review, consequently, fails to include these projects in its cumulative effects analysis.

WI5

**Sender Last Name:**    Tondra

**Submission ID:** 1168

1283 I do not want this project to be approved. There would be severe damage to the environment.

EOO

**Sender Last Name:**    Topel

**Submission ID:** 188

180 I support PolyMet mining North Met Project. At this present time of 15% unemployment in the area, Polymet will significantly contribute to the State and Local economy when we really need jobs and economic benefits. Based on the extensive documentation as outlined in the DEIS, I am confident that impacts to the air and water will be minimal, if any. The EIS should be clearer; PolyMet is not in the Boundary Waters watershed. Mining these metals in one country, processing them in another and then transporting them to the U.S. creates unnecessary greenhouse gas emissions. I represent two hundred seventy two members of the International Brotherhood of Electrical Workers that live and work and play in Northern Minnesota.

EOO

3898 To whom it may concern my name is Travis Topel and I am a laid of union electrician out of local 292 Minneapolis, mn. I also was raised and graduated from Hibbing High School on the Iron Range. I have lived in the twin cities metro for about three and a half years now, but I still manage to travel home to see family and friends. Even though I live a ways away from this area of where this project is going to be built it will still impact me in many ways if the project proceeds. A direct way it will impact me is that I will probably be able to get back to work so I can make a good honest living to pay for my house. Many other ways it will impact me is that the economy with start to thrive again for the area so my family and friends can also find jobs to pay for things. Plus with the new people moving into town to work at the plant after it is up in running the town “where I grew up at” will start to grow again and put kids back in the schools so they will stay open. On an environmental note I do not see where this is going to cause a problem with the environment. We have the technology in the world today to properly excavate and build a clean efficient running facility that should meet or exceed the EPA regulations. PolyMet has already shown this by wanting to use an existing site and renovating the facility that is already there. They have done extensive research to show there wanting ability to build a great facility and still keep a clean environment for the northeast area of Minnesota. The even better thing about the facility being built here in Minnesota is that it will provide domestic minerals for the United States. Which in return will hopefully help more of the United States economical problem get better. I believe that if you do not let this facility proceed that it could mean even greater loss for Minnesota families and friends with that lack of a good economy with good paying jobs, which none of us want in these hard times.

EOO

*Alphabetical by sender's first name*

**Comment ID    Comment Text**

**Theme Codes**

**Sender Last Name:**    Torgrimson

**Submission ID:** 1196

1311 I'm very concerned about the proposed PolyMet mine in northern Minnesota, particularly about water contamination and threat to eco-tourism economy. Minnesota waters should not be polluted with heavy metals and sulfates, especially not waters protected as wilderness & essential to our quality of life as Minnesotans. Water from waste rock piles will be polluted for up to 2000 years, and we can't expect mining co's, to be responsible for water treatment & clean-up. Taxpayers, no doubt, will bear the brunt of this debt & loss of our water quality.

G7A,G7B,G11

**Sender Last Name:**    Tracy

**Submission ID:** 3275

3582 I understand that copper sulfide mining is being considered in our bioregion. I'm just writing to say what a wonderful idea this is for the long term future of the economy, especially when considering the health of our natural resources that future generations will depend on. I think it's great that large multi-national corporations (that have no interest in the long term well being of the area) would turn a huge short term profit (moving natural wealth out of the area) by extracting large amounts of natural resources. I'm sure the future generations will appreciate both the clean up costs and environmental impacts they will have to deal with. Pardon my sarcasm. Looking at the environmental and economical track records of large mining operations makes it obvious that allowing this mine would be a bad decision overall for the long term interests in our region. I have also looked into the particulars of this specific type of mining and I am very concerned with Polymet's plan. Thank you for hearing my concerns.

EOO,G1,G2

**Sender Last Name:**    Trehus

**Submission ID:** 2734

3182 Please accept these comments on the PolyMet Mining Corp. NorthMet mining project Draft Environmental Impact Statement. I have grave concerns about this project's potential impacts on Minnesota's natural resources and public health. The impacted area is one of my favorite vacation areas. I can't believe that such a toxic enterprise is even being considered anywhere in Minnesota, let alone such a beautiful portion of the state. Even if there were no associated health risks, to allow such environmental degradation in this area not only robs tax-paying citizens and future generations of the opportunity to enjoy the high-level natural resources currently present, it will also impact the local tourism industry, mitigating any financial benefits from the proposed mining activities. However, the health risks cannot be understated, both to humans, flora, and fauna. We should follow the lead of the State of Wisconsin and ban this type of mining. Please deny this proposed mine.

EOO,G2C,G7,G11,G12

**Sender Last Name:**    Trentlage

**Submission ID:** 160

151 I just want to say: Is it worth 40 years of jobs to pollute the environment forever? That's all I want to say. I'm sorry. It's not. To me it's not worth 40 years of working to pollute the Great Lakes with the salt, with the run-off down the St. Louis River ultimately to get into the Boundary Waters. It's not worth it to me. And I have financial interests in the area.

EOO,G7

**Sender Last Name:**    Trepka

**Submission ID:** 1368

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
1600	I am writing to you as a citizen of Minnesota concerned about the PolyMet sulfide mining project proposed on 6,700 acres of public land in the Superior National Forest. Clean water is the most valuable resource that Minnesota has. Future wars will probably be fought over water rather than oil. As a chemistry major and long time chemistry teacher, I know how difficult it is to control even small simple reactions in the lab. If you think back on your lab experiences, you will concur. To believe that massive reactions with extremely heterogeneous materials can be controlled is wishful thinking. Sulfide mining would be new to Minnesota. In other locations, sulfide mining has resulted in acid mine drainage causing extensive and expensive damage to water quality and the environment. Often, taxpayers have been stuck with the costs. Please think long term. Before this sulfide mining project is even considered for permits, please fill these gaps:	G2A,G4A
<b>Sender Last Name:</b>	Triebenbach	<b>Submission ID:</b> 1435
1674	As a lifelong Minnesotan, I've come to enjoy the bountious unspoiled natural settings that our state has to offer. This mining plan as currently presented poses serious and dangerous impact to the environment and everyones enjoyment of our great outdoors. I understand the value of the metals that are the goal of this mine, and I am sure I benefit from their use everyday. This does not outweigh in my mind the value of our clean water and fish populations. We are the caretakers of this earth, and I see it as our duty to not create scars on it that it cannot heal in our own lifetime or even the lifetimes of our children and grandchildren. Please take all measures necessary to ensure that this plan does not go forward without proper measures in place to ensure the safety of the water, wildlife and all nature surrounding the area.	G2C,G7B
<b>Sender Last Name:</b>	Trullinger	<b>Submission ID:</b> 271
285	I am a resident of Hibbing, MN and am in support of the PolyMet / NorthMet project. I have briefly read through portions of the draft EIS, and have followed some of the news coverage of the project. I realize this is a complicated issue that requires thoughtful consideration of societal and economic benefits weighed against the environmental consequences. It seems to me like the planned environmental impacts are mitigated and very small in comparison to the benefits of the project. I realize that mining is a dirty business, but PolyMet seems to have an environmental plan in place to mine these ores in a more environmentally friendly manor that almost any other similar mine in the world.	G2
<b>Sender Last Name:</b>	Tuff	<b>Submission ID:</b> 1896
2468	Northern Minnesota provides a unique environment for people to enjoy and for wildlife. Please protect it from unsafe mining.	G2
<b>Sender Last Name:</b>	Turk	<b>Submission ID:</b> 3313
3606	This project cannot go forward. This action will affect generations to come and we will loose the beauty of Northern MN.	EOO
<b>Sender Last Name:</b>	Turner	<b>Submission ID:</b> 373
416	e. The DEIS did not adequately characterize the potential for possible contaminants from the closed mine and tailings basin to reach the Partridge River and Embarrass Rivers through the groundwater flow systems. There was no consideration of possible migration of contaminants in bedrock under the Partridge River or Embarrass River or whether the river constitutes a no-flow boundary for anything but the surficial materials. I recommend that DNR do appropriate field studies to show whether both rivers hydraulically connect to bedrock aquifers beneath it, and whether groundwater flow paths move under the river in the bedrock.	WR2A

*Alphabetical by sender's first name*

**Comment ID**    **Comment Text**    **Theme Codes**

416 d. The DEIS did not adequately address the degree to which groundwater and associated potential contaminants might leak from the tailings basin because of uncertainties in material properties of the porous media along the flow path and other assumptions used. Here, the tailings pond has been in place through prior operations for decades. I recommend that DNR obtain direct measurements of head and water chemistry either by GeoProbe or piezometer nests downgradient and perpendicular from the existing basin to provide ground truth with respect to the degree that leakage and solute transport may occur, including possible approximation of probable retardation rates for metals.    WR2C

**Sender Last Name:**    Tuura

**Submission ID:**    2187

2593 CHAD TUURA: I am for PolyMet. I believe it will bring a lot of good for the communities that surround it; good for the state, for the economy. I believe that it's going to bring a lot of jobs and hopefully make good for many years to come. Hopefully I could get a job there, possibly, you know. I feel that PolyMet has made all the right choices and done the right steps to hopefully make this whole project happen. Environmentally, I think they are doing a good job. They are doing better than years past, plants and stuff. I don't know. I think it would be really good for the State of Minnesota.    G1

**Sender Last Name:**    Tweed

**Submission ID:**    3688

1 The DEIS, as currently written, is inadequate by the standards of NEPA and must be significantly improved if a responsible accounting of the environmental impacts of the proposed project is to be developed. The following general comments detail several fatal flaws of this DEIS.    G8

*Alphabetical by sender's first name*

<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
2	<p>Baseline. The baseline data for both the mine site and the tailings basin are sparse. A comparison of hydrologic data that was collected for two other projects in the region (GLIFWC letter to Jon Ahlness and Stuart Arkley, February 6, 2009, Attachment #1) demonstrates that the PolyMet project is datapoor in the area of basic hydrology. The use of flow data on the Partridge River from a site twenty years and seventeen miles distant from the proposed project does not provide sufficient information to allow a adequate assessment of the hydrologic and environmental impacts of the project on the Partridge River. The lack of groundwater level data in the surficial aquifer and in the bedrock, except in the immediate vicinity of the mine pits, does not allow for a full or complete characterization of the watertable or the potentiometric surface in the bedrock or the surficial aquifer. The current bedrock groundwater model calibration to shallow wetland pizometers cannot be justified. The lack of groundwater level data at the tailings area except in the immediate area of the tailings piles prevents any characterization of water tables, potentiometric surfaces, and groundwater flow in the surrounding wetlands and uplands. The dramatic scarcity of hydrologic data for the PolyMet project, both at the mine site and at the site of the tailings basins has been repeatedly recognized by hydrologists at technical meetings. Limited data collection to fill in the data gaps has recently been conducted and in general has not been incorporated into the DEIS's hydrologic analysis of the mine or plant site. Analysis. Hydrologic characterization using MODFLOW models was done for the immediate area of the mine pit and the tailings pile only. There are no groundwater models that were designed to characterize the watertables, the potentiometric surface in the aquifers, fluxes to rivers and streams or to predict impacts to the water tables or surface waters. The MODFLOW groundwater model at the tailings area is restricted to the tailings pile and cannot be used to characterize groundwater flow direction, the watertables, the potentiometric surface in the aquifers, fluxes to rivers and streams or to predict mounding impacts to the water tables or surface waters. Data driven models need to be developed and these impacts need to be predicted and evaluated. The view that mine pit dewatering impacts will be very limited or non-existent (Adams, John and Michael Liljegren. 2009 "Additional PolyMet peatland data / information." email communication to Stuart Arkley. February 1, 2009) is based on the assumption that there is little or no connection between the bedrock and surficial aquifers (GLIFWC 2009, Memorandum to Jon Ahlness and Stuart Arkley: Photographic evidence for pit impacts to wetland hydrology. April 24, 2009, Attachment #2). However, the scant data that does exist characterizing mine site hydrology suggests that there may be substantial connection between the bedrock and surficial aquifers. Such a connection would mean that dewatering of the mine pits could cause significant drawdown of the watertable in the surficial aquifer. Data presented in technical document RS02 indicates that ammonia can be found in deep boreholes. Section 3.3 Analytical Results, Pg.10 of RS02 states: "The water sample from boring 05-407M exceeded the criteria for ammonia (1,900 ug/l)"; and goes on to state, "The sample from boring 05-401M exceeded criteria for ammonia (610 ug/l)."; and "Water quality criteria were exceeded for ammonia, aluminum, copper, and silver in both boreholes."; and concluded that, "The presence of ammonia in the deep boreholes may indicate that the water in the borehole came from the shallow surficial deposits. Ammonia is not typically found in deep bedrock systems but is common in wetland environments." Similarly, technical document RS10 concludes: "The presence of ammonia nitrogen in the samples likely indicates that there is a hydraulic connection bet</p>	WR2A
3	<p>As previously stated, financial assurance can and should be discussed in the draft EIS.</p>	ALT8

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
3	<p>PolyMet project would use some of the degraded areas of the old LTV site to develop the mine plant site and re-use the tailings basin. Groundwater contamination from the previous mining activities is still an issue near the LTV tailings basin more than twenty years after operations ceased. Because of the limited distribution of monitoring wells, the extent of the contaminant plume is not known. However, recent well data show that the plume extends in some areas at least as far as private wells along the Embarrass River. In the wells that do exist near the tailings basin, pollutants including iron, sulfate, manganese, aluminum, and fluoride exceeded drinking water standards. Recent wells near the northern property line show substantial contamination of the groundwater aquifer (Barr 2009, Memorandum: Results of Tailings Basin Hydrogeological Investigation. June 2, 2009, Attachment #3). The baseline data on which to base estimates of the impact of the proposed project on water quality at the mine site and the tailings basins is insufficient. The existing analysis for the PolyMet project calculates the additional constituents that the project will add to groundwater but is unable to realistically estimate what the resulting water quality will be because background water quality has not been incorporated into the estimates. Private domestic wells lie between the tailings basin and the Embarrass River where tailings basin discharge water is expected to ultimately discharge. Some of the sampled private wells have contaminants at levels several times the drinking water standard (Results of residential well sampling north of LTVSMC tailings basin. January 27, 2009, Attachment #4) Samples from these wells show exceedances of manganese and close to exceedances of the arsenic standard. Once a groundwater flow model is developed that would show the direction and rate of groundwater flow, that pattern of flow should be used to plan a groundwater sampling scheme that would map the extent of the existing contaminant plume. This data and analysis should then feed into estimates of how the proposed project would interact with existing contamination. The combination of existing conditions with impacts due to the proposed project would show what groundwater quality can be expected during and post project. Surface water quality at the project has been poorly characterized or left uncharacterized. The limited data that exist suggest that surface waters are already adversely impacted by mining activity. Mercury, sulfate and specific conductance have exceeded Minnesota surface water criteria in surface water samples collected near the tailings basin proposed for use by PolyMet, at nearby Area Pit 5, and mercury exceeds surface water criteria in the Partridge River downstream of Colby Lake. However, no water samples have been collected from lakes near the tailings basin (Hiiekillia, Mud, Kaunonen, or Hay Lakes) to determine if the pollutants found in the surface and groundwater at the existing tailings pile have caused contamination of those waterbodies. Contaminant transport modeling suggests that the PolyMet project will cause manganese, aluminum and sulfate to exceed standards. Proposals to collect data and monitor groundwater appear to have stalled. These would allow for identification of potentially significant groundwater and surface water impacts.</p>	WR1E
4	<p>This section should clearly state that under the proposed project, the wastewater treatment facility and pumping stations will need to operate for hundreds or thousands of years to avoid contamination to the Partridge River. This statement is a simple part of describing the project (i.e. length of time the project will last) and must be included.</p>	PD5
4	<p>This section should describe expected leakage rates as well as the long-term effectiveness of both the liner and cover systems. Given that the applicant has not proposed any long-term maintenance of these systems, these parameters should be described in this section and taken into account in section of the EIS that predict long term surface and ground water quality. This information is a simple part of describing the project (i.e. length of time the cover systems are expected to last) and must be included. Furthermore, table 3.1-9 is misleading. It indicates that the stockpile duration is permanent, while that is true, the liner systems on which the integrity of the stockpile and the water quality of the stockpile effluent depend are not permanent. The EIS should not selectively omit pieces of information. The life expectancy of the liner and cover systems must be included, regardless of the fact that such information may put the project in a negative light.</p>	PD4

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
5	<p>GLIFWC staff disagree that the amount of ore that could escape from rail cars would be “small.” Taconite pellets currently litter the railroad right-of-way between the plant site and the proposed mine site, confirming that spillage from rail cars does occur (attached Figure 1). Second, fugitive dust escaping through these gaps is also a concern. Given the duration of this proposed project and the large quantity of materials to be moved, approximately 228 million tons of ore and 394 million tons of waste rock, there will be tracking, dusting, and spillage of material that has been demonstrated to leach contaminants when exposed to air and water. Even a loss of only one thousandth of one percent (0.001%) of the extracted material to tracking, dusting or spillage would result in 6,220 tons of fine leachable material being released into the environment. Our experience with a much smaller, shorter duration, sulfide mine in Wisconsin (Flambeau Mine) indicates that tracking and dusting of ore and waste rock, even at a level that is unnoticed during operations, can result in soil and runoff contamination that exceeds standards. Transport of ore between mine site and processing plant will be done by rail using the rail cars previously used by LTV. These cars are not sealed and will readily spill a fraction of the approximately 228 million tons of ore they are transporting. Attached are pictures of the cars proposed for transporting the sulfide ore (attached Figures 2 and 3). The rail line between the mine and the processing plant is approximately 8 miles long, 1 mile of which is over wetlands, and crosses over at least 3 creeks. The current proposal to use existing rail cars for ore haulage raises concerns about impacts to biotic endpoints along the rail corridor. Given the design and current condition of the rail cars proposed for transport an ecologically significant amount of spillage could occur into these streams, wetlands and their watersheds. Because transport will deposit some level of ore and ore dust along the rail line, methods for control of contaminated runoff from along the rail line must be developed and implemented in the mine plan. During the operation of the mine, ore dust from haul trucks and from haul roads and waste rock dust from trucks and stockpiles will escape into the adjacent wetlands and uplands. All lands within the mine site and in a buffer around the mine site can be expected to receive metal contamination from dusting and tracking. All waters collected from within the perimeter of the mine site should be considered contact water and retained until treated or until the water is tested to demonstrate that the water has not been exposed to mine derived contaminants . Within the footprint of the proposed mine, good baseline data on the chemical characteristics of runoff must be collected prior to mining so that changes in runoff water chemistry can be detected. The DEIS states that rail maintenance crews can collect spilled debris along the rail track. The material of significant concern would be too small to pick up. GLIFWC staff are unsure how ore debris can be visually distinguished by rail track maintenance crews from other rocks and ore that litter the embankments. In addition, spillage of fine ore pieces and dust (the most leachable sizes) into the wetlands and creeks that are located along the rail line could not be easily identified and recovered. It is reasonable to assume that some acid drainage and metal leaching would occur along the waterbodies located along the rail line. GLIFWC staff do not believe that the method described in the DEIS to segregate fines in the center of the rail car is practical. In addition, DNR technical staff commented on this approach in a previous version of the DEIS (December 2009)” “Spillage of fines has occurred at other mine sites through gaps in railcars. The mitigation method proposed by PolyMet includes a plan to place fines in the center of the railcar, with the</p>	PD5
5	<p>GLIFWC staff object to the unilateral removal of the tribal position statement for section 3.1.4 by the DNR. We reiterate that the section should state the Polymet will assume responsibility for these legacy contamination issues if it is granted operating permits for its proposal.</p>	PD2
6	<p>GLIFWC staff object to the unilateral removal of the tribal position statement for section 3.1.5.3 by the DNR. We reiterate that this section should describe expected leakage rates during operations as well as the long-term effectiveness of the liner system. Given that the applicant has not proposed any longterm maintenance of this system, these parameters should be described in this section and taken into account in sections of the EIS that predict long term surface and ground water quality. In addition, this section should describe expected leakage rates during operations as well as the longterm effectiveness of the cover system. Given that the applicant has not proposed any long-term maintenance of this system, these parameters should be described in this section and taken into account in sections of the EIS that predict long-term surface and ground water quality.</p>	PD7



*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
6	GLIFWC staff object to the unilateral removal of the tribal position statement for section 3.1.7 by the DNR. We reiterate that the existing Closure Plan is insufficient to allow an adequate assessment of post-closure impacts and does not comply with NEPA requirements. The Proposed Action has changed significantly since the development of the Closure Plan, and additional detail is needed to appropriately inform post closure impacts, since those impacts depend on the specific plans and methods used to close the mine. For example, the conclusions of the West Pit Lake Uncertainty Analysis (DEIS page 4.1-84) state that "As indicated in Table 4.1-45, some of the waste rock stockpiles have the potential to leach solutes to groundwater for long periods (i.e., at least 2000 years), so these effects would be significant." In order to adequately assess the environmental impacts of the Proposed Action, additional detail on the specific environmental impacts of this leachate and information about the remediation activities that would be needed to avoid damage to surrounding waters should be included in the Closure Plan.	PD7
7	GLIFWC staff object to the unilateral removal of the tribal position statement for section 3.1.7.2 by the DNR. We reiterate that this section should acknowledge that the pit lake will remain at the site in perpetuity and will exceed water quality standards, and should discuss its status as a "water of the state." This section should describe the long-term effectiveness of the geosynthetic membrane that is proposed to cover the Virginia formation rock wall. Given that the applicant has not proposed any long-term maintenance of this system, expected long-term leaching rates should be described in this section and taken into account in sections of the EIS that predict long term surface and ground water quality. This section should list the potentially significant environmental impacts of a stockpile failure, a slope stability analysis must be performed and included in the DEIS. For more information, see section 4.13 of this document.	PD2,PD3
8	The DEIS does not include a preferred alternative. This omission creates serious problems because development of financial assurance and closure information become more difficult. We believe that at this point in the project, there are no permittable alternatives in the DEIS. It is possible that a permittable project could emerge with the incorporation of several of the identified mitigation options, however, the environmental impacts of the various measures have not been fully characterized and therefore the DEIS is inadequate.	PD1,PD3,CR1

**Sender Last Name:** Tyler

**Submission ID:** 3689

*Alphabetical by sender's first name*

<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
19670	GLIFWC staff object to the unilateral editing of the tribal position statement for section 3.1.7.3. The positions included in the DEIS are not what the tribes submitted and were modified without our consent. We reiterate that in order to adequately assess post closure impacts, this section should estimate the length of time that seepage collection would be required at the tailings basin. The pumping and water treatment activities described in this section would have to be conducted in perpetuity, and the cover and liner would require perpetual maintenance. This perpetual maintenance requirement is a basic descriptive fact of the project and should be included in this section. The cover and revegetation paragraph in this section should indicate that the applicant has not demonstrated that vegetation can be sustained without perpetual inspection and maintenance of the vegetative cover. This data gap should be addressed in this section of the DEIS. This section indicates that ponded water from the top of the hydrometallurgical residue facility and drainage from the bottom of the facility would be collected and transported to the WWTF for treatment and discharge to the wetland treatment system. This section should state that the WWTF may need to operate for an extended period of time (hundreds of years) and the feasibility of this has not been determined. Furthermore, DNR technical staff and GLIFWC staff have repeatedly indicated to DNR managers that the ability of the treatment wetland to treat water in the long term is in doubt and no analysis of the effectiveness of the treatment wetland has been provided. Finally, it should be indicated that the pumping of drainage from the bottom of the hydrometallurgical facility cells would be required in perpetuity to avoid a “bathtub effect” in the cell which would lead to a catastrophic failure of the cell. These issues are basic descriptive facts about the project and should be included in this section. The Cover and Surface Runoff Control paragraph indicates that the turf cover would need to be mowed “once a year”. The section should note that this would need to occur in perpetuity in order to permanently inhibit tree growth. This is necessary in order to prevent root damage to the cover system. The DEIS should discuss the feasibility of this plan. Finally, the section of cost estimate indicates that the complete amount of financial assurance for this project “cannot be estimated until these actions are understood at a deeper level of design detail”. While this may be sufficient for the state process, it is inadequate in the view of the USEPA, as described above.	PD2,PD5,PD6
19671	GLIFWC staff object to the unilateral editing of the tribal position statement for section 3.1.7.3. The positions included in the DEIS are not what the tribes submitted and were modified without our consent. We reiterate that the applicant has not demonstrated the effectiveness of the secondary wetland treatment system. In addition, the section should note that the long term impacts of the project and the potential need for post closure activities would continue for hundreds or thousands of years. The applicant and the DNR have not addressed how this very long term maintenance plan meets the stated goal of Minnesota’s reclamation statute.	PD2
19672	GLIFWC staff disagree with the assumption that the proposed project would only result in social and economic benefits. The environmental impacts of the project on the 100 Mile Swamp, an undisturbed and very high quality wetland complex, would constitute a social impact. Furthermore, economic development that is not centered on heavy industry (tourism for example) would be adversely impacted by the project. At the end of the project life, there would also be negative economic impacts as the surrounding communities deal with the loss of primary employment and economic revenue streams that were dependent on the Project. It is important that the DNR present a balanced picture of the impacts of this project. A one-sided presentation of social and economic impacts does not fulfill the need for full disclosure in a DEIS.	PD3

*Alphabetical by sender's first name*

**Comment ID    Comment Text**

**Theme Codes**

19672 Section 3.2.3 is misleading to the reader because it omits several important facts. First, the section indicates that 95% of Polymet tailings water would be captured. However, this 95% number is only true if one ignores the existing tailings water seepage. This seepage, which violates groundwater quality standards and which Polymet would assume responsibility for if permits are granted, has already contaminated the groundwater and wetlands between the tailings basin and the Embarrass River. The section should explicitly state that existing discharges from the basin are not included in the 95% number and therefore, contamination north of the tailings basin will continue into the foreseeable future. GLIFWC staff believe that water treatment of the discharge would be required to comply with the Clean Water Act and the wild rice water quality standard. GLIFWC staff are skeptical of the accuracy of the predicted 95% water capture efficiency. Information presented by Barr Engineering (PolyMet consultant) for capture efficiency at the Minntac tailings basin, which is also a taconite tailings basin of similar design as the LTV basin, stated that 59% was the maximum possible water capture efficiency. Minntac (USS) is currently proposing a seepage capture system with an estimated 40% capture efficiency because of excessive cost and infeasibility of the 59% efficient design. GLIFWC staff note that 95% is the capture efficiency that would needed to occur to prevent sulfate from entering the high risk methylation area north of the tailings basin. However, GLIFWC staff are not aware of any study that demonstrates that the 95% capture efficiency is technically feasible. This demonstration should be performed and included in the DEIS. Finally, GLIFWC staff believe that Figure 3.2-2 is incorrect. The extent of the wells evaluated by Barr Engineering (Polymet's consultant) for the tailings basin alternative only extends along the north of cell 2E. Figure 3.2-2 is instructive in that it shows the extent of capture wells that are needed to deal with historic sulfate discharges from cell 2W as well as 2E. This is the extent that should be proposed by PolyMet. GLIFWC staff note that although they participated in the identification of potential mitigation measures for the tailings basin, they did not participate in the development of the tailings basin mitigation design. In addition, it is the position of the tribal cooperators that an untreated discharge of contaminated tailings basin water to the Partridge River in order to dilute and dispose of tailings basin water would have environmental impacts that must be avoided in order to adequately protect the environment and meet water quality standards. GLIFWC staff are also concerned about project dependence on the testing of the Permeable Reactive Barrier. This type of treatment has not proven effective at treating sulfate in tests conducted at the MINNTAC taconite mine (Table 3.2-3) The effectiveness of such treatment is very speculative at this time and we believe that the "periodic recharging" of the barrier would need to occur in perpetuity. GLIFWC staff disagree with the rationale for eliminating the underground mining alternative presented in Table 3.2-4. We reiterate that this alternative was eliminated prematurely and without sufficient consideration. Staff note that analysis of unquantified environmental impacts, values, and amenities have not been evaluated as required by CEQ regulations. A study of this particular deposit was performed by U.S. Steel. At that time they recommended underground mining. In addition, this site is identified as an underground project in Figure 37 of the Siegel and Ericson Copper Nickel Study. By examining cross-sections showing the distribution of ore by depth (Figure 4.1-2), it appears that there are substantial ore reserves at depths that likely could not be accessed by the proposed open-pit mine . The ecological costs of open-pit mining and above-ground dispo

PD5,G1

19672 As previously indicated, GLIFWC disagrees with the rationale used to eliminate underground mining as an alternative.

PD5

19674 The assumption that the wetlands in the area are perched and receive no groundwater inflow is based on incidental observation and the analysis of aerial photography, which is by its nature imprecise (Adams, John and Micheal Liljegren. 2009 "Additional PolyMet peatland data / information." email communication to Stuart Arkley. February 1, 2009, Attachment #2). GLIFWC notes that, contrary to Figure 4.3-1, the wetland delineation conducted by Polymet (RS14, 2006), indicates the presence of several hundred acres of cedar swamps and tamarack wetlands. These vegetation types, by definition, rely on an influx of groundwater to support them. In addition the wetland delineation does not encompass all wetlands that are likely to be affected by the project. Because no initial determination of the projects area of influence (AOI) on wetlands was made, the site field surveys of wetland and other vegetation was limited to little more than the area within the project fence. The existing characterization of wetland and other vegetation does not cover even one-half the area that might reasonably be expected to be impacted by secondary impacts of the mine due to disruption of the existing hydrology. Around the tailings basin virtually no wetland delineation has taken place although wetland impacts from inundation are likely to occur.

WR2I,WE1,WE2

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
19675	GLIFWC has repeatedly commented to the lead agencies on the problems with the available aquifer tests and we reiterate that any conclusions based on the existing aquifer test data have a great deal of uncertainty given the variability in the results.	WR2A
<b>Sender Last Name:</b>	Ukuemn	<b>Submission ID:</b> 1048
1151	[comment is the link to a website - see submission text.]	G15
<b>Sender Last Name:</b>	Ulland	<b>Submission ID:</b> 343
368	Thank you for the opportunity to provide my opinion and comment on PolyMet Mining Company’s draft environmental impact statement currently under public review. As a geologist who spent much of his career exploring and assessing the Duluth Complex, I am well acquainted with the potential this deposit holds and the cautions that must be employed should the ore body be mined. I am pleased that PolyMet has taken the unique challenges of sulfide mining into account, as documented in the draft environmental impact statement. In general, my greatest concern for the environment when mining a sulfide ore body is the potential to create acid mine drainage when the sulfide in the ore reacts with oxygen and water; this is of particular concern with stockpiles. PolyMet clearly is cognizant of this potential and has proposed a rigorous and robust system of controls to manage its waste rock stockpiles, as well as other portions of its operation. For example, PolyMet has characterized its ore body thoroughly and will manage waste rock according to its potential to generate acid mine drainage. Stock piles will have liners and sturdy, engineered foundations with a drainage systems built to collect any water that percolates through the stockpiles during operations. When mining is complete, plans call for covers designed according to the waste rock’s potential to generate acid; these covers, which ultimately will be vegetated, will minimize the water that is able to come into contact with the waste rock. Additionally, PolyMet will use the sulfide in the ore as fuel in its hydrometallurgical processing – maximizing the use of the ore extracted from the ground and minimizing the use of greenhouse gas-producing fuels. As a geologist, I have had the opportunity to examine how mining practices are conducted in other parts of the country and the globe. Frankly, Minnesota’s environmental protection requirements are the most stringent I’ve seen, and I am confident that state and federal regulators will help ensure that PolyMet conducts its operations in an environmentally sound manner that protects our natural resources. I use the minerals that PolyMet will mine and process—as does every person in Minnesota. I prefer to “buy local” when it comes to my minerals whenever possible – from mines that will be overseen by regulatory authorities I trust to protect the environment. I do not share the same confidence in regulatory authorities in other jurisdictions. While mining and processing ore in an environmentally responsible fashion, PolyMet also will be creating jobs – more than 400 full-time jobs at full operation and a minimum of 500 spinoff jobs. Construction of the plant will require 300 construction workers to work 1.5 million hours over three years – an economic injection our local economy desperately needs. I believe that the draft environmental impact statement does what it was designed to do – to look at the issues identified in earlier public comment periods and to assess the impact on the environment. The draft demonstrates that, with some modifications, the project can move ahead without harming our environment. Please acknowledge this demonstration by determining that the draft is adequate so that permitting can begin.	EOO,G2A
<b>Sender Last Name:</b>	Ulmen	<b>Submission ID:</b> 344
369	I have reviewed the Polymet Mining Draft Environmental Impact Statement as posted at the site of the MN DNR. It should be noted that environmental concerns related to any mining operation also are present with the Polymet project, however, most if not all of these conditions pre-date Polymet during the era of iron ore and taconite mining in the area. Polymet Mining Corporation proposes to reclaim non-ferrous resources in areas of Minnesota where the environment already suffers major pollution concerns from the iron ore days when environmental quality was not a significant issue with permitting.	G2

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
370	Polymet will enter a polluted area, mine it for 20-plus years for copper, nickel and platinum group metals, and upon completion of the mine life, will restore the mined area to a level of environmental quality far in excess of the current level. In addition, according to Polymet news releases, the reclaimed mine area will meet or exceed all standards for environmental quality. When mining is completed, the environment will be restored to a level significantly improved over its quality at present. Polymet has proven it can and will act as a responsible steward of the environment and has committed the financial resources to carry out this promise. Polymet has access to Platsol, a proven technology to economically reclaim non-ferrous minerals from the mine site. Polymet has the resources, both technological and financial, to do what it says it will do. Extensive testing has shown that using Platsol technology will have a major positive impact on that area of the state by providing jobs, payroll, and taxes which will significantly improve the economics of the State of Minnesota. This proposal is a win-win situation to all concerned- the state, the economy, the local labor pool on the old iron range, and the reuse of existing resources such as the Erie plant which has already taken place. Resources from the mine have been consistently estimated at very conservative levels. Even using these conservative levels, Polymet has proven that it can mine these resources at far less than the world prices for these resources. Polymet will make a significant profit over the life of the mine, and already has a buyer under contract to purchase the resources mined. This project proposal is a no-brainer. Issue the mining permits as soon as possible and let this project move forward.	EOO
371	As silver is a bi-product of the mining of copper, Polymet should be encouraged, and authorized by permit, to extract silver from the proposed Polymet project if it is economically and environmentally feasible to do so.	EOO
372	Legislators should enact special legislation authorizing purchase of shares of Polymet mining stock by the state of Minnesota with subsequent sales of these shares dedicated to bringing the state retirement funds of Minnesota governmental employees closer to the level of being fully funded. Further, that these funds are in trust for the above purpose and are immune from future reclamation and redirection by the legislature, and that such retirement funds becomes an entitlement to retired governmental employees by law.	EOO
<b>Sender Last Name:</b> Ulrich		<b>Submission ID:</b> 137
128	My name is Joann Ulrich, I live in Hibbing, Minnesota. I am supporting the PolyMet project. We need more jobs on the Iron Range and more kids in our schools. I believe the state government will do their job and protect our environment. I guess that's it for me.	EOO
3156	In every other case these mines have severely polluted the environment in which they were developed. Once polluted the Boundary Waters will never again have the value they have now. The mine will be blip on the economic scene but the physical damage will be permanent.	G2,G7
<b>Sender Last Name:</b> Ulseth		<b>Submission ID:</b> 1073
1177	I am writing in support of the PolyMet mining project. I am an engineer and engineering instructor both at Itasca Community College and in the new Iron Range Engineering bachelors of mechanical engineering program. I have studied the process and personally have no concerns regarding negative impact on our environment. I believe due diligence has been given to protecting our natural resources and producing these metals in an environmentally sound manner. Economically, the PolyMet project will have substantial impact on the northeastern Minnesota region and the entire state as has been fully established. In closing, I fully support this project.	EOO
<b>Sender Last Name:</b> Umrikar		<b>Submission ID:</b> 3304

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
3598	As a college student at Carleton College, I've heard about how precious the Boundary Waters are from all my native Minnesotan peers. I went to the screening of "previous Waters" to learn more about the Boundary Waters region, and I am absolutely horrified as to the type of mining you wish to introduce to the region. Minnesota is so lucky to have the Boundary Waters; it provides such great resources (clean water, fresh air, healthy food, etc.) and activities (fishing, canoeing, etc.) to so many families and wildlife. Why are you taking away this gift to us? You know the negative environmental impact it'll have. Why are you doing this?	G2
<b>Sender Last Name:</b>	Unger	<b>Submission ID:</b> 3098
3483	I am writing to you as a Minnesotan concerned about the PolyMet sulfide mining project proposed on 6,700 acres of public land in the Superior National Forest, where I live. Please consider that 20 years of jobs for a very small percentage of the northern Minnesota workforce DOES NOT equal the total devastation of areas of the Superior National Forest, the expected destruction of the Boundary Waters, and Lake Superior! It has been proven that this type of mining will destroy this largest fresh water lake in the world, along with any number of small lakes and rivers in the watershed. While the sagging economy seems overwhelming to some at the moment, someone needs to stand up to defend the "jewels of Minnesota" as Tom Rukavina recently called our lakes during the gubernatorial debates last week. Further, I believe the emphasis of job creation seems to be overstated, given the technological and automated advances in the industry. The Superior National Forest should be treated with the same respect as the National parks in the United States. This Forest is also a national treasure, to be protected, not ravaged, for short term corporate gains and short term job creation. This environment and clean water are given to us only once! There would be no way to reclaim the fresh water devastation of acid leaching, if PolyMet cannot show that, without a doubt, their waste rock and tailings can be contained. The lakes and rivers that support natural habitat, including humans, would be gone, if our waters were contaminated!	EOO,G1,G2,G7A
3495	If this type of mining becomes inevitable in Minnesota, at the very least, in the permitting process, these companies should be mandated to set aside, up front, in a secure institution, money (not stock!) for any land cleanup and restoration after operations are shut down or abandoned, as the US EPA suggests. Don't make others responsible for the shortsightedness of PolyMet and current lawmakers!	PD4
19677	GLIFWC staff reiterate that the data used in this section are inadequate. In numerous letters, meetings and conference calls to the lead agencies we have requested that additional data be collected. As previously discussed, GLIFWC staff maintain that the flow patterns are not representative of the Partridge River near the mine site. The gauging station is seventeen miles from the mine site and the data from that station are more than twenty years old and therefore, unlikely to be representative of current conditions at the mine site.	WR3J
19677	GLIFWC staff reiterates that the existing LTVSMC tailings are contributing substantially to the level of constituents observed in the groundwater. Unfortunately the modeling of PolyMet contaminants at the basins does not take these or other existing constituents adequately into account (RS74 and TB-14). The result of this oversight is that the contaminant modeling done by PolyMet comes to the illogical conclusion that seepage water from PolyMet, after passing through both LTVSMC and PolyMet tailings, will be cleaner than the existing seepage that is passing only through the LTVSMC tailings. According to PolyMet's consultant "the predicted concentration of seepage from the PolyMet basin is lower than the actual measured concentration of existing seepage" (TB-14, page 9). It is unclear how the addition of mine waste to the basins would cause seepage water quality to improve.	WR1E

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
19677	GLIFWC staff reiterate that additional legacy issues exist. Over the many decades of operations at the tailings basin, thousands of gallons per minute of tailings basin water have been discharged through the bottom of the basin, into groundwater. This water has then moved down gradient and into surrounding wetlands and as stated in the water quality section, ultimately reaches the Embarrass River. It is the tribal cooperating agencies' position that despite very limited recent groundwater sampling that shows groundwater contamination at the property line and at private wells north of the basin, the full extent of the contaminant plume and the existing contamination to groundwater has not been defined. Finally, the DEIS claims that elevated constituents at the private wells north of the tailings basin are explained by background. Suggestions that high manganese and aluminum concentrations in the private wells are background are not adequately justified. A more logical explanation is that the groundwater plume from the tailings basin has reached those wells and has degraded their water quality. It is clear by recent hydrologic data (Barr Engineering Technical Memorandum: Results of Residential Well sampling North of LTVSMC Tailings Basin, January 27, 2009, Attachment 4) that the seepage from LTV tails has saturated the aquifer to the north. It seems unreasonable to assume a natural cause for the highly elevated constituents at the private wells when an obvious mechanism for those values is available in the existing tailings basin.	WR1E
<b>Sender Last Name:</b>	Unsworth	<b>Submission ID:</b> 2003
2483	Don't be remembered for being the one to destroy the Boundary Waters. It is the jewel in our crown for our state and should not be destroyed for short term gain. We are guardians of this rare beauty and must pass it on, unspoiled, for future generations. There has not been an example of a pit of this kind, anywhere in the world, including the USA, that has not created a serious pollution problem. Why would you risk that here?	G14
<b>Sender Last Name:</b>	Upton	<b>Submission ID:</b> 1987
2478	We are already well into the SIXTH MASS EXTINCTION....man-made. or "Madman made" if we allow this... PolyMet is another soul-less corporation consuming our planet for filthy lucre... The extinction RATE for plants, animals, insects, etc, continues at over 1,000 TIMES the historical rate. Minnesotans, we stopped public pollution of air by smokers.... now let's stop the corporate polluters and destroyers.	EOO,G2C
<b>Sender Last Name:</b>	Urban	<b>Submission ID:</b> 2264
1853	Ultimately the release of chemicals in the waste rock from PolyMet mining will seep into the watershed. The exposed rock, being transported from the mine to the processing facility, may fall off the railroad cars onto the land and eventually start leaching chemicals into the soil. These toxins will eventually find their way into Lake Superior. This pollution of Lake Superior will defy Article N of the Boundary Waters Treaty of 1909 which states: "It is further agreed that the waters herein defined as boundary waters and waters flowing across the boundary shall not be polluted on either side to the injury of health or property on the other."	WR1D,WR3D
1854	In the absence of hard data, the DEIS often uses professional opinion. This is a common practice but it has its limitations and hazards. The assumption expressed by John Adams and Michael Liljegren to Stuart Arkly that there is little or no connection between bedrock and surficial aquifer may not be corroborated by the fact that water from boring 05-401M "exceeded the water quality criteria for ammonia, aluminum, copper, and silver in both boreholes". Because this flies in the face of professional opinion it demonstrates the clear need for a data driven approach. You simply do not have the necessary facts to proceed responsibly. The DEIS is again forced to use professional opinion to conclude that release of water from tailing ponds and water used in processing of ore will not impact water levels in the Partridge River. This opinion had to rely on data that is over 20 years old and well downstream of the proposed operation. It should be noted that the reason there is not current data on stream flowage is because the monitoring station on the Partridge River was decommissioned 20 years ago as part of budget trimming. Trimmed budgets for the same agencies that are projected to monitor the new operations.	WR1E

*Alphabetical by sender's first name*

<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
1855	I want to close by pointing out the obvious. This area is unique. It is unique in that it is the kind of environment that is most vulnerable to the pollution inherent in hard rock mining. Such mining is safest in areas with minimum water exposure. Our beautiful Northeast Minnesota is full of lakes, rivers, streams, and wetlands. It has been described as a swamp on rock. By definition it is the worst place to do hard rock mining. But what is even more unique is the fact that water in this area does not come from others but rather flows to millions. Our unique area is at the pinnacle of three water sheds. The plaque at the rest stop on Hwy 53 says it all. When it rains here, the water flows into Lake Superior and the Great Lakes, into Hudson's Bay through the Rainy Lake water shed, and to the Gulf of Mexico through the Mississippi watershed. For the citizens of Minnesota and for the millions of people who must have clean water to survive, this unique area deserves unique protection. Do not permit this type of mining until scientific and historical data, not professional opinion, not political pressure, not short term profit-indicate it can be done safely.	EOO
2048	Again according to the DEIS (table 4.1-45) water from waste rock piles will be polluted for 2,000 years. Can PolyMet forecast financial assurance for that long? Can this contaminated water be protected from record rain falls, forest fires, tornados or blow downs or other natural disasters? Is there any worse case scenarios in the DEIS? I didn't see any.	PD3,PD4
2676	I am a citizen of the USA. I grew up in Minnesota, as did my parents. I graduated from Macalester College in 1968. My husband and I chose to raise our family in St. Paul. My grandparents raised their families in Minnesota. In 1933 my maternal grandparents bought property and built a cabin in Crow Wing County. I spent all my summers there. I taught children 3-10 years old and their families in public and private schools and at Warner Nature Center. I have three grandchildren. My husband and I retired and moved to Eagles Nest Township near Aurora in 2004. We own a small log cabin on a lake. I am extremely fearful and worried about the DNR and the U.S. Army Corp of Engineers giving a permit to the PolyMet Project for nonferrous mining in Minnesota. I am aware that Minnesota has many resources. I know that some of the oldest lands in the world are here. (D. E. Willard, The Story of the North Star State, 1922) Minnesota has many natural resources of soil, rocks and minerals, rivers and lakes, bogs, forests, plants, animals, fish and birds. We all live here together. The protection of these resources should be of concern to all of us! I have studied the issue of the PolyMet Project. In 2008 I helped organize a forum on this issue in Ely, and I went to the public meeting in Aurora on Dec. 9,2009. I read press releases, editorials, and much of the DEIS.I talked with former and present taconite mining employees. Now I have come to the conclusion that non-ferrous mining should be prohibited in Minnesota. I plead with you--do NOT permit this PolyMet project! Our Minnesota laws governing the protection of the environment are not strong enough. Our laws governing the runoff and clean up of mine projects are not adequate. PolyMet's technology is not proven anywhere and certainly not proven to work in the habitat of St. Louis and Lake Counties. Examples: 1. The former L TV site used by Cliff Erie is seeping sulfates into the St. Louis River watershed. Also, residents between this LTV site and the Embarrass River have arsenic levels in their wells that exceed Minnesota water quality standards. 2. The Minntac Tailing Pond, 30 miles away from Lake Vermilion, is draining sulfides into that lake. That should not be happening. 3. The Dunka Pit is still polluting the area years after the company has ceased operation there. Where are those financial assurances?	G4,G7



*Alphabetical by sender's first name*

<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
2677	<p>There are already advisories and beaches closed in and near Duluth on Lake Superior because bacteria levels exceed water quality standards. Add the chemical runoff from the proposed PolyMet site to Lake Superior. I say NO. I understand that the precedent and common procedure in Minnesota and the United States is to allow companies and industry to go ahead--be given permits. Then if some problem happens, some pollution occurs, some hazardous waste fowls the water, air, or land--clean it up. I implore your agency to put an end to this policy. Allow companies a permit only when experience shows safe procedures are in place and when proof that these procedures are safe has been provided. Already there is a \$475 million budget proposed to clean up the Great Lakes. Our Eagles Nest Lakes Association received a DVD titled Minnesota's Lakes at Risk. This production was funded by the Minnesota Pollution Control Agency. We cannot afford to add more risk to our lakes and rivers. The Minnesota DNR should be working with the Minnesota PCA to assure that our fresh water stays unpolluted. I do not want lakes and rivers here devoid of all life like some rivers in Montana where mining runoff destroyed all life for miles. The impact on wildlife -- birds, fish, animals, plants, trees--on or near the mine site will be severe. The rare species found (DEIS pages 147-149, table 29-1) within or near the PolyMet mine site will be jeopardized! The impact on tribal wild rice habitat in and near the St. Louis River is unforgivable (4.1-94) My family eats and depends on Native wild rice for our diet. My grandparents taught me to value Minnesota. I choose to live here because I am proud of our state. My grandparents left me a legacy: Clean water Clean air Forests Birds Fish The Seasons I want desperately to leave that same legacy to my children, my grandchildren, and their descendants. In the preamble of our U.S. Constitution it says: "We the people" are insured "justice, domestic tranquility, promotion of the general welfare, and to secure the blessings of liberty to ourselves and our posterity". NOWHERE does it say that foreign companies or corporations have that liberty. Clean water and air have been and must continue to be guaranteed to all of us in Minnesota. Please do not give a permit to PolyMet.</p>	G2,G7
2678	<p>Because of my appreciation of the necessity of clean water I have been closely following the PolyMet mining proposal. I have read much of the DEIS, attended the public meeting at Mesabi East H.S., spoken with neighbors, asked questions, and attempted to become as informed as possible. It would take volumes to address everything I find problematic in the DEIS but I feel compelled to call your attention to several areas that I find critical. My overall objection to the DEIS is that while it is full of data, it is lacking in scientific method and logic. In short its data is presented to support theory, not demonstrate a proven system. The DEIS admits that the critical problem of hard rock mining is the large amount of waste material that may produce acid runoff when exposed to air and water. It then admits that such acid runoff has been a major environmental catastrophe in other operations (eg Montana and Colorado). It further explains the steps that will be required of PolyMet to insure that this pollution does not take place in Minnesota and we are given data about lined holding ponds, air exposure rates, etc.</p>	G7,G8
2679	<p>But the most important data is missing. Where are the reports of other mines in similar environments that have successfully operated and achieved little or no pollution? The maps I have seen shows hundreds of similar mines all across Ontario. Recently the Canadian Federal Court has required Environment Canada to make the mining industry annually report the toxic waste accumulating in tailing ponds and waste rock piles. Since 1998 the United States has required mining companies to report all pollutants under the Toxics Release Inventory (TRI). In 2005, the 72 mines in the U.S. reporting to the TRI released more than 500 million kilograms of toxic substance to mine tailing and waste rock. This accounted for 27% of all U.S. pollutants reported. So my question--and what ought to be your question-- is where is the data that shows operation of such mines can, in fact and not in theory, be done in a way to protect the environment. Requiring proof that such catastrophic pollution would not occur would be the scientific way to proceed. Without such evidence the proposed PolyMet operation is nothing more than a gambol.</p>	G8
2680	<p>The DEIS asserts that the safety of this kind of mining operation is insured because MN has such strict environmental regulations and standards. The argument by Rep. Rukavina at Mesabi East H.S. and others in editorial comments is that Minnesota should take the moral high ground by allowing hard rock mining here in a well regulated environment rather than forcing the mining industry to operate in states and countries which have low environmental standards and protection. This kind of logic is problematic on several accounts. First, according to the DEIS on various pages (4.1-113) the West Pit will discharge water the exceeds water quality standards for arsenic, cobalt, selenium, copper, nickel, and high sulfate concentrations. What good are high standards if groups are permitted to exceed them. Has the mining industry any history of lobbying to reduce standards or seeking variances in order to exceed standards? The answer is yes.</p>	G5

*Alphabetical by sender's first name*

**Comment ID    Comment Text**

**Theme Codes**

**Sender Last Name:**    Urie

**Submission ID:** 272

286 I am writing this letter to support the proposed NorthMet Project as presented for consideration by the PolyMet Mining group. I have been interested in mining most of my adult life being involved through the service sector - worked for the DM&IR railroad, and have followed this particular project with a keen interest. I have attended two of their open houses and have seen in person the community interest and support that has been generated for this project. I have also attended other presentations given by the PolyMet management group and have been very impressed with their due diligence and dedication to do this mining environmental safe! The economic impact for Northern Minnesota is easily understood and assumed by the citizens who live and work in our region. For those Minnesotans who do not live and work here, these jobs also will have a significant contribution to the state both in taxes and economic benefits which will benefit all! I believe that with the new technologies developed and other environmental safe mining practices, that this new opportunity will be a win win for all of us living in Minnesota. The metals that PolyMet will mine represent a huge portion of the need for these metals as they will be used in such things as wind turbines and hybrid cars and are necessary for pollution prevention devices such as catalytic converters for our cars & trucks. I know they are committed to providing a good work environment as they are looking to use both rail and mining equipment which will meet the most stringent EPA emissions requirements. Their commitment to use Gen Set Locomotives is a great example of this. It is time for the permitting and then the building process to begin. Northern Minnesota need the jobs, all Minnesotans need the opportunities and benefits that will result from this project.

EOO

**Sender Last Name:**    Valine

**Submission ID:** 3621

3900 This is written as a letter of support for PolyMet Mining Company's proposed NorthMet Project. This project would create needed economic development in Northern Minnesota and produce valuable metals in an environmentally safe manner. I was born and raised in Northern Minnesota and am aware how important it is to have stable employment in the area, and maintain and care for the environment. I now live in Superior Wisconsin but often work and vacation in Northern Minnesota, and get to visit my parents in Hibbing. The proposed mine will add several hundred permanent jobs along with adding support industries and construction jobs. The taxes generated from PolyMet and the workers will help support the state and local communities with needed funds for education and improvements to infrastructure. The environment will be protected as detailed in the draft environmental impact statement. There has been a four-year long review process for this proposed mine, and the review has been very thorough. PolyMet has detailed their plans to use some existing facilities at the former LTV Steel Mining site, and will follow Minnesota's strict environmental requirements. With the necessary controls in place to protect the environment, the permits for the project should be granted, and Minnesota can start producing some metals not found at this time in the U.S. that we use in our everyday lives. Thank you for your review of the project, and for seeing that Minnesota's environment is protected. Thank you also for not delaying in issuing the permits so the project can get started.

EOO

**Sender Last Name:**    Van Grinsven

**Submission ID:** 1536

1872 A place I have come to love and will continue to visit for the rest of my life is immediately downstream from the proposed mining. Nobody wants to part with the products these minerals provide and it can be said that people are O.K. with these mining practices until it's in their backyard. As a person who fishes and swims in the waters this mine we be affecting, I ask that you do your absolute best to insure the best practices and planning are implemented, as I can only hope that their integrity may be maintained in the face of such an invasive project.

G2C

**Sender Last Name:**    Vandersteen

**Submission ID:** 2656

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
3155	I know most of the messages you receive are not cleverly thought out like the beginning and end of my Email are, so I hope this part of the email has a little more effect of your decision. Since the young age of 5 or so I have always gone up to the Boundary Waters Canoe area. This area of natural beauty is of great importance to me and thousands of minnesotans. The thought of, in my opinion, the best part of Minnesota being polluted and destroyed is extremely upsetting. I guess the questions that I hope you are truly asking yourself are; Is Acid Mining really worth destroying Minnesota's crown jewel? How much money is worth the cost of what Sigered Olson worked so hard to accomplish? Will you regret this action in the long run? And is this really for the better of everyone? I hope you vote in a manner you feel best represents you as a Minnesotan and reflects the views of your constituents. Thank you for your time if nothing else, -Leif	G2,G7,G9
3576	I realize that everything following this is just an overwhelming amount of card stacking. But it does not do an adequate job of explaining how important this region of Minnesota is to thousands of Minnesotans. I have spent every summer since I was five years old in the remote wilderness of the Boundary Waters. From this area I learned to respect the land in all its natural beauty. I love every single part of the Boundary Waters: huge lakes, luscious skys, bitter winds, the abundance of wildlife, and even the mucky little ponds with Beaver dams. If I were to not voice my opinion, I would be ignoring every responsibility that I have gained and letting down myself and the thing that I love and cherish the most; Minnesota Thank you for your time Leif Gavin Vandersteen.	G2
<b>Sender Last Name:</b>	Vang	<b>Submission ID:</b> 3506
3776	Dont get too greedy and help save our land so everyone and the next generation can live peacefully and nice	EOO
<b>Sender Last Name:</b>	Vaughan	<b>Submission ID:</b> 1546
1891	As an avid fisherman, canoeist and general outdoor enthusiast, I am saddened by this proposal. Mining will never be environmentally friendly despite all of the assurances and I hope that this will be reconsidered for the health and enjoyment of many fellow Minnesotans.	EOO,G11
<b>Sender Last Name:</b>	Vavricka	<b>Submission ID:</b> 3162
3535	Please do not allow sulfide mining in Minnesota. Tony Vavricka Minnesota boater, fisherman, and clean water drinker Does the Minnesota DNR support	EOO
<b>Sender Last Name:</b>	Vecchie	<b>Submission ID:</b> 1116
211	2) Corridors. The PolyMet mine will obstruct at least 2 of the remaining 13 corridors where wildlife can cross the 120 miles of the Mesabi Iron Range. These corridors are important not only for mammals like moose and wolves but also for the northward migration of the deciduous forest and all its components in the face of climate change. The DEIS ignored the mine's impact on wild corridors.	WI5
527	1) Mercury. Increased levels of sulfates leached from the PolyMet Mine will increase mercury accumulated in fish tissues, causing harm not only to the fish but to animals and people who eat the fish. The DEIS did not adequately analyze the potential impact of the mine on mercury levels in surrounding waters and fish.	WR1E,WR4B,FM1
528	3) Wild Rice. The PolyMet Mine will result in enormous sulfate releases that will exceed the state standard for wild rice, which is sensitive to sulfates. These sulfates will likely eliminate wild rice in the Partridge and Embarrass Rivers, and diminish the famous wild rice beds in the St. Louis River estuary near Duluth, which is 100 miles away from the mine. The DEIS did not adequately analyze impacts on wild rice and the associated health and economic impacts.	WR4F

*Alphabetical by sender's first name*

<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
1224	I am concerned about the impact on fish and wildlife of the proposed PolyMet Mine in Superior National Forest and urge you to better analyze the proposed mine. Of particular concern are the following issues, which were not adequately explored in the Draft Environmental Impact Statement (DEIS):	G2C,G8A
<b>Sender Last Name:</b>	Verderame	<b>Submission ID:</b> 2790
3191	Many thousands of us use this area for recreation because of its unspoiled natural beauty. Not many places remain that are so wild, pristine and accessible.	G11
<b>Sender Last Name:</b>	Verstegen	<b>Submission ID:</b> 3115
3491	Polymet's proposed mining in northern Minnesota is out of control. The lack of government oversight and public input on this very important environmental issue is a scandal of epic proportions. We the people have a right to know that the purity of the Boundary Waters Wilderness and the Lake Superior water shed are being safe guarded. These national treasures are facing one of their greatest threats from this form of sulfide mining. No amount of economic growth in worth the long term, permanent ground water pollution threatened by this process. Please reconsider this permit, please seek further environmental studies. It is our responsibility to protect this most wonderful natural resource.	G7
<b>Sender Last Name:</b>	Vesper	<b>Submission ID:</b> 3117
29	Polymet advertises that they will create a certain number of jobs. The jobs argument is very short-sighted. Lawmakers right now are under tremendous pressure to show that jobs were created on their watch. It is assumed that job creation will have a positive effect on the local economy. However, we cannot assume that these jobs will go to local people. Make no mistake: Polymet will hire the most qualified workers who apply, even if it means relocating workers from outside of the area. When mining ends after twenty years, these people may want to stay in the area. Then we will still need more jobs in Northeastern Minnesota. I would like to see Polymet be mandated to hire as many people as possible who already live in the local area, even if it means devoting extra training resources to these workers.	SE7
3492	Polymet was mandated to study alternatives to mining. I would like to see this project put on hold until we develop a better nationwide metals recycling program. It is estimated that one third of our copper resources are currently in landfills. This problem needs to be addressed. It would be irresponsible to mine new copper when we dispose of copper that could be re-used. I am not advocating that we mine existing landfills for copper; I'm sure that would be impractical. However, we need to do a better job of reclaiming metals out of the waste stream. Many countries in Europe already reclaim metals. In Scandinavia, for example, paper and plastic garbage is mixed together with slash and other wood waste from logging operations and incinerated to provide district heating, even in small communities. Because municipal waste is burned, it is illegal to mix metal objects into the waste stream. Virtually all metals are recycled for use in rebar and other products. We would be well-served to emulate such programs. If the Polymet project is permitted, I would like to see a portion of the company's profits go toward developing a state-wide metals reclamation program. I am also concerned about the effect of this mine on the Boundary Waters Wilderness. I have been a guide in the wilderness for eight years, and I currently work as a seasonal ranger with the US Forest Service. The integrity of the Boundary Waters Wilderness is extremely important to the regional economy. I recognize that this mine is not projected to directly affect the Boundary Waters. However, the Polymet would set a dangerous precedent for other mining companies to follow. Duluth Metals, for example, recently partnered with a South American mining company to bring a mine to within the watershed of which the Boundary Waters is a part. The Boundary Waters is the most visited wilderness area in the country. The local economy would certainly suffer if wilderness waters incurred long-term damage. If the Polymet mine is permitted, it may set a precedent which becomes grounds for other mining companies to bring a lawsuit to insist on their mining rights.	G2,G8C,G11

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
<b>Sender Last Name:</b> Viacrucis	<b>Submission ID:</b> 2807	
3194	The facts should be known before mining could take place. Otherwise we're leaving our environment to chance.	EOO
<b>Sender Last Name:</b> Vickers	<b>Submission ID:</b> 3197	
738	Please allow more time, more locations, and citizen statements and discussion regarding this review. The Boundary Waters area is too valuable and fragile for anything less. Thanks!	PRO6
<b>Sender Last Name:</b> Vier	<b>Submission ID:</b> 3571	
3837	_Our land is all we have to pass on to future generations and I feel that this mine would destroy the purity of our land for economic advancement. Our land is sacred and once it is polluted can never be restored. Please do not destroy our land. There has got to be another way	EOO
<b>Sender Last Name:</b> Viken	<b>Submission ID:</b> 2511	
428	There should be another review period provided to the public once these additions are made.	PRO6
1112	Finally, PolyMet must be required to show that its waste rock and tailings piles won't collapse and dump uncontrolled pollution into nearby waters and that they will not create water pollution that lasts for thousands of years.	GT2
2337	DEIS needs to have stronger language that will ensure the citizens of Minnesota/United States/both will not be left paying 100% or even a portion of the cleanup cost. In addition, any land swap needs to protect endangered species, make sure lands exchanged have equal ecological value, equivalent or greater area while not fragmenting habitat.	PD4
2383	Even if precautions in the DEIS for preventing water acidification are somewhat effective it won't matter because a pH change of only one or two point(s) will kill many fish and will not be required for leaching of mutagenic, carcinogenic and lethal doses of heavy metal. The danger in mine waste rests in the fact that rock containing the precious metals (gold, platinum, copper, zinc, titanium, cobalt, silver and palladium etc.) and hazardous materials (acidifying sulfide and heavy metals such as lead, mercury, aluminum, cadmium, copper and arsenic) goes from a form that has low surface area (bedrock) to a form that has infinite surface area (fine powder) which allows the low level of leaching of these hazardous materials, that occurs naturally, increases infinitely with increased surface area. Nothing in the DEIS addresses the need to "lockup" the waste by decreasing the surface which may be accomplished through encasing it in a concrete/epoxy slurry or melting it. It may be possible to both lock up the mine waste and reduce CO2 that causes global warming (see the following link). Sulfide mining waste needs to be disposed of as carefully as nuclear waste. Even nuclear waste will decay over tens of thousands of years to a safe product whereas sulfide mine waste will pose a hazard to future generations until geological time and plate tectonics subducts the waste in the interior of the earth.	G2B
2413	The PolyMet DEIS describes significant environmental issues associated with this proposed mine. These issues should be resolved before this mine is approved by the Minnesota Department of Natural Resources and the U.S. Army Corps of Engineers. The state of WI had two mines of this kind where they both leaked into the rivers after the mines closed. After this happened, the state of WI passed a law in 1997 Wisconsin Act 171 where mining companies have to have 10 years where the mine did not leak acid drainage into groundwater or surface water, and the mine had to be shut down for 10 years where acid drainage didn't leak into ground water nor surface water. Minnesota should have the same restrictions if we want to preserve the largest fresh water lake, Lake Superior, and its watershed areas, as well as the BWCAW which is next in stake.	G7A

*Alphabetical by sender's first name*

<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
3061	I am a Duluth resident and I am concerned about the proposed PolyMet sulfide/non-ferrous/hardrock mining (SM) project south of Babbitt in the St. Louis River watershed on 6,700 acres of public land in the Superior National Forest. PolyMet mine is just the first SM mine that is being proposed (Franconia Mineral Company and Duluth Metals are among others in process) so this will set the bar that subsequent SM proposals will have to meet. Given large amount of interest in SM in the state and the historical fiasco of SM around the world and the country we have to be flawless in how the mining is carried out or we will suffer severe financial and environmental consequences. The draft environmental impact statement (DEIS) for the PolyMet SM project must be insured by the mining company with sufficient assets that would pay for perpetual cleanup. This is important because history tells us that most SM have troubles with acid mine drainage. These mines include the Berkley Pit Mine, MT, Argo Tunnel, CO, Iron Mountain Mine, CA, Zortman Landusky mine, MT, Monday Creek, OH, Thompson Creek Mine, ID, Gilt Edge Mine, SD, Britannia Creek, BC, Summitville Mine, CO, Elizabeth Mine, VT, Hughes Bore Hole, PA, Flambeau mine, WI and many others in the US and other countries such as Tinto River, ESP, Aznalcollar Mine, ESP, Tasmania, Wheal Jane, UK,. The public has been stuck with the cleanup many times before one of which is the Summitville Mine that costs \$30,000/day to cleanup in perpetuity. Eagerness to mine for the sake of jobs without an eye on long term cost is foolish. Colorado could pay 365 people or companies \$30,000 a year for some service or product and get something tangible rather than pay for cleanup in perpetuity. 365 people is similar to the number of people that PolyMet expects to have under long term employment. The problem is, the PolyMet mine will only employ these people for approximately 30 years.	G4A
3062	The real costs of sulfide mining should not be subsidized by government risk taking. If society needs these metals the cost for these metals should be high enough so we either recycle them, after all they are finite resources, or extract them from the ground in such a way as the waste is locked up for a period of time measured on a geological time scale. We need to protect the integrity of our land in the future, NOW, because just like the financial institutions that irresponsibly gambled with our money, mining company officers will do the same if they are allowed to for short term gain.	G1
3063	I hope you see that what I, the Indian tribes and the United States Environmental Protection Agency have pointed out are serious inadequacies in the precedence setting PolyMet DEIS. Before PolyMet AND other SM can be considered for permits these issues need to be addressed so Lake Superior (the largest lake in the world in terms of surface area threatened by the PolyMet project) and the Boundary Waters Canoe Area Wilderness (the most used wilderness area in the United States threatened by Franconia and Duluth metals projects). Waters in the northeast part of the state are already being threatened by acid rain, in part, because of the low buffering capacity of the soil in this region. We have to be sure we are not going to pressure the ecological services that the environment already produces. Please take the time to add supplements to the draft EIS and give people in Minnesota a fair chance to know what impact the PolyMet project would have on our State	G8

*Alphabetical by sender's first name*

**Comment ID    Comment Text**

**Theme Codes**

3216 I am writing to you as a citizen of Duluth, MN and very concerned about the proposed PolyMet sulfide mining project on 6700 acres of public land in Superior National Forest. The PolyMet site is located on the Patridge River near Hoyt Lakes, MN, which is a part of the Superior watershed. Lake Superior is the largest freshwater lake in the world, which provides drinking water to people in MN, WI, MI and Canada. The St Louis River will bring any waste from this mine project into Lake Superior. The state of Minnesota needs to guarantee that this watershed is not irreversibly damaged by the sulfide mine being proposed by PolyMet. Money to clean up the project is not sufficiently guaranteed for the people of Minnesota. Assurances that the Superior watershed will not be polluted in perpetuity by sulfide mining byproducts are necessary for this project to be approved. PolyMet is going to use old taconite tailings which have air gaps and will not provide adequate containment of the sulfide mining waste from seeping into the groundwater and nearby surface waters. The Tailings Basin design does not meet minimum safety standards to prevent catastrophic failure and uncontrolled release of waste into the Embarrass River. The state of Wisconsin has had experience with sulfide mining in its history. There was a sulfide mine called the Flambeau Mine, south of Ladysmith, WI and a proposed site in the Crandon mine which caused the state legislature to pass WI Act 171 where any mining company must operate a sulfide ore body mine for 10 years without seepage into groundwater or surface water; and the mining company's sulfide ore body mine shall be closed for 10 years without seepage into groundwater or surface water. No mining company has been able to meet the new standards in WI set forth by this law passed on April 22, 1998. These regulations seem to be so minimal when one thinks that it would allow for complete failure of containment at year 11. Failure would be catastrophic to the environment. The main reason the Crandon mine was defeated was the opposition of the local Indian tribes unable to guarantee the water quality in the wild rice lakes. Sulfates created by sulfide mining will affect wild rice lakes in the area of the PolyMet project. Mercury levels will increase affecting local fish, creating human health risks above the current levels. PolyMet is going to use thousands of acres of wetlands in the St Louis River Basin in St Louis County, and is replacing it with wetlands in the Mississippi River Basin in Aitkin County. Doing this will erode the capability of the St. Louis river watershed to buffer flooding into wetlands and result in increased flooding risk and decreased ability of the St. Louis watershed's ecological services. It also can increase flooding in the Mississippi River by adding a lot of wetlands in Aitkin County. All wetlands removed in St Louis River Basin should be replaced in the same river basin. Lastly the major issue with sulfide mining is the environmental effects of the sulfide found in the pulverized rock, when exposed to water and air, forms sulfuric acid. Sulfuric acid found in water can dissolve harmful heavy metals out of the surrounding rock, including mercury. These metals would be carried by the river system near the mine to the St Louis River, eventually making its way into Lake Superior. Due to the important issues that I have raised above, I would strongly discourage a permit being given to PolyMet at this time as these critical issues must be addressed first. The state of Minnesota legislature should have hearings on the proposed mine, and pass laws to ensure the environmental standards are preserved, and living wages and health care benefits are to be legally bound by Polymet.

G2B,G2D,G4A,G5,G7A,G7

**Sender Last Name:**    vmhsjex

**Submission ID:** 2339

2806 pBKEoq <a href="http://vcayuktibtco.com/">vcayuktibtco</a>, [url=http://xrmyfgzkilwg.com/]xrmyfgzkilwg[/url],  
[link=http://iveddnkttvzb.com/]iveddnkttvzb[/link], http://zqsqyqllkgvw.com/

G15

**Sender Last Name:**    Vogt

**Submission ID:** 3691

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
19678	State Agencies communicated to tribal cooperating agencies and the Army Corps that the proposed action is not permissible because of the high probability of failure at the tailings basin. This statement was made at a meeting held on April 30, 2009 to develop mitigation alternatives for the tailings basin. The tailings basin alternative, presented in section 3.2.3, originated as a way to address this problem. However, GLIFWC staff do not believe that the alternative is permissible because it is a perpetual pump and treat proposal [see section 3.2.3(1)]. In addition, this alternative has not been evaluated adequately. For example the claimed capture efficiencies of 95% have not been demonstrated at any other site and seem improbable. The alternative would capture tailings basin water and discharge it at the Partridge River. This capture would need to continue until the tailings basin effluent meets standards in the Embarrass River watershed. This is not expected to occur in the foreseeable future. Finally, water treatment would be required prior to discharge into the Partridge River because the section of the river currently exceeds the applicable sulfate standard.	ALT8,PD2,PD4,PD5
19679	GLIFWC staff are concerned with the attempt to avoid applying the state wild rice standard to this project. As stated in Minn. 7050, the 10 mg/l of sulfate standard for wild rice applies for waterbodies where wild rice is found. The PCA has used this approach in past permitting activities (MINNTAC Schedule of Compliance, 2008). The 10 mg/l sulfate standard also applies to the Partridge River below Colby Lake and to the Embarrass River below Trimble Creek where wild rice is located.	WR4F
19679	The proposed stockpiles have the long term potential to leach metals into the environment. As indicated in the Executive Summary of the Copper – Nickel study (Siegel and Ericson 1979) “There is some evidence to suggest that revegetated piles may not always have the expected positive effect of diminishing the leaching of heavy metals. Seasonal cycles of wetting and drying caused by seasonal photosynthetic activity have been suggested as the cause of increased leaching in sanitary landfills and would have similar effects on waste rock.” This information suggest that the source terms used for stockpiles that are proposed to have an evapotranspiration cover system have the potential to increase the amounts of metals that are leached over time. This increase in the source term is not accounted for in the modeling. Therefore, water quality impacts to the Partridge River are likely underestimates.	WR1E,WR2L
19682	State approved water quality standards specifically state that 10 mg/l of sulfate is the standard for wild rice waters. There is no language in the standard that allows for the standard to be ignored when it is inconvenient. It is the expectation of GLIFWC staff that state law will be followed and the wild rice sulfate standard applied accordingly.	WR4F



*Alphabetical by sender's first name*

**Comment ID    Comment Text**

**Theme Codes**

19682 GLIFWC staff reiterate that the contaminant modeling for the project has not been adequately vetted and consequently produces results that are illogical. For example, the contaminant modeling for the tailings basins (RS74B and TB-14) proposes that adding PolyMet tailings to the existing LTVSMC tailings will improve the quality of seepage coming from the basins for some parameters. The assumption (TB-14 of July 2, 2009, page 9) that PolyMet seepage water from the basins will be of better quality than the current seepage water results is a modeling result that requires some explanation. The modeling proposes that the more PolyMet seepage that PolyMet releases from the basins, the better the water quality will be for Al, Mn and Fe in the Embarrass River (see Tables in TB-15 of June 24, 2009). It appears that the modeling at the basins does not appropriately account for leaching from the LTVSMC tailings when predicting future seepage quality. Table 4.1-53 summarizes maximum predicted concentrations of several constituents in the groundwater north of the tailings basin at several evaluation points (Fig.4.1-26). One of the evaluation points is the property boundary. The currently observed levels (average of 2007-2009 data from Barr memo TB02-14 of June 24, 2009, similar values seen in DEIS Table 4.1-7) of these constituents are substantially higher at locations both closer to, and farther from, the basin. The current levels are the result of discharges to groundwater through LTV tailings. Two wells (GW009 & GW001) are on, or very near, the modeled flowpath and bracket the model evaluation point at the property boundary (Fig. 4.1-7). The high levels of Al, Fe, and Mn observed both closer to, and farther from, the basin than the modeled evaluation point suggest that the modeled predictions have little relation to reality. These unexpected, and presumably illogical, modeling results help to explain the equally puzzling conclusion of the surface water modeling; that is, that adding Polymet tailings to an already contaminated site will improve water quality in the Embarrass River. As demonstrated by the illogical modeling results above and others noted in previous comments, the contaminant modeling at the Polymet site does not appear to provide useful predictions.. Comment letters describing these illogical model results were submitted to the lead agencies prior to the release of the DEIS. GLIFWC staff still await a response.

RFI,WR1E

19682 GLIFWC staff reiterate that the MODFLOW model does not provide credible data outside the footprint of the mine pits. As previously indicated, GLIFWC staff have reviewed the Adams and Liljegren 2009 email and do not consider the methods used to be adequate (GLIFWC 2009, Memorandum to Jon Ahlness and Stuart Arkley: Photographic evidence for pit impacts to wetland hydrology. April 24, 2009, Attachment #2). The evidence presented in the email can be interpreted to indicate substantial impact of the Peter Mitchell Pits on adjacent lakes. However, it is the tribal cooperating agencies' position that aerial photography, without ground verification and georeference is an exceedingly imprecise method for determining water levels in lakes and wetlands. Finally, vegetation data (e.g. the presence of extensive cedar swamps) suggest that a significant groundwater-surface water connection exists which directly refutes the Adams email. It is the tribal cooperating agencies' position that a more robust groundwater model must be developed for this project in order to adequately characterize the potential impacts of the various project alternatives to natural resources. GLIFWC staff maintain that in order to adequately predict potentially significant environmental impacts, hydrogeologic data must be collected that can be used as input to a MODFLOW model. Tribal cooperating agencies contracted with the United States Geological Survey (USGS) to review the uncertainty of the MODFLOW model and provide recommendations on how the model could be improved. The USGS report was submitted to the lead agencies in February of 2009 (USGS 2009, Letter Report reviewing PolyMet ground-water model. January 29, 2009, Attachment #5). Tribal cooperating agencies organized meetings between USGS staff and participants in the EIS, including the applicant, to openly discuss all issues related to the USGS report, the MODFLOW model and the implications for the proposed project. The conclusions of the report and the meetings should be implemented so as to produce a useful model of project site hydrology. We believe that impacts to surface waters, groundwater, and wetlands for a project of this complexity demand a scientific, data driven approach rather than one based solely on professional opinion. Finally, GLIFWC staff reiterate that a robust groundwater model must be developed for this project in order to adequately characterize the potential impacts of various project alternatives to natural resources.

WR2A,WR2I

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
19682	GLIFWC staff reiterate that there is no mechanism to accurately develop the data needed for impact analysis. The impact criteria listed in this section require robust modeling of the hydrology of the area that is developed on the basis of adequate field data. Neither of these vital tasks have been performed for this project. Field data collection is spotty or non-existent and the numbers used in this DEIS are derived from the MODFLOW groundwater model and XP-SWMM model. It is important to note that the MODFLOW model was developed to assess the rates of mine pit inflow and as such, the results it gives for areas outside the mine pit footprint are unsupported. The XP-SWMM modeling is based on stream gage data that is 17 miles and 20 years distant from the proposed project. Therefore, the listed parameters calculated for the Partridge River have little data to support them. Finally, the lack of impact criteria for groundwater levels is troubling. The DEIS recognizes that groundwater drawdown around the mine pits and groundwater mounding around the tailings basin will occur, however, no attempt is made to characterize the existing conditions or reasonable foreseeable impacts. This data gap constitutes a fatal flaw in the DEIS.	WR1E
19682	There are several serious oversimplifications in the water balance discussions of this section. First, GLIFWC staff reiterate that the 34 year timeframe for hydrometallurgical cell drainage collection is unlikely to be correct. Because all cap and liner systems leak, some pumping of water that enters the hydrometallurgical residue cells would be needed in perpetuity. This would be particularly true as the cap ages and develops additional leaks. Second, stockpile leachate is predicted to not meet water quality standards for thousands of years (Table 4.1-45). Third, the section should note that water quality and hydrologic impacts to wetlands and the Embarrass River under this proposed alternative would be perpetual.	WR1E
19685	GLIFWC staff reiterate that the property boundary has not been defined for this project. Therefore, It is the tribal cooperating agencies' position that the Dunka road should be used as an evaluation point. On multiple occasions PCA assured cooperators that the Dunka Road would be used as a water quality evaluation point (GLIFWC meeting notes from the Tribal/State meeting on mining issues held in Hinkley, MN on April 17, 2008). In addition, meeting notes provided by Knight Piesold (DNR Contractor) for a meeting held in St. Paul on September 29th 2008 state: "Richard Clark: Dunka road point was selected as indicator of impacts, but it is not necessarily a "compliance point" for permitting." Furthermore, Barr Engineering, October 9, 2008 meeting notes list as an action item: "7. Barr to provide tabular data on concentrations at the Dunka Road." However, this data does not appear in the DEIS. Information for the Dunka Road evaluation points must be included in Table 4.1-39 and 4.1-45.	WR1E
19685	GLIFWC staff strongly disagree with the assumptions used in the groundwater quality modeling for the mine site. We reiterate that relying on the effectiveness of a technology with highly variable outcomes (limestone treatment) in calculating long-term water quality is not a conservative approach. The DEIS should provide a range of water quality results including the groundwater quality under a scenario where lime treatment and covering the Virginia Formation wall is ineffective.	EOO
19686	As previously stated, it is unclear how the applicant would segregate particle size in the rail cars. Furthermore, dust emissions from transportation of ore have caused contamination issues at other mines. The paragraph assumes that because the volume spilled along the rail line is small when compared with the total ore transported, then the contamination would be insignificant. This assumption is not based on any analysis. The DEIS should include more than unsubstantiated guesses on the significance of impacts.	WR1D
19687	The DEIS does not include a detailed closure plan. This serious information gap is a fatal flaw that prevents the full disclosure of environmental impacts for this project. Tribal cooperating agencies and technical staff from the lead agencies reviewed the initial closure plan (RS-52) and submitted extensive comments to the applicant. The applicant did respond to a portion of those comments but the closure section refers only to RS-52 which was determined to be inadequate. A detailed closure plan that analyzes the feasibility, effectiveness, and cost of closure methods of a preferred alternative and all feasible alternatives / mitigation measures must be provided for the EIS to be adequate.	PD5
19687	GLIFWC staff reiterate that little or no baseline data was collected to provide inputs to the XP-SWMM modeling described in this document. Therefore, it is the tribal cooperating agencies' position that the model results cannot be used with confidence and do not allow an adequate assessment of environmental impacts.	WR3J

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
19687	GLIFWC staff reiterate that the available data do not support the conclusions presented in this section. The impacts predicted by technical reports (RS73B) to the Partridge River are primarily reduction in base flow due to mine pit dewatering and those impacts are predicted by the MODFLOW model. MODFLOW modeling in (RS22-Appen.B) forms the foundation for the predicted impacts. The MODFLOW model (RS22 Appen.B) is not calibrated to a data set representative of the area and predicts fluxes to the Partridge River based on a non-unique solution. A differently formulated and calibrated MODFLOW model would predict much higher inflow to the PolyMet pits and therefore, show greater impacts to stream baseflow. The surface water model (XP-SWMM) used for predicting impacts is calibrated to Partridge River flows from 1978 to 1988, seventeen mines downriver of the mine site. During the period of record, the Peter Mitchell pits were dewatered with unknown effects on the river flow data. According to technical documents (RS73A, page 21) the flow record at the Partridge River gage above Colby Lake (USGS #04015475) may have been impacted by mine discharges on the north branch. The monthly average flow recorded at this gaging station during 1978-1988 varied between a minimum of 1.3 cubic feet per second and a maximum of 454 cubic feet per second. The discharges from the Peter Mitchell Pit could account for up to 34 cubic feet per second. Since the timing, duration and location of mining discharges may be different now than during 1978-1988, the present hydrologic regime of the Partridge River is unlikely to be well represented by the period of record at USGS #04015475.	WR1E
19688	GLIFWC staff reiterate that there will be surface water discharge to the Embarrass River. Aerial photography and state Public Waters inventory maps indicate that there is currently a direct surface water connection between the northwest corner of cell 2W and the Embarrass River (attached Figure 4). Aerial photos show that water discharging from the tailings basin currently follows a natural channel westward, through existing wetlands and intersects a channel that leads directly to the Embarrass River.	EOO
19688	Tribal cooperating agencies believe the characterization in this section is misleading. First, as previously indicated, the WWTF would need to operate for 2000 years or more in order to treat leachate from the stockpiles. Second, the effectiveness of the passive wetland treatment system has not been demonstrated and it is likely that the wetland treatment system would not function as the applicant has suggested, due to eventual shortcircuiting. Finally, the long term water quality of the pit lake is a concern. It is unlikely that this water would ever meet surface water quality standards. It is the tribal cooperating agencies' position that the DEIS should discuss the implications of leaving a polluted pit lake at this site in perpetuity.	WR3C,WR3G
19689	GLIFWC reiterates that because the Embarrass River already exceeds water quality standards, it would be difficult to permit the addition of additional contamination from new or expanded sources. Compliance with the clean water act should be demonstrated in the DEIS. Water quality for the project has been poorly characterized or left uncharacterized. The limited available data suggest that surface waters have already been impacted by mining activity. Mercury, sulfate, and specific conductance exceed Minnesota surface water criteria near the tailings basin and at Area Pit 5. Mercury also exceeds surface water criteria in the Partridge River downstream of Colby Lake. However, no samples have been collected from lakes near the tailings basin (Heikkilla, Mud, Kaunonen, or Hay Lakes) to determine if the pollutants found in the surface and groundwater at the existing tailings pile have caused contamination of those waterbodies. The contaminant transport modeling suggests that the project will cause manganese, aluminum, and sulfate to exceed standards. Despite these results, the DEIS indicates that the proposed project complies with all water quality standards for the Embarrass River. This is misleading and must be corrected.	WR1E,WR3I
19689	GLIFWC staff strongly disagree with the approach presented in this section. All waters of the state are protected by Minnesota water quality standards and using this unnamed water as a mechanism to dilute mine related contamination is not appropriate. In addition, no flow information for this unnamed water is available. In addition, the DEIS should more clearly state that water quality standards at the Partridge River would be expected to be exceeded. GLIFWC staff reiterate that because of continued inputs from the stockpiles, the tailings basins, and the pit walls, the pit lake could exceed surface water quality standards for thousands of years. We also note that 20 feet of pit wall will never be submerged and as such constitute a perpetual source of mine related contaminants.	WR3C

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
19689	Based on the uncertainties in the performance of the constructed wetland treatment system (DEIS page 4.1-112 to 113), GLIFWC staff reiterate that primary water treatment at the WWTF would need to continue for thousands of years. This does not meet the Minnesota goal for maintenance free closure.	WR3L
19691	The discussion on the potential effects of wild rice ignore the applicability of the Wild Rice sulfate standard. Because the lower Partridge River, Embarrass River, Embarrass Lake, Lower Embarrass Lake, Unnamed Lake, Cedar Island Lake, and Esquagama Lake already exceed the applicable wild rice sulfate standard, any new emission of sulfate would constitute a violation of the clean water act. The DEIS should explain how those exceedances are to be regulated.	WR4C,WR4F
19692	This section indicates that there is little opportunity for sulfate-wetland interactions at the mine site. This statement is incorrect and is contradicted by the previous paragraph. The constructed wetland is designed to be directly between the pit overflow and the Partridge River. As indicated in the DEIS, wetlands are a prime area for mercury methylation and the situation created by using a wetland to treat water that is also high in sulfate, creates a high risk situation for mercury methylation. In addition, the Upper Partridge River does have a set of extensive riparian wetlands which may also contribute to methylation. The full extent of this impact should be analyzed and described in the DEIS. GLFWC staff agree that additional work is needed to properly characterize the mercury dynamics in the area surrounding the tailings basin. However, we note that the sampling plan that was developed may not lead to conclusive results because of the small sampling effort. The data obtained from this effort should be fully peer reviewed and vetted before any conclusions are used in the DEIS.	WR1E,WR4B
19692	There is a great deal of uncertainty in this section. Much of that uncertainty could be resolved with further analysis of the functioning of the treatment wetland. This wetland, while intended as a passive water treatment facility, is likely to also be a source for methylmercury. As the DEIS indicates, there is no reliable method proposed for eliminating mercury. This oversight is unacceptable. A variety of Mercury removal technologies are available, but none of them have been included in the design of the proposed project or any of the alternatives/mitigation features listed in the DEIS. This oversight constitutes a fatal flaw in the DEIS because not all reasonable alternatives for protecting the environment have been explored. The DEIS recommends additional analysis on this issue. GLIFWC staff reiterate that further analysis must be conducted and incorporated in the DEIS so that environmental impacts can be predicted and reviewed by the public. As described in comments for section 4.1.3, modeling done for mercury emissions give results that are illogical. The DEIS proposes that the more PolyMet seepage that PolyMet releases from the basins, the better the water quality will be for mercury. Model results for Hg in seepage from the tailings basin is predicted to be 0.9 ng/L (DEIS, page 4.1-124) yet the average mercury concentrations at the existing tailings seepage is in the range of 1.5 to 2.0 ng/L (DEIS Table 4.1-31). As with other parameters, it appears that the modeling at the basins does not appropriately account for the effect of the LTVSMC tailings when predicting future water quality.	WR4A,WR4B
19693	The DEIS does not include detailed financial assurance information. This information gap is particularly important given the potential for very long-term/perpetual treatment, maintenance and monitoring that may be needed for the Proposed Action. Because of its experience in expensive cleanups of contamination from many defunct or bankrupt sulfide mines, EPA Region 9 has strongly urged other Regions over the past two years to require financial assurance disclosure in the NEPA process. New national rules for financial assurance are under development by EPA, because "Given the history of adverse environmental effects resulting from some hard rock mines, and the expenditure of public funds used in some cases to address environmental problems caused by mining, EPA believes it is necessary to analyze these factors in the DEIS." (from InsideEPA.com, Tuesday, August 25, 2009). GLIFWC staff believe that the Polymet DEIS should follow this directive. The tailings basin alternative includes a perpetual pump and treat system that would require the capture of large quantities of water. This system would be expensive and the applicant must demonstrate the ability to be financially responsible for that alternative. As stated above, a preferred alternative must be developed which includes a detailed closure plan. Once these missing pieces of information have been developed, detailed financial assurance information can be included in the EIS.	PD3,PD5

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
19694	GLIFWC staff reiterate that there are no reliable data on water level fluctuations for the Partridge River. The data used in the DEIS were obtained from the MODFLOW model that has been deemed unreliable outside of the mine pit area by all participants in the DEIS process. GLIFWC agrees that characterizing water level fluctuations in the Partridge River is important and have repeatedly suggested that appropriate data be collected and modeling be conducted.	WR3J
<b>Sender Last Name:</b> Volovich		<b>Submission ID:</b> 1132
112	It's near my home, I'd like a hearing to be hosted here!	PRO6
<b>Sender Last Name:</b> von Euw		<b>Submission ID:</b> 3177
719	Regarding the Draft EIS, I am requesting the following: 1. A time extension of 30 to 45 days for review of the EIS. 2. More public meetings in more places to gather input. The current schedule is too limited. 3. The public meetings include the option for citizen statements and discussion in the open meeting. Thank you for your time.	PRO6
720	Regarding the Draft EIS, I am requesting the following: 1. A time extension of 30 to 45 days for review of the EIS. 2. More public meetings in more places to gather input. The current schedule is too limited. 3. The public meetings include the option for citizen statements and discussion in the open meeting. Thank you for your time.	PRO6
<b>Sender Last Name:</b> Voris		<b>Submission ID:</b> 3530
3710	I'm concerned about what appears to be lack of a way to meaningfully hold this company responsible for recovery costs. Shouldn't they have to escrow at least *some* of the estimated clean up cost? It sounds to me like they're going to make a mess. If that's deemed acceptable, I surely want to have their money in the bank to clean up when they move on!	PD4
<b>Sender Last Name:</b> Voss		<b>Submission ID:</b> 261
274	We are residents of Hoyt Lakes. We fully support the opening of the Poly Met facility formally LTV Steel. We also feel the EIS draft very adequate in looking at the safeguards for our area and other concerns. First and foremost in our minds is the job situation in our area and the help this could bring to us. With so many families struggling please don't let another opportunity go by that would not simulate the economy of this area. We love the outdoors, and if anyone had a convincing argument as to why this would do more harm than good we would be on that side, but frankly we have seen nothing to indicate that. It's always been interesting to us that as people debate the pros and cons of the environment; they do not seem to take into account the health of our families as it relates to social problems that are created in these hard economic times. Please provide all the help you can to move ahead on this project.	EOO

*Alphabetical by sender's first name*

<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
3153	I am concerned about the proposed sulfide mining for a few reasons. Many Minnesotans have no idea who Polymet mining is, what they do, and why they do it. What the mined materials of previous mines produce must be widely known. With an already suspicious public about energy sources like coal and nuclear, its scary so have another extraction company creeping in unnoticed by the public and starting their operation before enough people know about it. If mines are developed, whatever plans for development in ecotourism of the area will be neglected. Canoe and boundry water opportunities will always be able to grow as long as the boundry waters are pristine. That means the northern minnesota economy depends on this habitat. The mining may bring larger profit in a shorter ammount of time, but once the mining has happened we can't be sure if we'll get the boundry waters back to their prisitne condition. I don't think this is worth the risk. Money and efforts could be placed in sustainable development and eco-tourism instead of mining. Efforts could be placed on making products without these dangerous mined metals, allowing alternatives to come to the market and decrease the demand for such mining. The longer we postpone the marketing of more environmentally friendly products that don't require extensive mining and metals, the longer it will take to get them into the mainstream. A new mining site is a setback the alternatives that lead to a sustainable future. I hope the utmost seriousness is taken into consideration before any actions are taken in the boundry waters. I also hope that the long MN tradition of boundry waters canoing gets first priority in the issue. Please see past the temporary economics of the issue. I would love to see this area remain how it is undeveloped and unmined, to ensure the safety of our critical habitat and clean water.	G11
<b>Sender Last Name:</b> Vouch <span style="float: right;"><b>Submission ID:</b> 2113</span>		
2505	For my great pleasure, my French daughter married a wonderful boy from Minnesota and they often stay at Ring Rock . Iff they have the chance to have a child one day , I wouldn't wish anything of this project around a baby before or after he is born... And for adults, we don't need that neither, we don't want it... Whom is it for? We all around the world try so hard to prevent pollution !.	EOO
<b>Sender Last Name:</b> Voytilla <span style="float: right;"><b>Submission ID:</b> 1584</span>		
1960	As a wilderness guide, my livelihood is dependent on the health of the ecosystem and watershed that would be affected by this mine.	G11
<b>Sender Last Name:</b> Wahl <span style="float: right;"><b>Submission ID:</b> 151</span>		
142	I'm in favor of the mining project to start as soon as possible. I don't think there should be any delays on it. I'm very conservation-minded. I pick up garbage after other people in the woods. If I thought this could be in any way harmful to our environment, I wouldn't think it would be a good idea, but I believe they have their ducks in a row, I believe that the impact will be minimal, and I believe it should be started without delay. That's it.	EOO
<b>Sender Last Name:</b> Wainio <span style="float: right;"><b>Submission ID:</b> 3250</span>		
3571	At their regularly scheduled meeting held on December 7, 2009, the Mountain Iron City Council unanimously endorsed the NorthMet project and urges the approval of the Environmental Impact Study so this project may move toward reality.	EOO
<b>Sender Last Name:</b> Waite <span style="float: right;"><b>Submission ID:</b> 1716</span>		

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
2220	The PolyMet DEIS describes significant environmental issues associated with this proposed mine. These issues should be resolved before this mine is approved by the Minnesota Department of Natural Resources and the U.S. Army Corps of Engineers. Lets not forget what Reserve Mining did to Lake Superior at Silver Bay. We trusted their response and look what we got in return. This is not a good thing for Minnesota and it's citizens so lets put a stop to it.	G9
<b>Sender Last Name:</b>	Wakonabo	<b>Submission ID:</b> 3382
3672	As a student of higher education, pushing for more sustainable development of our natural resources. It is amazing to see public treasure and an ecological wilderness area face the possibility of exploitation. Not only is the land for all peoples it should be for all time. The wildlife are under enough stress like the moose, from environmental impact. Archaeological degradation of potential sites are often overlooked as well. Northern Minnesota has been hacked over before in the past and it has taken this long to recover. An open pit mine and it's operation will never recover. The wounds of our time will be the scars of our children.	EOO,G2C
<b>Sender Last Name:</b>	Walker	<b>Submission ID:</b> 1283
1472	#N/A	G2C,G7B
2624	Okay. My name is Greg Walker. I live at Savage currently. I spent 24 years on the Iron Range, and I know the people up there, I know the culture, I understand mining, and at least I'm in favor of the PolyMet project. Certainly, the economic benefit is going to be great, very beneficial to the Iron Range, and we support it primarily for that reason. We feel that the consulting effort with Barr and other consultants and the engineering effort to assess the environmental aspects of the project have been well done, well undertaken, and I feel very confident the engineering is there, and this project should be at least as good as Flambeau in Wisconsin, the Flambeau mine in Ladysmith, Wisconsin. I think it will be another benchmark in sulfide mining and environmental mediation. And, let's see. That's about it. I think I can speak on behalf of my family, my wife -- probably can't legally do that -- but we're in favor of that project. We do own property in Itasca County, so although we're going to be remote from the actual mine location, again, we favor the project.	EOO,G6
<b>Sender Last Name:</b>	Wallace	<b>Submission ID:</b> 3479
1114	Further, the PolyMet NorthMet project will result in total loss of 1,454 acres of federally designated critical habitat for two endangered species known to be in the vicinity of the mine site: the Canada lynx and the gray wolf. Finally, cumulative impacts must address the loss	WI1
1320	has already banned sulfide mining due to the unacceptable environmental risk it presents. It is also my understanding that PolyMet proposes to use an existing mine tailings basin for the disposal of its tailings and toxic materials despite the fact that the basin already has stability issues making it unsafe. Any failure of this basin to hold its contents would result in long-lasting and serious contamination. PolyMet should complete a stability analysis of the basin and devise an acceptable design before being able to proceed with this project.	GT2

*Alphabetical by sender's first name*

<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
3124	Please do not allow the same mistakes to be made over again by allowing Sulfide mining in areas where the run off will permanently affect the ground water FOREVER. The proposed Polymet of mine just south of Babbit Mn. is a very dangerous idea and also a very bad precedent for other areas in your beautiful state. Water quality and the recreation economy will be seriously and negatively impacted. I am an avid outdoors man, a canoeer, a scientist and a chemistry teacher - sulfide mining has been banned in several states due to the ground water contamination issues that last forever. Your recreational resources in Minnesota are superb and should not be subjected to this type of threat - your economy can not afford to loose recreational \$\$ in the long run. This type of mining follows the typical "boom and bust" program that disrupts communities socially and environmentally - I just returned from the Upper Peninsula of Michigan where the economy has suffered greatly from the "bust" part of the sulfide mining cycle. This type of mining also left tailings ponds with no funding to monitor and abate future problems - that work was left to the already burdened people of the state of Michigan.	G7A,G11
3134	I am glad that I have visited northeastern Minnesota before these mines are to be developed. I don't believe for one second that these sulfide mines can be developed in such a way that they will NEVER pollute the adjacent waterways. Once they are opened, there is no turning back and the inevitable stain on the environment will remain for tens of thousands of years. Given the numbers of proposed sulfide mines in the area, it is almost certain that many lakes	WR3G
3233	waters to be discharged from the mine site into the Partridge River after the mines closure, as well as tailings basin discharges high in sulfate concentrations. High sulfates can turn mercury into forms that make fish dangerous to consume. This has serious human and wildlife health implications. It is unacceptable to proceed with a mine that already predicts these kinds of pollution outcomes.	EOO,WR4B,FM1
3682	well known history within the U.S. of causing severe and long lasting environmental impacts. Despite industry assurances, there are no new technologies which are capable of preventing this environmental damage. Water quality impacts remains a top concern. How is it acceptable to allow for up to 2,000 years of environmental impact for the short term gain of one company? Who will pay for the long term water treatment and clean up efforts which will be required? PolyMet has few assets and little financial history. The DEIS fails to address where the funding will come from to pay for post-closure treatment, monitoring and maintenance. As a result, it seems likely that Minnesota taxpayers may have to pay millions of dollars to clean up after PolyMet has gone. In addition, the DEIS predicts contaminated	PD2,PD4
3753	of revenue to the Boundary Waters Canoe Area Wilderness and Superior National Forest tourist industry as part of a sulfide mining district. While I fully understand the need for natural resources in our society, we also need to be responsible in our decisions. Certain types of mines should simply not be permitted in places where the risk to the environment is too great, as is the case for sulfide mining in northern Minnesota. The PolyMet DEIS describes significant environmental issues associated with this proposed mine. These serious long-term negative consequences outweigh the limited short-term economic gains this proposed mine might provide. Sincerely, Liz Wallace	G2

**Sender Last Name:** Waller

**Submission ID:** 3151



*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
3529	To whom it may concern, I would like to voice my opinion on the matter of developing a copper/nickel mine in the vicinity of not only some of Minnesota's most precious natural wilderness, but also that of a treasure of the world. This area is one of the most important sources of fresh water in the western hemisphere. To risk the negative impact that is inevitable from such a project would be to continue adding strain to the limits of our resources and harm not only our immediate natural landscape and all the creatures that depend upon it, but also endanger the futures of our coming generations. I understand that this kind of development would bring some jobs to the north (those who may have the education to work within the operation) and meet demands for our current society's needs, but it is also a short-term salvation with a long term impact that can never be repaired. I value on a much larger scale the protection of our fresh bodies of water and the essential life-sustaining and soul-sustaining gifts that come with interacting with this area's natural beauty. It is the last outpost that we have in the state. The more we eat at its edges the quicker the erosion of its beauty and the erosion of the laws that protect it. Let us learn from history for once! Once it is gone, we cannot get it back! I, as a Minnesotan, as a citizen of the United States, as a human being upon this earth who invests and contributes to our society and to my children's futures, do strongly oppose the plan to develop a copper/nickel mine near the boundary waters wilderness area. Thank you for your time, Nicholas Waller	EOO,G2,G7
<b>Sender Last Name:</b> Wangerness		<b>Submission ID:</b> 1166
12	Also, the income generated by tourism must be seriously considered, a resource vulnerable to mining mistakes, a resource dependent on a pristine environment.	SE4
509	We need a guaranteed, upfront fund established to address any pollution problems incurred from mining. This must be available even if the offending companies are defunct.	PD4
1281	I am writing this note in support of transparency in deciding where mining is to occur in Minnesota. Above all else, we must insure no severe damage be done to our environment, particular to the BWCA.	EOO
<b>Sender Last Name:</b> Ward		<b>Submission ID:</b> 2506
3051	At the front of this pre-written statement I would add that this mining should not be permitted unless the mining company puts up the clean-up and restoration money (with inflation) before mining begins. gward. Please accept these comments on the PolyMet Mining Corp. NorthMet mining project Draft Environmental Impact Statement. I have serious concerns about the safety of this project and its potential impacts on Minnesota's natural resources.	G2,G4A
<b>Sender Last Name:</b> Warner		<b>Submission ID:</b> 1308
1521	First, let me explain that I have been visiting the Boundary Waters Canoe Area and the Quetico for 41 years, and will make another trip to the area in September. I am unalterably opposed to the said mining proposal. If this plan is allowed, Ely and its citizens will be trading many thousands of visitors like me for a few jobs in the mining industry. Eventually and inevitably, any mining will affect the pure waters of the BWCAW and, one day, the Quetico. Please accept these comments on the PolyMet Mining Corp. NorthMet mining project Draft Environmental Impact Statement. I have serious concerns about the safety of this project and its potential impacts on Minnesota's natural resources.	G7B,G11
<b>Sender Last Name:</b> Warren		<b>Submission ID:</b> 2016
2485	The first thing I have to say is "what are you thinking? Have you no humanity?" Have you no concern for those who come after us? Mining was done in Northern Minnesota in the past. We as residents have already dealt with toxic results which drastically affected our resources - Lake Superior, wildlife, loss of natural habitat and the like.	EOO,G2C,G7

*Alphabetical by sender's first name*

**Comment ID    Comment Text**

**Theme Codes**

**Sender Last Name:**    Waterbury

**Submission ID:** 284

316 I am writing on behalf of PolyMet Mining, Inc. I would like to see this project move forward and personally feel frustrated with the State's delay in producing the draft EIS. I further understand that PolyMet is the first Copper, Nickel mine to seek approval in the State, thus review is prudent. However, I remain disappointed in my perception of the State's lack of project attention that PolyMet should have commanded. Why should the State of Minnesota approve this project? • Jobs that pay a livable wage, and taxes generated to pay off the State's deficit. • PolyMet's facilities and mine site are located in the middle of the Mesabi Iron Range – not in the heart of the BWCA. • Is it not true that PolyMet will be the only domestic source of nickel – a national interest by definition? • Through the EIS, PolyMet has proven it can produce critical base metals while adhering to the State's incredibly strict environmental standards. • PolyMet utilizes existing structures, tailing basins, rail, power and road structures. As a result, no new damage to the environment occurs. I am expecting a prompt conclusion to the public comment period, and a direct movement into the permitting process.

EOO

**Sender Last Name:**    WaterLegacy

**Submission ID:** 3623

3903 WATER LEGACY CHARGES DRAFT EIS IS WHOLLY INADEQUATE SAINT PAUL, MN, November 3, 2009 – WaterLegacy, a non-profit organization formed to protect Minnesota's waters and the communities who rely on them, learned today that their effort, in collaboration with nine other environmental and faith-based groups, to obtain a 90-day public comment period (legal requirement is 45 days) for the PolyMet strip mine project in Minnesota has succeeded. Members of the public will be able comment to the Minnesota Department of Natural Resources and the U.S. Army Corps of Engineers on the proposed copper sulfide strip mine draft EIS through February 3, 2010. WaterLegacy attorney, Paula Maccabee, stated, "The good news is that members of the public will have at least 90 days to comment on the PolyMet strip mine draft EIS. The bad news is that the proposed strip mine is likely to result in thousands of years of acid mine drainage, increase mercury contamination of fish, destroy wetlands and habitats, and put Minnesota taxpayers at risk for hundreds of millions of dollars in Superfund liabilities." WaterLegacy pointed out that both the United States Environmental Protection Agency and the Indian tribal experts involved in the process as cooperating agencies believe that the draft EIS is inadequate. Key issues include: 1) use of fatally flawed water quality analysis; 2) perpetual water pollution inconsistent with state mining laws; 3) failure to address the risk of catastrophic collapse of tailings dumps; 4) failure to include an environmental and economic analysis of the land exchange needed to proceed with the strip mine; and 5) failure to discuss financial assurances to protect taxpayers from footing the bill for future strip mine water pollution. Public hearings on the PolyMet draft EIS will be held in Aurora, Minnesota on December 9 and in Blaine, Minnesota on December 10, 2009. See [waterlegacy.org](http://waterlegacy.org)

G2A,G4A,G7A,G8B

**Sender Last Name:**    Waters

**Submission ID:** 2533

3102 I live on the shores of lake superior, the sulfide mining proposal made by PolyMet is EXTREMELY likely to do irreparable damage to the Boundary Waters and the water quality for anyone in the same watershed. Regardless of what humans think, this is not our planet anyways and we should be conscious of our effects on other beings that we share this planet with. Do NOT allow this project to go through, Our future generations will be deeply effected by this decision

G7

**Sender Last Name:**    Watkins

**Submission ID:** 3752

1 My support is for more jobs in Mn & surrounding areas. the work will go somewhere it might a well be here. I believe there are enough standards to prevent over polution. If they do not exist now, they will be passed sonner or later. Plants can comply then. There are our jobs. Iron workers 512 Duluth.

EOO

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
2	Is it worth some jobs to ruin the Lake Superior and Great Lakes with the ultimate sulfide run-off. Jobs last maybe 40 years – resulting pollution lasts forever. Where is Polymet’s proof of their “new” sulfide treatment??	EOO
3	I feel the need for the mines are essential for economic reasons, so we are not so dependent upon foreign imports of minerals. It is my opinion that PolyMet will mine these minerals in a manner as to not hurt the environment.	EOO,G1
4	We very much need the industry in Northern MN. Polymet has done their homework, they are not asking for handouts. This industry, starting with this project can help sustain the Iron Range and Northern MN economy – I firmly support this project.	EOO,G1
4	The question is: “Why hasn’t this project gone through yet?” It seems to me the only issues here are the environmental issues, which are issues I can see, but from what I have observed, Polymet mining company have been compliant with any and all obligations in order to ensure this mine runs environmentally safe. Mercury in our water & soils is a serious issue indeed, but when their precautions are presented and they are up to standards by DNR & other companies controlling the issues. Why are we still debating whether or not it would be a good idea to create 400+ jobs? Northern MN was boring & is sustained by the mining companies. They mines are what made the Iron Range. This meeting may be procedure but it is being used only to better inform its supporters & only make their decision more concrete. Obviously MN needs this mine & so does our economy. This mine won’t only help the ones employed at Polymet, but w/the boost of economy it’ll boost other businesses as well. The environment is important & so is the health of the people that surround it, but this mine has the financial capabilities of making it an environmentally friendly one, so get it started already!	EOO,G2
4	Dave Bozicevich, Virginia, Minnesota. I'm in full support of the PolyMet project. I'd like to give reasons or...I mean, what do I do, other than say that? Okay. Some of the reasons that I feel this project is worthwhile, I think it would be -- first and foremost, it would be an economic boom to the Iron Range. I think it would be the next step in the taconite process. We had the red ore, then we had the taconite, then we have, you know, Magnetation, and PolyMet, and now we should take it to the next step. I really believe that the world needs these elements that the PolyMet project wants to harvest. I believe that after 7 years, PolyMet Mining still does not have their permits. I think that is a travesty. Why should it take 7 years to not get their permits? I also believe that the world needs the commodities. You know, we've all seen what's happened with the price of gold in the last few months. Unfortunately, this Obama Administration is going to turn this frickin' country upside down, but you see why gold has increased, because the value of the dollar is decreasing. And it's not only gold, but it's platinum, palladium, silver, copper, nickel; all the other elements that we could possibly extract from the area here, I think it's done. I think it has been done with a lot of insight and a lot of resource, a lot of information, a lot of thought has gone into this situation. And, you know, it's not like copper mining was a hundred years ago where you dig a hole and you extract it and who really cares about, you know, the remaining situation; what it's going to do to the environment. You know, the main concern with these leaf-licking, granola-crunching left-wingers is, you know, the acid runoff, but....that might have happened a hundred years ago, but I think things are in place now where we can prevent these so-called travesties so that couldn't possibly happen. Would you rather have the world use these precious metals in an environmentally-controlled situation, or would you like to have a third-world country harvest these commodities with no care for the environment at all? And something else that I'd like to state about the opposition is: Most of the opposition that is coming are from the environmental wackos; you know, the left that really, you know, they're against progression. If we have our thinking like they think, we would still be going to work on horses instead of cars, because what they're really doing is stifling progress. And I really believe that the world needs this commodity, our area needs this to take it to the next level; the next step, like I had previously mentioned. And I think that it's -- that it's really unjust that the State of Minnesota, the EPA and whatever, why it takes so long to get the permits. You know, why does it take 7 years to not get your permit? Why can't it be, like, 6 months? You know, what do you have to study and what do you have to look at after 7 years? Don't you think that everything has -- all the issues have been addressed? I think it's a travesty, I really do. And I have 100 percent support behind this. I hope that it goes through. And we need the commodity.	EOO,G10

*Alphabetical by sender's first name*

<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
5	10-15% unemployment, massive state budget deficit, huge trade surplus. How can we not allow the project to proceed? Northshore mining is proof that mining operations can be performed in environmentally sensitive areas. The state of Minnesota has the regulations to enforce compliance.	EOO,G1
5	Seems like the independent studies have been done this isn't a quick approach...looks good. Need jobs. MN needs this.	EOO
5	As a person who/lives work/plays/in Northeast Minnesota, I support Polymet mining project. It will significantly contribute to the state and local economy at a time when we really need the jobs and economic benefits.	EOO,G1
5	I feel Polymet has done a very complete job researching and planning this project. I'm in full support of this.	EOO
6	I am a pipefitter that is currently laid off. I enjoy and want to preserve the outdoors as much as anyone else. I believe PolyMet has a safe and environmentally friendly process for processing the ore. People opposed to this project are using false information to scare people into stopping this project. I think this project would benefit the Iron Range, Minnesota, and the entire country. It would provide good paying jobs both during production and during construction. We would also have another source of these metals in this country instead of importing them. Good jobs are the backbone to a good economy. I think the PolyMet project completion would encourage even more growth in the mining field in this state. I just can't understand why people would try to stop such a good project for economic growth.	EOO,G2
7	I am writing in support of the PolyMet NorthMet Project.	EOO
7	As a former resident of Hoyt Lakes, I recognize and support the NorthMet project in terms of its much needed contribution to the iron range.	EOO
7	it would be beneficial for the EIS Summary to address the fact that if PolyMet did not continue there would still be detriment to the environment due to the fact that there would still be a demand in this country for copper (and the other metals PolyMet would mine).	EOO
8	Steven Thums, Isabella, Minnesota. I'd say that I think this is a good thing for the economy around here and for people working. I believe in protecting the land and water, but there's an old plant there already. They've done damage. I can't see this place overdoing that much damage to the area with the days and how we protect things nowadays. So I think this is a very good thing for this area up north.	EOO
8	I am for the project it will help the economy.	EOO
8	I am for this project. I think it will be a great way to get some of our guys back to work.	EOO
9	I still have many questions and concerns about the environmental impact of the proposed mine, and ask that you extend the public comment period to allow us to better study + respond to the complex issues that this project raises.	PRO6
10	I'm a Union Ironworker who supports Union work in Minnesota. I currently have a family to support and could use the work.	EOO
11	Think globally act locally. That's conservation with common sense!	EOO
12	Lets approve this mine "In my backyard". Our nation needs the metals that will be produced by this mine. The operation as proposed by Polymet will be more environmentally friendly than almost anywhere in the world. Minnesota with the approval of this project would create jobs in Minnesota, get the tax revenue and supply our country with safely and cleanly produced important metals. This would be a win, win, win situation for Minnesota!	EOO
13	I also think that he was telling me that they need to do a lot more stochastic modeling on what the storm surge kind of things are going to be at the -- at the tailings basin, because he said they have a whole bunch of new eleventh-hour data that's just come in about how that works, so they need to do -- run another stochastic model on that. They haven't really done a good job there.	EOO,WR1E
14	The public meeting was for the purpose of informing people about the EIS process not a debate of mining or not mining. This was no more a one sided event than the Precious Waters meeting held by the Friends of the Boundary Waters.	EOO,G10

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
14	He also said there's eleventh-hour data that's come in on wild rice, and there's a Minnesota Wild Rice Standard that says there can only be so many parts per million of sulphate in the water, and clearly, that hasn't been taken into account fully in this, he tells me, so that needs to be added to the analysis, because that's a crucial thing that affects 1854 Treaty rights to some extent, and those are -- probably trump the U.S. Constitution. Of course, it should be U.S. Constitution Treaty Rights are the law of the land, so given that, that needs to be in there. It hasn't been done. There hasn't been good modeling on it. They thought there was no wild rice in the Partridge River. Now they're saying that they have confirmed reports on that, but they haven't worked that into all the different alternatives and scenarios, so clearly, there is a lot more sort of modeling work and analysis that needs to be done that hasn't been done yet.	WR4A,WR4F
15	I think it is an absolute shame, if not criminal, to allow a public meeting that was meant to inform concerned citizens on both sides of the issue to become a one-sided political rally. I came here tonight to listen to subject matter experts, not politicians making stump speeches.	EOO
16	The -- I think there's a real potential for some serious pollution that's going to negatively affect the city of Hoyt Lakes' drinking water supply, water supply for people's wells all up and down the reaches of the Embarrass and the Partridge River, going down all the way to St. Louis, and I -- or St. Louis River drainage, and I think that cumulative -- they say that there is no cumulative water quality impacts, and I'm -- I'm pretty dubious about that, because I just don't see how, with possibly more plants like this going in all up and down the Range, the East Range, that there's not going to be cumulative water-quality impacts, at least further down the St. Louis River drainage way. I just don't see that not being an issue. You know, at some point, you're going to -- you know, pH is not a linear thing. It's a -- it's a loga -- logarithmic, exponential thing, and when it gets past certain quality thresholds, it starts changing more rapidly.	EOO,SE3,WR3B
17	I support Polymet and their project. It is safe and we need jobs in northern Minnesota.	EOO
18	So I was just talking to the water quality specialist from the consulting firm, and he was just telling me that there is a number of analyses that they haven't completed yet regarding sort of financial assurances, what -- what the correct levels of financial assurances are for the correct levels of financial assurances are for this, because, for example, if PolyMet shuts down or goes bankrupt, either -- you know, before or after the 20-year thing and there's not enough money in the fund for monitoring or whatever bond assurance they put forward, the state's going to get stuck holding the bag, and I think that's a really critical piece that needs to be in the Environmental Impact Statement, because that really affects what the -- the possible public impacts are.	PD4
18	1) Polymet spent \$20 million on a study 2) Science is good and the environment cost is really in the execution of the "good" engineering. Conclusion: let them have their mine. Let good men and women have their good jobs. Let the environmentalist know that Polymet play by the rules and the liberals from St. Paul do not (Rep. Houseman wants to introduce laws to change the rules)	EOO
19	I am very supportive of the proposed Polymet mining proposal. I am satisfied that the engineering team from Barr Engineering and the staff of the DNR and Army Corp of Engineering have identified a responsible plan to develop this mining operation with an acceptable/minimal impact on long term water quality. The benefit of economic development is very powerful for our state and it's people. I think the other mineral deposit adjacent to the Polymet site should be consolidated into this operation over time to minimize any added environmental impact to the area and this provides a sustained economic engine for Minnesota that would last for 50-100 years. I would also like to see the floating bog wetlands produced by BROTEX used as part of the remediation. This product is more from recycled carpet fibers (nylon) and lasts forever.	EOO,G14
20	I'm very concerned about the destructive nature of this project. Acid mining was rejected by Wisconsin and ultimately banned because of the LT harm that would have been caused by sulfide mining. Now, with the economy in rough shape, PolyMet is preying on an economically vulnerable area & asking them to accept even more contamination in exchange for a few years of jobs.	G2,G12
20	The mining itself will produce toxic leachate, and so will the tailings. What will this do to drinking water & groundwater?	RFI
20	There are so many things that this EIS doesn't even begin to cover. I'm especially interested in hearing from native peoples about the real affect on them & their land. What was this treat that was mentioned -- more on that.	CR2

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
21	How many species of animals will be affected?	RFI
21	Where are the Elk?	RFI
22	I'd like to see in the next presentation exactly the affects of these toxins on fishm on other wildlife, in swamps – our earths filter systems, the rice, the air etc., maybe in the form of photos.	G2,G14
23	I have lived in NE MN all my life & feel that I have allways been concerned about the balance of the economy & the environment in which I have lived worked & raised my family (8 children). We have lived on Big Sturgeon Lake & draw our drinking water from a well for the last 19 years. I have paid close attention to the process undertaken by Polymet and am confident in their expertise & the systems they will be employing in extracting the various minerals they are seeking. I support the issuance of the permits necessary to proceed.	EOO
23	Also, the drainage that would occur into the Embarrass & the Partridge River.	WR3D
24	I THINK THIS COMPANY SEEN TO BE DOING THINGS BY THE BOOK AND THE BENIFETS OF JOBS WOULD BE GOOD FOR FAMILYS	EOO
25	Being a resident of Northern Minnesota, I am in full support of the PolyMet Mining NorthMet Project. My support is based on the following reasons: PolyMet Mining has invested significant resources in terms of time and money in developing the Draft EIS to ensure that all questions and concerns are brought to light and are being addressed prior to the start of the project. The tax contributions to all levels of government, the direct jobs at the mine and the spin-off impact are tremendous and are needed to help level the economic swings of the region. As a person who resides, works, plays, pays taxes, and votes in the region, I am greatly aware of environmental impacts. The resources of time and money spent to make sure all environmental issues are address prove to me that the project is economically viable while working within the current environmental regulations. The metals that PolyMet will be mining and refining at the NorthMet Project are essential to all of the modern conveniences that Americans desire in their every day lives. Many of these metals are not produces in the United States, thus requiring importation. The countries that produce these metals in many cases do not have the safe guards in place to protect the environment that will be required of the NorthMet Project. Thank you for the opportunity to submit a comment on this project that is essential to the State of Minnesota and to the United States of America.	EOO
26	I support the Polymet project. It will provide long term mining employment and short term construction employment. It will boost the economy of the iron range and improve the quality of life. In the bigger picture copper mining in Minnesota will reduce imports of metal and contribute positively to the trade balance.	EOO
26	I'm Joni Stutzman with the Hoyt Lakes IGA, and I would like to address to -- I'd like to address the -- if nothing happens, let's say that PolyMet is turned down and nothing happens. The impact that that would have of not allowing jobs to come to the area, young people to come to the area, would be a continuing deterioration of services for the area, including retail, including school, including churches, including the hospital, because we need those jobs in order to maintain our retail environment. And if we do not have those jobs, we will continue to lose our retail environment, we will deteriorate the school, because there will be less kids available, the school will have a difficult time paying for the new school, and I just think the -- and then allowing the importation of the needed minerals will cause a bigger problem environmentally than having them locally and under a controlled circumstance.	EOO
26	Tourism and the precious natural resources will be affected for the short term gain of jobs.	EOO,SE4
26	I think the environmental studies are adequate and I sure would welcome more jobs around our area. So I'm strongly for this project.	EOO

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
27	I support the PolyMet Project for there ability to mine the minerals needed without doing damage to our environment new processes that will reduce drainage to rivers and lakes and air. and support the project for the economic impact it will have in the Iron Range. 400 new jobs close to 500 new jobs from spin offs improve the tax base more income for our schools and cities on the iron range precious metals more accessible to US companies provided with damage to air water.	EOO
27	It would take our grandchildren's children before it would be cleaned up and the metals mined would have been used up 15 years after it was mined.	PD3
27	This company seems willing to do what is right, and with all the people out of work, what a help to the area.	EOO
27	I believe PolyMet's project should move forward as it will provide good paying jobs & taxes not only for Northern MN, but also for the state on Minnesota. Based on the time & labor spent on the project so far it's fine to approve it and move on.	EOO
27	I support Polymet for tax's + jobs It will also support my job + company.	EOO
28	How can you gurantee that the tax payer won't be picking up the clean up costs?	PD4
29	This project would be a positive for all Minnesotans. Build it!	EOO
29	How can you prove that the wastes will remain clean?	RFI
29	Wonderful project! I love the idea of mining ore industry in the northern part of the state. This region has such a history of production and significance to not only the state but the region. Please move forward with this project and get Minnesota's economy back on track.	EOO
29	Worse yet, the Fon du Lac tribe is situated downstream from the proposed site, and not only would the river flowing through the reservation be affected, the upstream wild rice stands already recognized as threatened would likely disappear.	G14,WR3D,EOO
29	William Moraski, and I don't have a middle name. I live in Hoyt Lakes, Minnesota. And I have lived up in the Iron Range now for 50 years, and 40 of these years, I worked for LTV Steel Mining Company. And I have sat through several meetings with PolyMet with telling about how the process was going to work and I was absolutely impressed at the changes from the old mining, what they have to do to meet the standards of mining copper. And I am totally convinced what I have seen, that they will meet any pollution standards at the highest level. I certainly would like to see this project go forward. And I think it's a wonderful company -- PolyMet -- as I see it, from all the discussions we've had. And, again, I got grand kids that live up here, and if there's anything I sensed that would hurt them, I certainly would not support it. I think, again, living here all these years, I have the utmost confidence in PolyMet. Thank you.	EOO,G5
29	This proposed mine is surrounded by rivers which flow into the St. Louis and ultimately into Lake Superior. The water and wetland scientists at tonight's talk even readily admitted that the leachings could spill over the lagoons and into Partridge creek. Why then should this mine project be considered? I have fished and canoed the St. Louis River for many years now, and it sickens me to think that this pollution will likely limit my ability to do these things.	WR3D
30	I fully support the PolyMet project. I believe after going to a number of meetings explaining the process that yes in fact they have covered all bases from an environmental stand point and will do even more if required by permit. I live and work in northern MN. The economic vialbility of the region is at stake. I believe that a environmentally feasible project which will still create jobs can be achieved. The most important economic impact is obviously the job creation which diversifies the industry in NE MN and stabilizes the area. The taxes paid will benefit the whole state.	EOO
31	Creation of the Polymet Project will allow the creation of jobs that will provide a hiring wage. It will also help retain and possible help return young people to Northern MN. I believe that the state of MN has and will continue to safe guard the environment of MN and that the management of Polymet had committed to, and will continue to protection of the environment.	EOO

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
32	Chpt. 5 16-16-Monitoring of the proposed budget Currently there is no explicite monitoring information – it is critical for explicite monitoring information to be included in the final draft. For instance, what happens when agency budgets are cut & funding is not available to continue monitoring? Who will monitor? Certainly not the company – must be independent monitors who report to PCA, DNR, AC of E, throughout the life of the project and with power.	ALT5
33	We need the jobs in Minnesota. We can't rely on tourism alone. Mining has been a way of life in Northern Minnesota for a long time. Polymet is going to revive a pellet plan, which means the area already has buildings on it and there are a lot of mines the area already. I don't think there will be much of an impact on the environment.	EOO
34	I think the PolyMet Project should be allowed to move forward. The project would provide needed jobs to the area. It also appears to use best available technology to minimize the environmental impact to the area. In addition, it will reduce our dependence on metals mined out side of the country.	EOO
34	We have thousands of people out of work with the economy and all. We have the technology to keep a safe and clean environment I don't see any reason we cannot put everyone to work and also keep a clean environment which is also important.	EOO
34	I fully support this project for the creation of construction jobs, permanent jobs and the tax base that it will create in the state of MN.	EOO
35	I SUPPORT POLYMET'S NORTHMET PROJECT This project will contribute to state and local economy significantly at a time when we need it and the jobs that it will bring. This project will be done in an environmentally sound and safe manner. The metals that will be supplied by this mine are useful in green energy projects and inhance our ability to provide the supply we need instead of depending on offshore supplies.	EOO
35	John Martin, Talmoon, Minnesota. I was just thinking that this project would be real good for us people in the community living in the northland, just to kinda jump-start the economy. And, you know, we'd be bringing all these jobs up here and....not the permanent jobs, but the construction jobs too; having the people come into the area spending money at motels, restaurants. I think it would just be really good to put the northland back to work. I guess that's all I really have to say about that.	EOO
35	The St. Louis River flows less than a mile behind my home and through the piece of this earth most dear to me. But the area so close to my heart is threatened – by a lack of economic opportunities. I've watched so many of my peers downtroddenly head “south” to earn a living wage. PolyMet would bring 400 jobs to the area directly along with an exponential number of spin off jobs. The copper and nickel they hope to mine are metals that the world needs especially in the creation of green technology. With the technology in place so much better than years ago and the Iron Range ethic, we could safely and cleanly provide them to the world and diversify our economy at the same time. It's ethical to our region, state, and country that we keep some industrial focus and not look entirely to tourism & strive to service to sustain us. The agencies and industries in this project are people I trust. They are people who, like me, grew up in Northern Minnesota, live there, breathe the air and drink the water. I'm sure they will do nothing to sacrifice the land we all love, including my dear St. Louis River.	EOO,G7
36	I think the PolyMet Project should be permitted to provide working wage jobs to families with new technologies in place to protect the environment new regulation for safe mining for the Northern Minnesota area – there is no reason not to mine more metals in a mining enriched area.	EOO
36	I believe in strong union representation. I have a family up here, and so far have made my living and support for my family by working union jobs. This PolyMet job is security for my job and for my family in the upcoming years.	EOO
36	I support for more jobs in MN for the community & contractors. I believe that the standards to keep the environment clean and give back in profit what it will trade.	EOO



*Alphabetical by sender's first name*

<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
37	There has never been a sulfide mine yet that hasn't polluted & I don't believe that Polymet can run a sulfide mine without polluting our waters. Minnesota is the land of over 10,000 lakes and it is one of our biggest and most important assets. I don't think that our environment should be jeopardized for any promises that haven't been proven. What good do jobs do in a polluted landscape. H2O is life we need to protect our Minnesota waters at all cost!	WR3D
37	Inadequate consideration has been given to the impact of noise and light, both on wild life and on land owners throughout the region.	PD12
38	I very much support Polymet and its jobs it will create. Minnesota specially Iron Range (N.E. Minnesota need job. Polymet will not only put people to work put will also have many spinoff jobs. Also it is better to use our own resources instead of using foreign material. It not only keeps our money here but also keeps people working.	EOO
38	The mining company has exaggerated the employment that this project will generate in order to create political support. Equipment and technology have advanced & will continue to advance, reducing the numbers employed.	SE3
38	Inadequate consideration has been given to the long-term impact of the mine. For example, waters will exist for centuries. No consideration has been given to how protection can be economically maintained for these centuries, especially in view of the impact of potential climate change on water, storm, security & wildlife.	EOO,G1,EOO
38	I support Polymet. I support the continuation of effective mining in the U.S.A. If we can do it here lets do it! We can do it right and improve our economy and the environment. I support Polymet.	EOO
39	I think that this project would be an excellent company to begin on the range. We need the jobs in this depressed economy. Also I think that Polymet on a whole has tried to cover all the bases as far as the environmental issues. I've done my homework on the company and the process they use for separation of the ores eliminate the sulfur and acid levels once the metals are separated to a very small amount!! They are trying to be environmentally safe and are being very professional in the way they are trying to get this project started. I think in my opinion that this would be very beneficial toward the range.	EOO,G2
40	Please build Minnesota need this project.	EOO
41	I support this project. I think the DNR Agency did a great job of compiling the report. I think the reward outweighs the risk. We need job & state revenue. Please let the project proceed. Thanks.	EOO,G1
42	I support the employment opportunities an also support the environment – Lets get our people back to work.	EOO,G2
44	I am in favor of the Polymet Project. The Northern MN area has been hit unusually hard by the economy over the past several years. This project would provide much needed high paying jobs for a young generation. If this project is not approved, these young people will be forced to move away from the area they love. They would move their young families with them forcing more school closing, more layoffs and less money into an already struggling area. I believe there are safety measures in effect to do this project safely today & for generations to come. The research and the studies must be trusted. The experts must be heart. This is a good, solid project that must be approved.	EOO,G1
44	On a scientific basis, I am as soil scientist, and I am extremely astonished that such a project would even warrant the consideration of a permit if the tailings basin does not have a liner and as designed will allow polluted water to leave the basin, enter the adjacent wetland, and consequently our state water resources. The health of our children, families, wildlife, and our environment will be in peril.	PD5
44	On concerns over the agenda of the public meeting, a DNR employee informed me that politicians were informed that they had 5 minutes of time to talk and no position statements. There insuring time on the stage lasted at least 10 minutes a piece and were nothing more than campaign speeches to win the roles of Polymet supporters who clearly outnumbered the opposition (most likely because they were bussed in). I am also concerned that these sales pitches given by the legislators will influence the resultant comments on the EIS and, taking into account that DNR says all comments will be considered, this is a problem.	PRO1,PRO6

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
44	This project is important to me due to the new process involved for extracting precious metals. I also like the fact that we will be recycling an existing plant instead of mothballing resources. Any process that keeps products coming out of America helps this recession we have found ourselves in. Lets talk about one of the most important thing about this project, putting Americans back to work with American products.	EOO
45	This process (Polymet) is a very complete environmentally friendly process. We need to keep our jobs in MN. We all have family in N.E. MN. Please support our communities and jobs.	EOO
45	Diane Krueger-Pirnat, Zim, Minnesota. My opinion: I feel that the PolyMet project is a great business for our area. It should create well-paying jobs. It should enhance our economic situation up here. They've been in business a long time. And I know the effects of having employees and how it boosts the economy in many many phases, so I don't have anything to say against it. That's it.	EOO
45	I support this PolyMet concept, the ability to harvest our natural resources to support the needs of U.S. businesses. Some resources need to remain available in this country to protect our national security. The proposed PolyMet site is an existing brownfield with a long history of iron ore & taconite mining. Utilizing existing land, buildings, tailings delta, etc support limiting our carbon footprint. Coincidentally it also saves the company enough money to make the project financially feasible allowing the owners to take the risk that has viable for many generations. The jobs, both primary & secondary are important to diversify the economy of NE Minnesota. Finally, from the testimonials I have heard the new technologies for extracting the ore(s) are designed to be safe to protect our natural assets for generations to come.	EOO
45	Northern Minnesota, the Iron Range and rural communities of Northern MN is an important economy for our state. It can often be overlooked as just a vacation spot. Polymet employees and officials are responsible leaders that live and raise their families in our communities. They have put together a viable and one of the most environmentally responsible plans for a new generation of mining in Minnesota. I believe they will raise the bar and hold high standards in environmental responsibility. This an important long term project that will support local economies as well as produce important tax dollars for the state of MN. Polymet will also be setting an example and setting new standards for more projects like it that will follow. Northern Minnesota is in a depressed state of economy and would benefit greatly from 400 permanent jobs as well as supporting as even greater number of spin-off jobs. Polymet has the ability to be a leader or set the example for similar operations around the globe by encouraging and motivating other potential operations to being both profitable and lucrative while producing very low impact to the environment which we all live, work, and raise our families in.	EOO
46	I support Polymet! I am a boilermaker and am currently laid off. My family depends on projects like Polymet to keep me working.	EOO
46	Sulfide mining in Northern MN also has the potential to jeopardize the long standing tourism business of the area.	G11
47	Like it or not tourism is the only way Northern MN can be economically stable for the long term. Destroying portions for a ritual forest and an intact ecosystem will only harm in the long run.	SE4
48	I have lived in the Northern MN area all my life. I have seen people leaving our area steadily for years due to lack of work. I love our wilderness and utilize our hiking/biking and lakes as much as I can. I am always concerned with the environment and hiking as "green" as I can. From what I have read & researched I believe Polymet will be a good thing for our area. They have covered all aspects in their development of this project. Minnesota has touch guidelines for pollution control & environmental issues. I think Polymet is working well within the guidelines of safety and a clean environment for this project.	EOO,G2
48	These minerals are essentials. They will be mined whether or not this project is approved. We should build it here, make it here so that it is done safely and our citizens benefit from the jobs. MN has an opportunity to benefit from this project in many ways. Minnesotans need the jobs. Permit the damn mine.	EOO
48	I wish to express my support for Polymet mining. I believe all aspects of their operations can and will be done in an environmentally safe and responsible manner (including reclamation). Also, the resulting jobs and taxes are badly needed. Please approve this project ASAP.	EOO

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
48	I'm here to support Polymet and the spinoff jobs that will occur when this project is finally started. Polymet will be a great economic boom that the state of Minnesota needs. Northeastern MN needs this project. I'm a laid off painter in the Duluth Bldg trades and many of my union brothers and sisters need this project to happen. Lets look to the families and the growth MN will have with this project.	EOO
48	As a cabin owner & a home owner in St. Louis County I am definitely in favor of this project. Technology & enforcement of codes = success. PolyMet will pay needed tax revenue for our schools & provide needed jobs for our citizen without polluting our environment.	EOO,G2
49	In these times we need the work & this company seems to be making all the right moves to keep our land water & air clean.	EOO,G2
49	This is something that's going to be done somewhere, so it might as well be here. I fit is here we have control over the environmental impact. Also in todays economy we can't afford to give away all the jobs and revenue this will generate locally! I see no benefit in not pushing forward with this project.	EOO
49	The bottom line is for jobs to be created for us and our downlines in our area.	EOO
49	I support this project mainly for the reason of jobs. I, in the last 2+ years, have worked extensively on the Mesabi Nugget sight for my employer. This has given my family the chance to continue our quality of life and not have to move away like many other that I know. The "Iron Range" is a dying area & we need these types of jobs to keep the area on the map. These sights are done professionally, efficiently & with the environment in mind. I am a proud union member of local 49 and fully support this Polymet, Mesabi Nugget & other projects. Thank you.	EOO
49	I 100% support the Polymet project. I am a laid off painter and we need jobs in the area. These are good high paying jobs. Our region in Northeastern MN needs these kinds of jobs. It is time to put people back to work. I hope I will have a chance to work on this project.	EOO
49	My name is Norm Voorhees and I live in Duluth, Minnesota. And I'd just like to say I support the PolyMet project 100 percent. I'm a construction worker, I'm a representative for Ironworkers Local 512, and I represent members in northeastern Minnesota. We feel that it -- I feel that it would be a huge economic benefit if a project like this moves forward. I also believe that PolyMet is going to be a responsible partner in the mining process here. And I also think that globally, this project would be much better off being done here in this country than somewhere else in the world where there's not as strict of standards to follow. So I feel it's important globally and I also think it's a matter of national security for our country to be able to produce these precious metals in-house and not have to depend on foreign-mined products. That's about it.	EOO
50	In these poor economic times it is important to move ahead with the products and technology to generate jobs, material, and state income to keep the quality of life for hard working Minnesotans. We need this and more projects to get moving ASAP.	EOO
50	As a resident and person who believes that economic and environmental concerns can and must be a balance for the long term viability of our state, I absolutely support the project!	EOO
50	My name is Anne Clayton from Aurora, Minnesota. My father came up here in '56 with Erie Mining Company, and I was raised here a good portion of my childhood when I was in 5th grade and returning the 9th grade; left when I was just right after graduation. I always loved this area. I came -- lived in Texas and Mississippi until I was 50, returned to the Range and now live in Aurora. It's a beautiful place to live. I think that it would be wonderful if the people would support PolyMet, let it return to what it once was. I feel like -- just in checking with some of the people, that the amount of lead that was let out when it was LTV in the -- you know, a year was, like, 83, and this would be only 8; and that's 1/10th. I think that the majority of the environmental damage has already been done and I would just hope that this would be passed. And I guess that's it. Thank you.	EOO
50	On behalf of trades people everywhere I say "Lets build this facility". The pros greatly outweigh the cons. Northeastern Minnesota has not had anything to celebrate lately. Lets give the Arrow head a real economic boost. Changing subjects, regarding nuclear power, I feel we are about thirty years overdue for the nuclear power industry to show signs of life again. End the congressional grit lock, lift the moratorium in nukes and get this country going again. America cannot afford any more banking scams, the last one just about did us in.	EOO

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
50	I am in full support of this project. With the economy is people of Northern MN need this project to support their families plus all the other jobs that will be created by this mining operation, not just Northern MN, but the whole state will benefit with Polymet paying taxes. More people employed with good paying jobs.	EOO
51	I am an owner of Wayne Transports We need to put our drivers to work. We have drivers that are laid off. We need industry to support our drivers.	EOO
51	I am in support of the Polymet Project. All rules have been followed. Efforts have been made to identify and minimize impacts. Monitoring requirements are defined. All human activity results in impacts on the environment (air, water, soil). The issue is NOT whether there will be impacts, but rather, are the impacts reasonable. If we attempt to seek 100% guarantees of no impact, nothing would happen and any part of human activity. That is an unacceptable requirement (100% perfect).	EOO,G2
51	Am 21 and love hunting & fishing but I can't find a decent job in my favorite area of Minnesota. If this facility was built, I'd move back in a jiffy.	EOO
52	Put Minnesota back to work. Jobs Jobs Jobs	EOO
52	I am absolutely in favor of issuing a permit for this project. Jobs, revenue, safe mining, progress. Let's take advantage of this project. Our children will thank us.	EOO,G1
53	I grew up in Northern Minnesota so I'm naturally an outdoorsman. I also remember how hard it was to earn a decent living on "the range". From what I've learned tonight	EOO
54	at the open house (12-10-09), I believe that this project should be allowed to proceed as long as Polymet us help accountable for all waste products for the long term.	PD4

**Sender Last Name:** Watkins-Melby

**Submission ID:** 3693

19705	GLIFWC staff disagree with the information presented in Table 4.1-68. The column "Effects of the Proposed Action" should be rewritten to reflect the serious data gaps that prevent an adequate characterization of the environmental impacts of the proposed action. The discussion of the uncertainty analysis for the West Pit water quality indicates that groundwater evaluation criteria would be exceeded for antimony, manganese, nickel and sulfate and that those impacts would be significant. Despite this assertion, Table 4.1-68 indicates that initial water quality exceedances would be reduced over time. First, the table should indicate that the impacts are significant and that water quality may not meet evaluation criteria for 2000 or more years. Groundwater downgradient of the tailings basin already exceeds standards for multiple parameters. Therefore, the statement in Table 4.1-68 seems puzzling.	WR3I
19705	This section states that violations of Great Lakes Initiative Water Quality Standards would be discovered as part of a monitoring program. GLIFWC disagrees with this approach. The reasonably foreseeable impacts of sulfate and mercury discharges from the west pit, WWTF, and constructed wetland should be included in the DEIS so that potential water quality impacts to Lake Superior can be characterized.	WR3I
19705	The paragraph describing the closure plan for the LTVSMC is misleading. GLIFWC staff reiterate that there is no up to date closure plan for the proposed project. A closure plan is needed to evaluate long term environmental impacts and to inform calculations of financial assurance that would be needed for the project. For more information refer to our comments on section 3.1.7.	ALT8
19705	GLIFWC staff disagree with relying on monitoring to assess the effectiveness of lime treatment. The effectiveness of lime treatment is very important in the final water quality of mine effluent. Therefore, this analysis should be conducted prior to the construction of the facility and the results included in the DEIS. Monitoring is a purely reactive approach which runs contrary to the intent of the NEPA process which is to characterize all reasonable and foreseeable impacts.	WR1E

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
19705	An important part of any EIS process is to identify and fully describe the existing conditions of areas that would be affected by the project. Surface and groundwaters north of the tailings basin have been contaminated by decades of LTV tailings effluent. Data collected in 2009 show that private wells north of the basin have been impacted by this historic tailings basin effluent. Although two additional groundwater samples north of the basins collected in 2009 indicate that exceedances exist at the property boundary, the full extent of the contaminant plume has not been defined. Defining the contaminant plume is of vital importance to this project because the contaminant plume will be augmented by the deposition of PolyMet tailings. The additional contaminants will interact with the existing plume and create a new set of water quality and quantity conditions. Unless the existing condition is properly defined, the impact of the proposed project cannot be properly assessed. Finally, discharging contaminated water into an aquifer that is already contaminated is a clear violation of the clean water act.	WR1E
19707	GLIFWC staff reiterate that the effectiveness of the evapotranspiration caps has not been demonstrated. Tribal cooperating agencies have requested that this analysis be done (GLIFWC Comment letter of June 30, 2008 and GLIFWC comment letter of February 6, 2009, Attachment #1). This analysis must be performed and included in the DEIS. In addition, GLIFWC staff reiterate that the effectiveness of the wetland treatment system is in doubt. Finally, GLIFWC staff reiterate that the effects on groundwater levels at the mine site are unknown for both the proposed project and the mine site alternative because of insufficient analysis.	WR1E,WR2L
19708	Another issue of concern is the lack of discussion of the need for an NPDES permit for the west pit. Under all mining scenarios, PolyMet would leave behind a polluted pit lake which will exceed surface water quality standards for thousands of years. It is the position of GLIFWC staff that an NPDES permit will be required for this facility and that additional discussion on the implications of this pit lake must be included in the DEIS.	WR3C
19708	GLIFWC staff reiterate that all waters of the state are protected by surface water quality standards and using the unnamed water to dilute the contaminants of the West pit is not appropriate. The DEIS should discuss the impacts of the project on this unnamed stream. GLIFWC staff are not aware of any biological or cultural resource surveys done on this stream. If this unnamed water is to be destroyed, a thorough accounting of the natural resources present in the stream must be provided. Furthermore, tribal cooperators note that the pit lake is predicted to not meet surface water quality standards for hundreds or thousands of years. Therefore this section is misleading when it says that water quality effluent will improve over time. A full assessment of the environmental impacts of the west pit discharge is needed.	WR3C
19709	As previously discussed, GLIFWC staff believe that additional analysis on the possible exceedance of the Great Lakes Initiative mercury standard must be included in the DEIS.	WR3I
19710	We observe that in several areas, the DEIS excludes previously established information that depicts the project in an unfavorable light. Previous versions of the DEIS indicated that the proposed tailings basin design is not adequate and likely to fail. While this is still the case, the DEIS that was released to the public has omitted that language. The DEIS is inconsistent in the application of water quality standards. Wild Rice waters have a 10 mg/l standard for sulfate which is an approved state standard. However, the DEIS is vague about where the standard is enforced or whether the standard applies at all. The position of GLIFWC staff and of tribal cooperating agencies is clear and unequivocal. The wild rice sulfate standard is a state water quality standard and applies where wild rice is growing. All available information on the presence of wild rice in the waters surrounding the proposed project must be included and a robust analysis of the compliance of the proposed project to those standards must be developed.	EOO,WR3I,WR4F,PD3,PD
19710	GLIFWC staff disagree with the information presented in Table 4.1-77. This summary is misleading because the conclusions are based on insufficient data and faulty analysis. Furthermore, we note that the section on water quality in the Upper Partridge River is untrue. GLIFWC staff note that the west pit is predicted to exceed standards for all years for which predictions were made. These inconsistencies must be corrected.	WR3C
19711	The analysis presented in this section is misleading. The conclusion that groundwater evaluation criteria are met is only true if the contamination of the existing aquifer is ignored. If the existing contamination is considered the conclusions are likely to be different. Any analysis assuming a receiving aquifer with zero constituents is unrealistic.	WR2E

*Alphabetical by sender's first name*

**Comment ID    Comment Text    Theme Codes**

19711 GLIFWC staff note that pumping could be needed for hundreds or thousands of years if the Permeable Reactive Barrier (PRB) is not effective. The PRB is untested and has not been demonstrated to work in any similar situations. In addition, the PRB would need periodic recharging/replacement which would need to occur at regular intervals for as long as water treatment is needed (hundreds or thousands of years). It is GLIFWC staff's position that this long term maintenance is at odds with Minnesota's goal of maintenance free closure.

WR2D

19711 GLIFWC staff reiterate that an untreated discharge of tailings basin water to the Partridge River will exceed water quality standards and violate the Clean Water Act. In particular the wild rice standard will be exceeded.

WR3I,WR4F

19714 GLIFWC staff reiterate that discharging untreated tailings basin water to the Partridge River will have significant adverse impacts.

WR3A

19714 The DEIS states that Aluminum is the only constituent that may exceed standards. However, As stated in TB-14 "Manganese: The concentration of manganese in groundwater is predicted to be above the groundwater standard and the MCL at all four of the evaluation locations."

WR3I

19716 GLIFWC staff reiterate that wild rice grows on the lower Partridge River and that the 10 mg/l standard for sulfate applies. This standard would be exceeded by the PolyMet discharge. Furthermore, there are other projects (Mesabi Nugget Phase II and Laskin Energy) that are discharging water with elevated constituents. Given these existing sources, it is unlikely that PolyMet discharge would be able to discharge their untreated tailings basin effluent without violating the clean water act.

WR3I,WR4F

**Sender Last Name:**    Watson

**Submission ID:** 3718

1 The DEIS inadequately addresses mercury air emissions from the autoclaves. First, the mercury projections used in the DEIS are based on specifications from the autoclave manufacturer and not based on field testing. Historical data indicate increased mercury levels associated with the use of autoclaves. Accordingly, in the absence of data from field tests of this type of autoclave process, significant uncertainty remains in regard to the actual mercury emissions from the autoclaves.<sup>77</sup>

AQ6A

2 In order to minimize the amount of hazardous fibers emitted to the air in surrounding communities, the proposed mining operation should implement Best Available Control Technology (BACT). If BACT is indeed unenforceable at this site as stated in the DEIS, MCEA supports a fiber emissions control scheme along the lines of that described on DEIS pages 4.6-61 through 4.6-63, i.e., one in which Polymet has agreed to install "the most stringent level of fine particulate matter control possible with current technology."

AQ5

3 MCEA conditionally supports the idea of an amphibole fiber air monitoring scheme such as that described briefly in narrative form on page 4.6-63. When a more detailed monitoring plan is provided, MCEA will comment further and determine whether full support is warranted.

AQ5

4 In the meantime, the narrative description raises at least two questions: 1) Will airborne fiber monitoring continue beyond the one-year operational period described in the DEIS? 2) How much higher would operational concentrations have to be, relative to baseline concentrations, to trigger enforcement action?

AQ5,AQ6

5 To protect public health, MCEA recommends enforcement of an ongoing airborne fiber monitoring program akin to the one already in place at the nearby Northshore Mining Co. operation.

AQ5

6 The plant site Air Emissions Risks Assessment (AERA) which begins on page 4.6-22 provides concentrations of various carcinogenic metals and volatile organic compounds (VOCs) that are expected to be released either at the plant site (Table 4.6-16) or from the proposed mine (Table 4.6-17). It is encouraging that aside from the farmer scenario described on page 4.6-27, the population excess cancer risk caused by the mining operation is not expected to exceed the current MDH threshold of 10-5. However, MCEA believes that it would be prudent for Minnesota government agencies to follow the lead of other states (e.g., MA, VT, NC, NY) and apply the more protective standard of 10-6 when protecting the general public from carcinogenic air pollutants.<sup>82</sup>

EOO

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
7	The failure of the NorthMet DEIS to analyze the potential negative socioeconomic impacts associated with the Project is a serious shortcoming of the DEIS. Historical trends clearly show that the mining industry in Northeastern Minnesota and elsewhere is predictably characterized by a boom and bust cycle with short-term increased employment followed by decreased employment and associated socioeconomic costs experienced by communities overly dependent on the mining industry for employment. <sup>89</sup>	SE4
7	A rigorously health-protective approach to carcinogenic air emissions control is especially important in areas where cancer rates are already elevated. Northeastern Minnesota has the highest overall cancer incidence rate of any of the state's eight cancer surveillance regions. <sup>83</sup> As noted above, Northeastern Minnesota also has higher rates of both lung cancer incidence and lung cancer mortality than elsewhere in Minnesota. <sup>84</sup> This target organ is of particular relevance because many of the metals and VOCs expected to be emitted from the proposed mining operation have been found to cause lung cancer and/or other respiratory system cancers when inhaled. Metallic emissions listed in the DEIS, including chromium VI, cadmium, and inorganic arsenic, are known human carcinogens that cause lung cancer. <sup>85</sup> Other chemicals listed in the DEIS, such as the VOCs naphthalene, acetaldehyde, and formaldehyde, are classified as known or probable human carcinogens, and are associated with cancers of the lung and/or respiratory system. <sup>86</sup> Health risks of these and other carcinogenic emissions (e.g., PAHs) from this site should be assessed using the 10-6 risk threshold, in order to ensure that the proposed operations do not contribute to a regional excess of relevant cancer types.	EOO,AQ6
8	In addition, the NorthMet DEIS fails to recognize the socioeconomic risks associated with the impact on other employment sectors as a result of the environmental degradation and destruction accompanying the Project. Specifically, the NorthMet project and the reasonably foreseeable development of additional sulfide mines in the region creates a significant risk to sustainable economies in Northeastern Minnesota which rely on wilderness, recreational and access to unspoiled public lands.	SE3
9	Further, the NorthMet DEIS mentions nothing about the fact that the mine processing site appears to be or may be planned to be in a JOBZ zone, or the implications for this on Minnesota revenue and the social and economic effects of the project. <sup>90</sup> According to information provided by the Minnesota Department of Employment and Economic Development (DEED), if the NorthMet Project is or becomes a JOBZ location then it will receive incentives likely to have an impact on the social and economic benefits assumed to be associated with the project, possibly including projected Minnesota tax revenue from the project. <sup>91</sup>	SE3
9	In addition, the lifestyle and economies of tribal communities, from wild rice harvesting and reliance on other cultural and natural resources, are also threatened as a result of the NorthMet Project and reasonably foreseeable sulfide mining activity in the region.	SE3
10	Second, the DEIS does not indicate what type of monitoring will be required for mercury emissions from the autoclaves. In light of uncertainties associated with mercury emissions from the autoclaves and historical data indicating increased mercury levels associated with the use of autoclaves, and considering the significant environmental impacts associated with emissions of mercury, continuous emissions monitors ("CEMs") should be required for the autoclaves. CEMS would ensure an accurate and complete record of mercury emissions from the autoclaves, and ensure that the autoclaves are operating within the manufacturer's specifications.	AQ5,AQ6A
11	The fact that these deadly cancers already occur more frequently in northeastern Minnesota communities necessitates a high level of caution when a new source of potentially carcinogenic and asbestoslike particulate air emissions is under consideration.	AQ4C

*Alphabetical by sender's first name*

**Comment ID    Comment Text** **Theme Codes**

11 We believe that it is difficult to exclude fibers of a particular dimension from a role in causing disease within the lung or extrapulmonary sites when one accepts that both the exposure and tissue burden have fibers of varying lengths and widths. In contrast the experimental models are limited by the simple fact that fibers of very limited length distributions were tested. A telling point remains that when the appropriate analytical techniques are utilized it becomes apparent that in most tissues the overwhelming majority of the asbestos fibers are less than 5 Ym in length. Based on the lack of scientific certainty as to what would constitute a “safe” amphibole fiber, and the established presence of amphibole mineral at the site of the proposed mine, it is critical that Minnesota state agencies are vigilant in their efforts to protect public health. As a key component of this effort to protect the general public, who may be exposed to these air emissions 24 hours per day, 365 days per year, MCEA supports the continued application of the MDH/MPCA definition of a “regulated fiber” as any amphibole particle with AR Z 3:1. As long as the precise relationship between fiber characteristics and pathogenicity remains unclear and hotly disputed, this screening threshold is a reasonable method of ensuring that communities are protected from the risk of diseases caused or exacerbated by fiber inhalation.

AQ4C

12 In comments regarding the NorthMet Project – Preliminary Draft Environmental Impact Statement, dated August 25, 2009, the EPA specifically recommended that the NorthMet DEIS include information on financial assurance. The EPA indicated that inclusion of financial assurance information in the DEIS was recommended “because one key component to determining the environmental impacts of a mine is the effectiveness of reclamation and closure activities” and that “EPA has found the amount and viability of financial assurance are critical factors in determining the effectiveness of closure and reclamation and therefore the significance of environmental impacts.”<sup>9</sup>

PD4

1573 This project does not create enough jobs to justify the large cost of cleanup. Do not approve!

EOO

3769 After following the polymet project for several years I think it is time to start building the plant and provide employment for our area. Northern MN is not just the PLAYGROUND for the metropolitan population. We live here, we are proud our our lakes, hunting, and fishing and I know that polymet will take care of the land as it should be. kris watson

EOO

3770 I attended the meeting Dec 9th in Aurora and am all for the Polymet project. I believe that they have done what is required and far beyond to be sure of an enviromentaly and economicly sound project. I have been following this project from the begining and it's time to move forward. thank you, jim watson

EOO,G6

**Sender Last Name:**    Weappa

**Submission ID:** 3219

3549 I have been to many meetings over this project. I have read a lot if information also. This would be a great project for the State of Minnesota as well as the Iron Range area. The permit processing has been handled well by the State but it is time to permit this project. PolyMet has shown due diligence on the design of this project as well as the State. From everything I have read this project would be a great addition to our area. The good paying jobs on both the construction and running of the plant will bring in enormous tax dollars to the area and the State at a time of need. By adding 700 permanent jobs to our depressed area would let a lot of our young people stay home. This would be good for our schools with what has been a steady and slow decline in students. As far as the construction it would add hundreds of new apprentices and employ hundreds of tradespeople throughout the State. In my estimationthis project is a win for the whole State. Thank you for your time. Scott Weappa

EOO,G6

**Sender Last Name:**    Wegerson

**Submission ID:** 3694

19717 The statement that the tailings basin alternative will not exceed and surface water quality standards is incorrect. As previously indicated, this conclusion is based on faulty modeling assumptions, incomplete data, incorrect reporting of the analysis conducted and an apparent lack of understanding of basic hydrology.

WR3A



*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
19717	GLIFWC notes that the predicted concentrations in TB-15 represent dissolved aluminum (see TB-15, page 1) and not total aluminum as stated in the DEIS. TB-15 presents the most recent water quality predictions for the Tailings Basin Proposes Action and Alternatives. TB-15 predicts exceedance of standards by dissolved aluminum under the Proposed Action and the Alternatives. This section should be corrected	WR3H
19718	The assertion in the DEIS that all parameters are expected to meet surface water quality standards is incorrect. GLIFWC staff reiterate that the wild rice sulfate standard applies (10 mg/l) and would be exceeded. In addition, GLIFWC reiterates that the results in TB-15 (see page 1) represent dissolved aluminum. TB-15 predicts exceedance of the aluminum standard.	WR3A
19719	The DEIS is written under the assumption that the mining company owns the land where the mine pits would be located. However, that is not the case, the land is currently owned by the public and administered by the United States Forest Service. Any land transfers that may occur in the future between the Forest Service and the mining company are a connected action to this DEIS. Therefore, additional information of the details of the land transfer must be included in this document to comply with NEPA.	PD5
19720	GLIFWC staff reiterate that wild rice grows on the lower Partridge River. Therefore, it is the tribal cooperating agencies' position that the wild rice sulfate standard applies and would be exceeded by the proposed PolyMet discharge.	WR4F
19721	The discussion in this section is incorrect. The section states that all surface water quality standards will be met, However, GLIFWC staff note that the Embarrass River exceeds the sulfate standard. Modeling (TB-15) also predicts exceedance of surface water standard for dissolved Aluminum. GLIFWC also reiterates that the wild rice sulfate standard applies in waters where wild rice is growing. The Embarrass River contains several wild rice stands that may have already been impacted by sulfate discharges from the LTV tailings basin. These sulfate emissions will continue under all alternatives proposed for the NorthMet project and the applicant will assume responsibility for those discharges if they receive permits. The effect of this sulfate in the methylization of mercury in the Embarrass River should be mentioned in the DEIS.	WR3I,WR4A,WR4F
19721	This section states that "The NorthMet project is expected to meet all surface water quality standards under all flow conditions for all mine years in the Partridge River." This statement is incorrect for the tailings basin alternative. That alternative would discharge untreated tailings water directly into the Partridge River below Colby Lake. This section of the river will also be impacted by the Mesabi Nugget Phase II discharge and is currently impacted by the Lasking Energy plant. The cumulative impact analysis does not provide a quantitative analysis of water quality impacts of the three projects even though data exist to conduct this analysis. Finally, wild rice grows in this stretch of river. As the DEIS indicates, the Lower Partridge River already exceeds the applicable wild rice sulfate standard of 10 mg/l. GLIFWC staff believe that additional discharges of sulfate from the NorthMet project are not permitted under the clean water act.	WR1E
19721	GLIFWC staff believe that treatment of the tailings basin effluent that is captured by the vertical wells must be an integral part of the tailings basin alternative. This treatment could occur in the WWTF already proposed for this project or in a second facility closer to the discharge point. Tribal cooperating agencies strongly oppose an untreated discharge of tailings basin water to the Partridge River. In addition, there are other existing facilities and mine proposals (Laskin Energy, Mesabi Nugget Phase II) that discharge, or are proposing to discharge water at this same location. Finally, water quality of the discharge would exceed the wild rice sulfate standard that applies to the lower Partridge River.	WR1E
19721	As previously discussed, there is very little data on which to base any discussion of hydrology for the mine site. Therefore, the conclusions in this section are not reliable.	WR1E
19723	This section states that the NorthMet Project would not have any surface water discharges to the Embarrass River. This is incorrect. Aerial photos clearly show a surface water connection between the toe of the tailings basin and the Embarrass River, as do state maps of public waters (attached Figure 4). Polymet will assume responsibility for this and all other LTPV discharges if they receive mining permits. Therefore PolyMet would be responsible for a NPDES permit required at this location.	EOO

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
19723	GLIFWC staff disagree that an untreated discharge of contaminated tailings basin water to the Partridge River would not have impacts. The area of the Partridge River that would receive the discharge already receives contaminants from Laskin energy and the Mesabi Nugget Phase II project is proposing a discharge at the same location. This discharge should be included in the analysis. Finally, wild rice grows on the Partridge River below Colby Lake. GLIFWC staff and the tribal cooperating agencies insist that the 10 mg/l sulfate standard be discussed in the section and be applies as indicated by state law.	WR1C,WR4F
19723	This section states that “The tailings basin alternative would redirect most tailings basin seepage away from the high risk areas and discharge it to the Partridge River.” This statement is incorrect. As currently proposed, the alternative would capture only some of the seepage from the NorthMet project. High sulfate seepage from the existing 2W cell would not be captured. Therefore, emissions of sulfate into the impacted wetlands and aquifer north of the basin would continue for the foreseeable future. PolyMet would assume responsibility for these historic discharges if the receive mining permits. Therefore it is not proper to exclude a discussion of these existing discharges from the DEIS impact analysis.	WR2E
19723	GLIFWC staff note that NorthMet effluent will be discharging through the bottom of the tailings basin into an aquifer and wetland systems that have already been impacted by decades of LTV mine effluent. Additional data is needed to fully characterize the extent of the contaminant plume. Only then, can a proper cumulative impact analysis be conducted for the area north of the tailings basin.	WR1E
19724	GLIFWC staff reiterate that the current wetland delineation does not encompass all wetlands that may be affected by the Project. Because no initial determination of the Project’s area of influence (AOI) on wetlands was made, the site field surveys of wetland and other vegetation were limited to little more than the area within the Project fence. The existing characterization of wetland and other vegetation does not cover even one-half the area that might reasonably be expected to be impacted by disruption of the existing hydrology. Around the tailings basin virtually no wetland delineation has taken place although wetland impacts from inundation are likely to occur. Since 2008 the Army Corps has been developing a workplan to assess impacts to these additional wetlands but this workplan has not been finalized or implemented. This serious data gap must be addressed for the DEIS to be considered adequate.	WE1
19725	Tribal cooperating agencies take the position that the approximately 5,700 (RS13B) gallons per minute of tailings water released by past mine waste disposal activity has likely had a far greater influence on the hydrology of the area than beaver dams or transportation features.	EOO,WR3A
19725	· Lack of Closure Plan.	PD2
19726	GLIFWC staff reiterate that the work needed to properly assess indirect wetland impacts at the mine site and at the plant site has not been completed. The wetlands work group and the Army Corps have developed a workplan to collect the data needed to assess indirect wetland impacts. The results of that investigation must be included in the DEIS to allow a full public review.	WE2
19726	GLIFWC staff reiterate that the wetland classification available for this project is not detailed enough to fully assess wetland impacts. The information available in the wetland delineation provided by the applicant is not detailed enough for wetland functions and values to be determined and does not identify important species level information needed for impact analysis. GLIFWC staff have commented that a more robust field characterization of the wetlands is needed. Wetland Plant Communities of the Crandon Mine Site (Attachment #6) provides an example of the types of field data that are needed for the PolyMet project. In addition, the DEIS does not fully incorporate the data that is available. The wetland delineation study (RS14, Appendix A) identified over 390 acres of wetland community with a significant white cedar component. For example, wetland ID-48 (Table 4.2-3) was identified in delineation reports as dominated by white cedar. White cedar is an indicator of mineral rich waters. Renaming wetland ID-48 as a coniferous bog, as was done in Table 4.2-3, does not make that community a bog. Cedar dominated wetlands are cedar swamps, not bogs. The significance of this is that, bogs tend to be precipitation fed while swamps tend to be groundwater fed. Data from the wetland delineations (RS14) suggest that bogs are not the most prevalent wetland type. In fact, it appears that wetlands that require groundwater inputs: forested rich peatlands and poor fens are the most prevalent.	WE1,WE2

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
19727	As detailed in comments provided for section 4.1, there is no reliable groundwater model for groundwater drawdown impacts of the proposed project. The estimates of groundwater drawdown are currently based on anecdotal observations and analysis of historical aerial photography. Therefore, there is no quantitative assessment of mine related drawdown of the regional water table. This serious data gap has prevented an adequate indirect impact assessment for wetlands from being conducted.	WR2A,WE2
19727	GLIFWC staff strongly object to the assumption that wetlands at the mine site are primarily bogs. This assumption is contrary to the field data reported in RS-14. GLIFWC staff reiterate that the methodology used in Adams 2009 is not adequate for characterization of pit dewatering impacts to wetlands (GLIFWC 2009, Memorandum to Jon Ahlness and Stuart Arkley: Photographic evidence for pit impacts to wetland hydrology. April 24, 2009, Attachment #2)). Problems with the methodology used in the opinion paper include: 1. Lack of recognition that aerial photos are a very imprecise measure of surface water level. 2. Photographs presented in the paper show that the Peter Mitchell pits are mostly flooded. Therefore there is little or no stress on surrounding wetlands at the time. 3. Lack of consideration of the topographic relationship of the landscape features including the depth of the Peter Mitchell Pits (P-M Pits approximately 80 feet deep, PolyMet pits approximately 800 feet deep). 4. Lack of recognition that some changes in groundwater hydrology would not be evidenced by the changes in surface water level detectable by aerial photography. 5. Dependence on wetland soil conductivity values that are extremely low and for which supporting source citation in the professional literature cannot be found. The PDEIS appears to rely on “best professional judgment” for estimating impacts due to hydrologic disruption without incorporating specific knowledge of the ecological requirements of culturally significant wetland vegetation such as cedar, and without requiring sufficient background data regarding groundwater. A “best professional judgment” approach is being used as a replacement for data-based scientific analysis of potential impacts. Quantitative methods for estimating the impacts of drawdown and inundation on wetland hydrology exist (e.g. Attachment #7), have been used at other mine sites, and can be used in addition to professional judgment.	WE2
19728	It is unclear how the 83.3 acres was calculated since all participants in the DEIS process have agreed that the groundwater model results are invalid outside the area of the mine pits. Therefore, it is impossible to know how far hydrologic impacts will extend at this time. GLIFWC staff believe that conclusions in the DEIS should be based on actual data and not on speculation. Finally, GLIFWC staff reiterate that, based on the vegetation data collected from wetland delineations (RS-14) it appears that groundwater supported wetlands are common in the Project area. Indirect impacts to communities that require groundwater inflow have not been determined, but would likely be significantly different than expected impacts from the Project to perched bogs.	WR2A,WE1,WE2
19729	GLIFWC staff do not agree that mitigation ratios and mitigation sites should be determined during permitting. Indirect impact acreages would be greater if data and quantitative analysis of mine induced drawdown had been conducted. Waiting until the impacts have occurred to characterize them runs contrary to the intent of NEPA and is not a responsible way of informing the public of the environmental cost of a project. Finally, this wait and see approach makes it more difficult to determine adequate financial assurance for the project.	WE3,WE4,PD3,PD4
19730	The conclusion that additional indirect impacts are unlikely at the mine site is faulty. As previously discussed, there are insufficient data to support that conclusion. Based on the vegetation data collected from wetland delineations it appears that groundwater supported wetlands are common in the Project area. Indirect impacts to communities that require groundwater inflow have not been determined, but would likely be significantly different than the expected impacts from the Project to perched bogs. Ultimately, the DEIS conclusion is not based on data but is based on the Adams 2009 opinion paper. GLIFWC staff reiterate that the methods used in the opinion paper are insufficient for prediction of indirect impacts to wetlands. For example, the Iron Range projects mentioned are located in upland areas of the range and are not proper reference sites for potential impacts at the PolyMet mine site. The Peter Mitchell Mine, although in close proximity, is very shallow compared to the proposed mine pits (Peter Mitchell pit is approximately 80 feet deep, PolyMet pit is approximately 800 feet deep).	WE2
19731	GLIFWC staff reiterate that no analysis has been done to support this conclusion. As indicated in section 3.1.3 it is likely that ore dust would spill from rail cars and be deposited in wetlands adjacent to the rail line. No analysis of any type has been conducted to determine if such impacts would be significant.	WE2,PD3

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
19732	EPA determined that the project will result in unacceptable and long-term water quality impacts, which include exceeding water quality standards, releasing unmitigated wastewater discharges to water bodies (during operation and in the post-closure period), and increasing mercury loadings into the Lake Superior watershed.	WR3B,WR3I
19732	Based on our review of the DEIS, EPA has rated the DEIS as Environmentally Unsatisfactory - Inadequate, or EU-3. Environmentally Unsatisfactory (EU) indicates that our review has identified adverse environmental impacts that are of sufficient magnitude that EPA believes the proposed action must not proceed as proposed. The numeric portion of the rating indicates the DEIS does not present adequate information for the EPA to fully assess the environmental impacts that should be avoided in order to fully protect the environment or EPA identifies reasonably available alternatives which could reduce the environmental impacts of the action. This rating applies to the Proposed Action, the Mine Site Alternative and the Tailings Basin Alternative. Our summary of ratings definitions is enclosed. EPA has assigned the EU rating because our review of the DEIS determined that the proposed action will result in environmentally unsatisfactory water quality impacts. Specifically, EPA believes that the project will exceed water quality standards because of discharges during the life of the mining operation and on a long-term basis, including the post-closure period. These water quality impacts are largely related to water that contacts acid-generating waste rock and mine faces and to wastewater escaping the tailings basin through seeps and in groundwater. EPA also finds the wetlands mitigation plan environmentally unacceptable because it does not provide mitigation for all impacts to wetlands, particularly for indirect impacts. EPA has assigned the Inadequate (3) rating to the DEIS because EPA believes that the analyses of the hydrogeological profiles at both the mine and processing sites are inadequate to determine the full extent of impacts or to justify mitigation options. Consequently, we believe that the DEIS likely underestimates water quality impacts and that the project is likely to have additional unmitigated long-term discharges. EPA has identified information gaps relating to groundwater impacts, groundwater-surface water interaction, tailings basin stability and containment, and groundwater discharges to surface water. EPA believes the DEIS should evaluate alternatives to avoid mine pit overflow and explore additional mitigation for discharges and waste rock management, some of which are identified briefly in the document. Furthermore, EPA does not agree with the compensation described for wetlands impacts and proposes alternative mitigation ratios. The DEIS did not provide information on financial assurance, which EPA believes critical to the decision-making process when long-term impacts and mitigation are involved. We have enclosed detailed comments outlining our issues more completely and offer recommendations as a starting point for discussion. Our main issues are summarized below.	ALT8,PRO3,PD1,PD2,PD3,
19732	GLIFWC staff reiterate that based on the existing available contaminant modeling, that seepage capture would be needed for hundreds or thousands of years to avoid water quality and quantity impacts to wetlands.	WR3I,WE2
<b>Sender Last Name:</b> Wegler		<b>Submission ID:</b> 352

*Alphabetical by sender's first name*

**Comment ID    Comment Text** **Theme Codes**

390 I am writing today in support of Polymet Mining's NorthMet project. Our firm, KrausAnderson @ Construction Company, is over a hundred years old and is one of the most respected general contracting/construction management organizations in Minnesota. As a business development person and someone who is concerned about the environment, I took a serious look at the draft EIS. My evaluation indicates that it is far better to mine and process these minerals, that are so strategically essential to the American economy, right here in Minnesota with sound environmental practices, than rely on foreign sources that often operate free of oversight and regulation. We at Kraus-Anderson are extremely proud of our safety record in an inherently dangerous industry. I feel that worker safety at the NorthMet project can also be assured operating in Minnesota, a state with strong worker safety regulations and an exemplary worker safety record. Finally, the NorthMet project is exactly the kind of natural resource based manufacturing that is the foundation for a host of other industries that utilize these metals in their own products. This is the kind of economic stimulus that Minnesota and the United States needs right now. This project will provide many good paying jobs, with benefits, and tax revenue that will keep our State and local governments providing the basic services and education for our children. I see no reason to further delay the permitting necessary to proceed with the NorthMet project. Living in Northeastern Minnesota I know we need this project now and for our children's future.

EOO

**Sender Last Name:**    Weithum

**Submission ID:** 1097

1201 The City of Biwabik Mayor and Council would like to express our support for the Polymet Mining project. PolyMet has the potential to create hundreds of jobs in non-ferrous mining, while utilizing an area previously used for taconite production. We acknowledge that PolyMet has spent millions of dollars and countless hours on environmental study and has gone to great lengths to minimize any impact on the local environment. The copper, nickel, platinum, gold and cobalt that will be extracted from the land vacated by LTV Steel Mining are necessary components in thousands of items used everyday. As evidenced by the large turnout at the public meeting held on December 9th at Mesabi East High School, we are not alone in supporting this much needed project.

EOO

**Sender Last Name:**    Welander

**Submission ID:** 189

181 My understanding is there are currently no nickel mines in North America. This being the case, nickel is most certainly a strategic metal to the US government; an absolute necessity in case of a military or other related emergency. The environmental standard should be comparison of impacts of this project to other existing mining and refining projects; not the best attainable or least objectionable environmental impact because the cost of minimizing environmental impacts is prohibitive and contrary to any perception of equity; a cornerstone of the US system of government.

EOO

182 This environmental review has dragged on way to long without any other direct comparative measurements to other mining and refining projects; which would have ended this EIS review long ago. I urge immediate acceptance of the environmental impact statement for this project noting the minimizing environmental impact goals are impractical and unlawful. There is an above average chance the US NSA may intervene in any event to stop this obstructionist activity of this critical supply metal to the US economy. If the NSA does intervene, there is also the chance they will hold those personally responsible for the obstructionist activities of this project and its EIS.

EOO

**Sender Last Name:**    Welch

**Submission ID:** 154

145 Okay. I live in Hoyt Lakes, Minnesota. I'm very much in favor of the PolyMet Project. We have a lot to lose up there, so I've researched their project and I think it is very environmentally safe for us. Our water supply comes from Colby Lake which is fed by the Partridge River which runs next to the mine. And if I was concerned at all, I would be against the project. I also own land on the Partridge River and I'm still totally in favor of the mine. I guess that's it.

EOO

*Alphabetical by sender's first name*

**Comment ID    Comment Text**

**Theme Codes**

**Sender Last Name:**    Welna

**Submission ID:** 3569

3834 I support the PolyMet Mining’s NorthMet Project. I feel it will have a positive economic impact for Minnesota and beyond. It will create much needed jobs both directly and indirectly. I feel all necessary environmental precautions will be taken with this project. Further, I feel it is important to mine these materials in a location that has strict environmental standards, such as Minnesota, rather than importing these materials in from overseas where environmental standards are lacking and a large amount of natural resources would be consumed simply in their transportation.

EOO

**Sender Last Name:**    Welsh

**Submission ID:** 37

1 X. The Draft EIS Fails to Include Sufficient Information to Satisfy NEPA A primary purpose of NEPA is to “guarantee that the relevant information will be made available to the larger audience that may also play a role in both the decisionmaking process and implementation of that decision.” *Robertson v. Methow Valley Citizens*, 490 U.S. 332, 349 (1989). “[T]he broad dissemination of information mandated by NEPA permits the public and other government agencies to react to the effects of a proposed action at a meaningful time.” *Marsh v. Oregon Natural Resources Council*, 490 U.S. 360, 371 (1989). Agencies must therefore “make information on the environmental consequences available to the public, which may then offer its insight to assist the agency’s decision-maker through the comment process.” *Dubois v. U.S. Dept. of Agriculture*, 102 F.3d 1273, 1285 (1st Cir. 1996). “Because of the importance of NEPA’s procedural and informational aspects, if the agency fails to properly circulate the required issues for review by interested parties, then the EIS is insufficient even if the agency’s actual decision was informed and well-reasoned.” *Id.* at 1287. As set forth above, for a number of issues including wetlands, water quality, cultural resources and financial assurance, the Draft EIS acknowledges that the agencies are still compiling information and that additional analyses have yet to occur, with much of this required analysis apparently deferred until later permitting. This includes, but is not limited to, directly relevant information pertaining to the proposed land exchange between PolyMet and the Forest Service, the results of consultation with the U.S. Fish and Wildlife Service pertaining to impacts to threatened and endangered species, the results of consultation with the affected Tribes and Tribal members concerning impacts to cultural resources, much more precise wetland delineation throughout the project area and beyond, a description and assessment of all required wetland mitigation/compensation, more detailed information pertaining to wild rice that may be affected by the proposal, and information pertaining to financial assurances. As expressed by EPA, “[w]e note instances where there is incomplete information about impacts and mitigation or where impacts were simply not evaluated.” July 31, 2009, EPA Comments, p. 6. EPA further states that the Draft EIS “appears to defer some impact assessments to a future permit stage,” and that therefore the Draft EIS “may not be entirely sufficient to meet federal expectations of impact assessment and disclosure.” *Id.* EPA’s examples of where additional information appears to be needed include mine site overburden, wild rice occurrence, predicted mercury concentrations in the West Pit overflow and whether the discharge meets the Great Lakes Initiative standard for mercury, whether overflow from the West Pit will exceed water quality standards and require treatment, and the discharge of wastewater from the Tailings Basin to the Partridge River either during operation or post-closure. *Id.*, pp. 6-7. Additionally, EPA notes additional issues in need of additional analysis, including storm water management, West Pit overflows, liner cover thickness for waste stockpiles, sulfate seepage, passive wetlands treatment at the West Pit outflow, stockpile amendment, and additional monitoring measures that should be included. *Id.*, p. 7-8. Indeed, releasing a Draft EIS for public review and comment prior to the completion of much of the required environmental analysis plainly violates NEPA. As set forth in the CEQ NEPA regulations: The draft statement must fulfill and satisfy to the fullest extent possible the requirements established for final statements in section 102(2)(C) of the Act. If a draft statement is so inadequate as to preclude meaningful analysis, the agency shall prepare and circulate a revised draft of the appropriate portion. 40 C.F.R. § 1502.9(a). Similarly, the CEQ NEPA regulations fur

PRO2,PRO3

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
<b>Sender Last Name:</b> Wen		<b>Submission ID:</b> 3099
3484	I have read the Polymet mining study. After reading it, I have these comments to make about it. If there seems to be no other options available for this resource, than it seems it must be done. However, if it must be mined out of this particular area, concern for the generations of local business people, and the thousands of recreationalists, who frequent this area, must be taken into equal consideration. There are few areas that can offer the miles of almost untouched natural areas, that this place can offer. It would be a tragedy if it were jeopardized just for some minerals. However, if all the proper considerations are accounted for, and the mining is done in an almost, unnoticed, and non-damaging way. And it is determined to be that crucial for the advancement of mankind, than so be it.	EOO,G1,G11
<b>Sender Last Name:</b> West		<b>Submission ID:</b> 1141
505	The mining companies must put up and assure cleanup costs before mining.	PD4
1251	Where is an example of a nonpolluting mine?	RFI
1577	Dear Mr. Arkley, I fervently hope that the proposed open pit sulfide mining project can be prevented. Experience in other locations in the U.S. proves that this type of mining has short-term financial gains for the few, and long-term ecological loss for all. Please work to protect the fragile waters of Lake Superior, the BWCAW, and the entire Arrowhead region. Sincerely, Arlene West	EOO,G2A,G7B
<b>Sender Last Name:</b> Westcott		<b>Submission ID:</b> 2143
2540	The PolyMet DEIS describes significant environmental issues associated with this proposed mine. These issues should be resolved before this mine is approved by the Minnesota Department of Natural Resources and the U.S. Army Corps of Engineers. Sulfide mining is not something that should happen anywhere that it might impact any of the great lakes - especially Lake Superior. This is a critical resource that is of great importance not only to Minnesota, but to all states surrounds the great lakes. I may be living in Michigan, but this impacts all of us.	G7
<b>Sender Last Name:</b> Westfall		<b>Submission ID:</b> 1175
1290	The proposed PolyMet NorthMet project threatens Minnesota's water quality and wildlife habitat. We should not allow this type of mining in Minnesota. This project would not provide real long-term prosperity to Minnesotans and will most likely result in devastating pollution. We need sustainable economic proposals for Northern Minnesota – the NorthMet project is not sustainable. This proposed project is already threatening the tourism industry in the area of the proposed mining.	EOO,G2C,G7B,G11
<b>Sender Last Name:</b> Westholm		<b>Submission ID:</b> 3201
3130	The St. Louis river is one of the most important tributaries to Lake Superior, but for years has suffered from extensive industrial pollution. Fortunately, most of this degradation has been localized to areas downstream of Cloquet. If the Polymet mine fails to protect the Partridge River from acid-runoff, the St. Louis will become degraded from the start, endangering the entire river ecosystem.	EOO,WR3D
<b>Sender Last Name:</b> Wheeler		<b>Submission ID:</b> 2965

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
3331	I have serious reservations about the safety of this project and its potential impacts on Minnesota's natural resources. I believe the gravity of the environmental issues inherent in this project should require the permitting agencies to simply deny all permits. The mission of each of those agencies is to protect the health of the environment and the public's assets and resources. I believe that permitting this project would be contrary to their missions. Taxpayer-paid cleanups of similar projects have been required over the last several decades all over the country. There is no reason to continue this folly, and especially at a time where our country has just seen enormous public debts pile up due to the poor stewardship of resources, for only the personal and private gain of a few. It is time to change this trend in history. It is time to simply stop projects such as this one, which have such an enormous potential to pollute our waters and which have so frequently left a legacy of environmental degradation! I agree that there are serious and significant deficiencies in the DEIS, which have been explained in some detail by others, including the comments from groups including Friends of the Boundary Waters Wilderness and others. If this project is eventually permitted, even against the wishes of so many people who oppose this project, then I believe, at a minimum, the issues they have raised should first be resolved before this mine is approved by the Minnesota Department of Natural Resources and the U.S. Army Corps of Engineers.	EOO,G2,G4A,G7,G8
<b>Sender Last Name:</b> Wheelock		<b>Submission ID:</b> 2146
2545	Please accept these comments on the PolyMet Mining Corp. NorthMet mining project Draft Environmental Impact Statement. After learning about this project, I have serious concerns about the impacts on Minnesota's natural resources, especially in the areas of water quality, affects on the sanctity of the BWCA and surrounding areas, the toll wildlife and fish will pay, and the pollution and general disruption of the natural cycle when a mine is built and operated. The PolyMet DEIS describes significant environmental issues associated with this proposed mine. These issues should be resolved before this mine is approved by the Minnesota Department of Natural Resources and the U.S. Army Corps of Engineers. Please, let's think long-term here and make decisions for the benefit of all who live in and love Minnesota and her great wild and natural spaces. Creating a mind to obtain "limited" minerals and create some jobs is a short-term view. We owe future generations more than a short-term view.	G2,G7
<b>Sender Last Name:</b> White		<b>Submission ID:</b> 3154
34	If the BWCAW is preserved you may expect me and people like me to return year after year spending our dollars in your state. If the BWCAW is compromised by an ill-advised mining operation the tourism income will decrease. By contrast, the proposed mining operation will bring jobs and revenue for a only relatively short time - it is a finite resource.	SE4
709	I am concerned that the time period allotted for review of the PolyMet environmental impact statement is insufficient. Moreover, there need to be more open public meetings to provide adequate input and comment before this important decision is made. The public has neither budget nor lawyers to speak for it. The public voice will not be heard unless the Minnesota DNR and other regulatory agencies "go the extra mile" to ensure that more than enough time and opportunity is allowed for comment and discourse. I have spent several thousand dollars annually for a number of years on my visits to the BWCAW.	PRO6
<b>Sender Last Name:</b> Whiteside		<b>Submission ID:</b> 1079



*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
1183	I'm writing in support of the PolyMet project in Hoyt Lakes. I am a local business owner who lives and works in northeastern Minnesota. I went to school and grew up living, hunting and fishing in what is now referred to as the "Boundary Waters" (to me it was simply home). Polymet is not in the "Boundary Waters" watershed. To be a true environmentalist one must consider that the health and welfare of people, and their environment, is directly linked to the successful utilization and stewardship of resources. I believe many so called "environmental groups" ignore the facts, falsify data, and resort to scare tactics to undermine our use of resources. It seems they would prefer that decisions be made based on opinion and emotion rather than the facts. We need to provide our own metals and materials to be able to survive economically, politically and socially. The POLYMET project meets our state and federal governments' stringent comprehensive environmental review and permitting process, and should be permitted. PolyMet has invested four years and more than \$20 million so far to comply with the EIS process. The people at PolyMet are mostly native Minnesotans, they are experienced and knowledgeable about mining in Minnesota, they value our life on what we fondly call "The Range", our home, and I am proud to call them my good neighbors and friends. The true unemployment rate for my area in Hibbing has been over 20% this year, and what many people see as unreasonable delays in permitting a mine on mine lands is a injury we can not afford. The facts speak for themselves, no more delays.	EOO
<b>Sender Last Name:</b> Whitmore		<b>Submission ID:</b> 229
235	Would this mining project have an impact on Birch Lake? With regard to water quality, mercury levels in fish, and noise levels? Would they mine 24/7?	G2
3533	Please do not allow Polymet to mine...the damage that would be done far outweighs any financial benefit. I spend my spare time paddling all the rivers up north in Minnesota and cannot fathom the damage that would be done. History has shown that tax payers usually end up cleaning up after these vultures. I count on you the DNR to be the defense against people like Polymet. Thanks for being there. Nora	EOO,G2,G4A
<b>Sender Last Name:</b> Wick		<b>Submission ID:</b> 1589
1971	The PolyMet DEIS describes significant environmental issues associated with this proposed mine. These issues should be resolved before this mine is approved by the Minnesota Department of Natural Resources and the U.S. Army Corps of Engineers. Please protect our Minnesota's precious resources.	G10
<b>Sender Last Name:</b> Wielinski		<b>Submission ID:</b> 1074
522	I want to express my deep concern over the proposed allowance of sulfide mining by Potymet. Suffide mining has a very poor track record when it comes to environmental impact, and permitting this type of operation this close to the Boundary Waters and to Lake Superior would , be a very bad thing. I am against it.	WR3B,WR3D
<b>Sender Last Name:</b> Wigley		<b>Submission ID:</b> 3207
3542	To whom it may concern, This project is needed if this country is to move to a greener future. The metals are absolutely necessary for green technology which is absolutely necessary for the well-being of future generations. Please give this company a green light (no pun intended). Thank you.	EOO,G1
<b>Sender Last Name:</b> Wikman		<b>Submission ID:</b> 1332

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
1553	I have very fond memories of spending some time during young adulthood in the BWCA of northern Minnesota. I would like my children and grandchildren to be able to enjoy those same waters in their future. I am writing today about the proposed sulfide mining project by PolyMet in the Superior National Forest. I am concerned about the impact that such a mine would have on northern Minnesota. We have all too often seen the damage years later of the mining industry and then we as citizens are burdened with the cost of cleaning up the pollution that is caused. And I question whether the damage can ever be truly cleaned up well enough to restore such a beautiful area. I understand that the Indian tribes in this area are also helping to provide helpful information for you, and they should be respected, and their information taken into serious consideration. Please take the time to scrutinize this project and if PolyMet can not insure that there will be absolutely no impact on this area, then please do not allow it to move forward.	G4A,G11
<b>Sender Last Name:</b> Wild		<b>Submission ID:</b> 3498
3692	permanent long term damage to Minnesota's water resources and to the local environment, an existing mine site. I would not believe any assurances from a company that stands to gain financially by starting this mining. Suppose they are wrong and gosh, we didn't think of that, or too bad, we were wrong. What protects Minnesota? All we have is our relatively clean environment and fine outdoor recreation. The few jobs that would be created do not offset the damage that will occur. The only way I would approve this mine is if the principals and the DNR staff would personally guarantee to protect Minnesota from harm and post a bond to do so - say \$1,000,000,000. If you would not do that, why would you expect anyone else, the citizens of Minneaota, to shoulder the risk?	PD4
<b>Sender Last Name:</b> Wilferling		<b>Submission ID:</b> 2338
2804	Please accept these comments on the PolyMet Mining Corp. NorthMet mining project Draft Environmental Impact Statement. As someone who grew up close to the BWCA, I have serious concerns about the safety of this project and its potential impacts on Minnesota's natural resources.	G2
<b>Sender Last Name:</b> Williams		<b>Submission ID:</b> 183
175	We wish to comment on PolyMet's NorthMet project. As people who live and play in Northeastern Minnesota and have for a major part of our childhood and adult life, we understand the need to balance use of resources like minerals and preservation of resources such as water and air. We feel this EIS lays the proper groundwork for developing environmentally and economically a sustainable project and we wholeheartedly support it. The PolyMet project has been designed to minimize environmental impacts; reusing a brown field site, reusing existing infrastructure, minimizing disturbance of wetlands and utilizing multiple safeguards to protect the environment. Enough is enough. Let's get this project permitted and get people to work and help our part of the state do our part to make our economy reach the goals for being greener and less dependent on foreign energy and foreign metals.	EOO,G1
1235	Wisconsin has a moratorium on sulfide mining. I hope Minnesota will do the same.	G12
3195	Water is a finite resource period. There is no toleration of any pollution in any of Minnesota's fresh water resources. These mines must have thorough reclamation and site clean up plans with rigorous follow-up enforcement. Our lives, our future -children, grandchildren, plants, fish and animals depend on this. All of these costs must be borne by the mining corporation and it's owners, shareholders, investors, and financial interests.	G4A,G7
<b>Sender Last Name:</b> Wilson		<b>Submission ID:</b> 2162
2567	I am writing to you as a citizen of Minnesota to support the PolyMet sulfide mining project.	EOO

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
<b>Sender Last Name:</b> Winson		<b>Submission ID:</b> 201
199	I have reviewed draft EIS summary and selected portions of the full draft EIS documentation. I appreciate the opportunity to express my support for an adequacy decision on the draft environmental impact statement for PolyMet Mining Company. It is my opinion that the statement provides a very comprehensive review of the project and all of its potential environmental and socioeconomic impacts. It documents what PolyMet intends to do to ensure that it can mine its copper-nickel-precious metal ore and process it without harming the environment. In particular, I am impressed with the waste rock management plans for the project. The segregation of waste rock based on its potential to generate acid runoff and engineering a set of foundations, liners, drainage collection systems and treatment options based on the rock's acid-generating potential appears to be a prudent method of mitigating the effects of metallic and acid leaching to me. Covers installed after mining ceases also helps ensure that a potential problem material is managed appropriately. PolyMet has offered a proposal that meets Minnesota's extremely tough environmental standards. And while it is meeting them, the project will be creating hundreds of jobs and hundreds of millions of dollars in economic impact – both things that are badly needed in our region. A quick adequacy determination will allow the timely development, review and issuance of permits and facilitate moving this critical project to the point at which permanent jobs will be created.	EOO,G5
<b>Sender Last Name:</b> Wirth		<b>Submission ID:</b> 2679
3162	The Boundary waters are my favorite place on earth, and I'm sure I'm not alone. I've followed the issue closely, and it is apparent to me that the economic conditions in our state are a major factor in the decision-making process to this point. There are still plenty of unaddressed concerns, and I fear we are sacrificing one of nature's most beautiful places for money. At the very least, allow more time for research and discussion.	G2,G10
<b>Sender Last Name:</b> Wkvrdbnobe		<b>Submission ID:</b> 1670
2125	WGOyPr <a href="http://maerwveqiqzg.com/">maerwveqiqzg</a>, [url=http://bopwoypwvwd.com/]bopwoypwvwd[/url], [link=http://jdeqaleqwxc.com/]jdeqaleqwxc[/link], http://ytcjdusrppkb.com/	G15
<b>Sender Last Name:</b> Woida.pdf		<b>Submission ID:</b> 2606
3145	Please accept these comments on the PolyMet Mining Corp. NorthMet mining project Draft Environmental Impact Statement. I have grave concerns about this project's potential impacts on Minnesota's natural resources and public health. To Whom It May Concern: Please accept these comments on the PolyMet Mining Corp. NorthMet mining project Draft Environmental Impact Statement. I have serious concerns about the project and the potential impact on the natural resources of Minnesota as well as public health. The following need to be given the utmost consideration: Water quality, loss of wetlands, wildlife, and what happens when the mine closes. These issues need to be addressed in behalf of future generations. The PolyMet DEIS describes serious environmental issues associated with their proposed operation. These should be addressed and resolved before this mine is approved by the U.S. Army Corps of Engineers and the Minnesota Department of Natural Resources.	G2
<b>Sender Last Name:</b> Wolff		<b>Submission ID:</b> 307

*Alphabetical by sender's first name*

<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
321	<p>I am writing this letter in support of the NorthMet (Polymet Mining) Project to be built at the old LTV mining site in Hoyt Lakes MN. As Mayor of Hibbing Minnesota, I understand and agree with the need to preserve and protect our environment and the many natural resources we have here in Northeastern Minnesota. However, it is also vitally important that we build and maintain an economy that can support and sustain the area as a viable economic region. It has been our goal from the day I became Mayor to diversify our economy to help cushion the natural ups and downs that occur in the iron ore mining industry and the markets for steel in the global economy. NorthMet will mine and produce several minerals not currently mined anywhere in the continental United States. Processing these minerals here also reduces the need to mine and ship them from somewhere else minimizing energy usage. This is the type of diversification we have been encouraging all along. Presently, Hibbing has the highest unemployment rate in the state. Polymet has projected 400 jobs and the spin off jobs they create will provide an important and needed economic boost to all of Northeastern Minnesota. Without jobs this area will lose population and the ability to sustain its future. Millions of dollars in tax revenues generated will be used to support local governmental and educational units. I have known the people involved with the project for years. They are local folks committed to making Northeastern Minnesota economically stronger. They live here. Their commitment is not only to the economic health of the region, but also to an environmentally safe future for an area where their families live and work. We appreciate the work that the MPCA does. The permitting process is a complete and thorough one I wish was copied by all companies throughout the world. I truly believe it is possible to strike the appropriate balance between the environment and the economy of a region. I believe that the review process has been thorough and addresses potential environmental issues and also the ways to mitigate them. I believe that Polymet will use the new technologies available to mitigate potential environmental impacts. Many of these technologies were not available previously. I have people in my own family that are unemployed. The hope of future jobs and industry is the only thing sustaining them. Polymet will provide these jobs which will be the cornerstone for a strong economic future for this region. Thank you for the opportunity to comment. The future of Northeastern Minnesota is tied directly to projects such as Polymet.</p>	EOO
2600	<p>MR. WOLFF: Hi. My name is Rick Wolff, and I am from Hibbing, Minnesota, and I am here tonight to talk or comment in support of the PolyMet project. I live and work in Northeastern Minnesota, and so I am very familiar with not just PolyMet, but a number of the large mining companies in Northern Minnesota. There is typically a commitment on their part to protect the environment, and I think that especially in PolyMet's case because it is a new type of mining that it's being experimented -- not experimented, but developed in the mines in Northern Minnesota that they have had to be extra careful in developing the environmental aspects of their project, and I think they have done a good job doing that. I think that essentially the fact of the economic viability of the whole region in the State has to be balanced with the environmental protection that needs to happen in a situation like this, and I think that realistically that can happen. I think that both the environment and PolyMet has indicated that the new technology they are offering to protect the environment is much more advanced than what was in place 10, 15, 20 years ago when these kind of projects were coming forward in different locations around the country. So I think that this new technology offers the environmental protection that is needed, and I think that in addition to that that creates an economic engine for Blaine Steno Kirby Kennedy A the region so that the jobs that Minnesota needs, not just Northeastern Minnesota, but the whole State of Minnesota needs are created by a project like this. Taking that one step further, obviously part of the problems that we face as a State is our revenue stream that we are deriving from our tax base in a project like this will pay million of dollars of taxes to the State of Minnesota on an annual basis, creating, you know, another revenue stream that can be used to help with the bunch of problems that they do have. So I think that kind of summing it all up is that I think it is very possible because I went through a number of these different hearings both with the SR Steel project, and the MPCA and their permit for SR Steel that there can be a common ground reached between both the developer of the project, PolyMet, and those folks that need to protect the environment. I think that realistically that can be established here. There has been a willingness and a flexibility on the part of PolyMet to do those things necessary that are brought forward that are felt to be needed to protect the environment. So I hope that people will continue through the process, work it through the MPCA permitting process, and we do get the permit, and this kind of a project is allowed to actually develop and become an entity in Minnesota and become a force not only in Northeastern Minnesota but a force in Minnesota period. So thank you.</p>	EOO

*Alphabetical by sender's first name*

**Comment ID    Comment Text** **Theme Codes**

**Sender Last Name:**    Woolson **Submission ID:** 1535

1869 I'm not a MN resident. Though I use BWCA annually and hate to see anything bad happen to it. Please accept these comments on the PolyMet Mining Corp. NorthMet mining project Draft Environmental Impact Statement. I have serious concerns about the safety of this project and its potential impacts on Minnesota's natural resources. EOO,G11

**Sender Last Name:**    Wright **Submission ID:** 2502

3043 I was a life time MN resident until my job brought me to NC in 2002. I am very concerned about the PolyNet Mining Corp. Our family owned a cabin in northern MN for years. My sister currently has property in Ely. We can not afford to make decisions such as this...the stakes are just too high with unproven technology. Please accept these comments on the PolyMet Mining Corp. NorthMet mining project Draft Environmental Impact Statement. I have serious concerns about the safety of this project and its potential impacts on Minnesota's natural resources. EOO

3170 Please listen to these comments on this mining project. The boundary waters is one of the most beautiful and one of the only untouched places around Minnesota. Please don't disrupt the the environment, its inhabitants and the recreational industry just for a short term economic profit. These changes are for life, unlike the profit the company may receive. All I personally ask is you take in mind the worth of such a pristine place when weighing your decision. EOO,G1,G2

**Sender Last Name:**    Wulling **Submission ID:** 3510

3697 Assurances of environmental protection into the long-term future are not adequate. Provide evidence that the techniques for removing heavy metals and preventing acidic water are adequate for protection of the wetlands environment not only through the active period of the mine but long after that. Are these established techniques or is experience with them limited? WR3I,WE3,PD3,PD4

**Sender Last Name:**    Wyckoff **Submission ID:** 1554

1905 We've already experienced the noise pollution from test drilling at all hours. We've felt the ground shake and foundations tremble from explosive devices. Now we have roads cutting through previously roadless areas, and more than one of them cuts straight through a fragile bog. What environmental impact study can say for sure what short or longterm effect this development will have on wildlife, especially threatened species? Please accept these comments on the PolyMet Mining Corp. NorthMet mining project Draft Environmental Impact Statement. I have serious concerns about the safety of this project and its potential impacts on Minnesota's natural resources. G8A

**Sender Last Name:**    Yeley **Submission ID:** 17

16 My name is Tony Yeley. I live in Mountain Iron, Minnesota. I just want to speak in support of PolyMet. I'm employed by Mesabi Nugget, which is also a new venture located about two miles from the PolyMet site. I know the hoops that we had to jump through and the standards we had to meet as far as air and water emissions, the constant monitoring as far as even things like dust collectors have to be -- we have to notify the State if they're down for more than one hour. I'm confident that PolyMet will meet the same standards and I just want to voice my support for them. I'm confident everything will be done in the right manner. I also know -- I assume, anyway, that from our environmental engineer's perspective, she will not let anything slide because the penalties that are involved with her personally, and I can't see PolyMet's environmental engineers allowing anything to slide under the table or be done incorrectly or be lied about. Just the -- it's not the right thing to do and the penalties are too severe. So I'm confident it will be handled forthright. That's all. Thank you. EOO

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
<b>Sender Last Name:</b>	Yetter	<b>Submission ID:</b> 3195
736	Once a mining operation begins and does harm to the environment -- it is irreversible. Please: 1. Extend the review of the EIS by at least 45 days. 2. Please hold more public meetings in more places to gather input. The current schedule is too limited. 3. Please allow citizen statements and discussion openly in the public meetings. Thank you	PRO6
<b>Sender Last Name:</b>	ymedcnfn	<b>Submission ID:</b> 2318
2769	ijCOeu <a href="http://qutdmevmsouj.com/">qutdmevmsouj</a>, [url=http://jfxoblilzbtb.com/]jfxoblilzbtb[/url], [link=http://bbwtbicyfnr.com/]bbwtbicyfnr[/link], http://ztnlamrunggz.com/	G15
<b>Sender Last Name:</b>	Yoder	<b>Submission ID:</b> 1364
1595	We are responding to the Environmental Impact Statement for the NorthMet Project both as landowners who live nine miles north of Babbitt on CR 120 and as citizens who care deeply about the land and the future of our community. The EIS is quite frank in admitting, for example, that "relatively high sulfate concentrations in seepage from the Tailings Basin would be released to wetlands north of the Tailings Basin and lakes downstream on the Embarrass River ..." and that "it is clear that the Proposed Action would exceed groundwater criteria at the Mine Site for at least several parameters" that include wetlands, vegetation, wildlife, fish, air quality, etc., not to mention pure water. This is unacceptable! According to the EPA, copper-nickel mining often results in significant pollution problems. In fact, according to the Minnesota Center for Environmental Advocacy, mining of sulfide-metal ore has never been accomplished without causing eventual acid metal pollution of ground and surface waters. Even though the EIS offers several plans for "mitigating" the impacts on the environment, we don't believe, given this history, that these will be sufficient or that the public will not have to pay in one way or another. We believe that there should be a moratorium on mining of sulfide-metal ore until it can be proved that it can be done without endangering our environment and therefore the future of our community.	G7A,G10,G12
<b>Sender Last Name:</b>	Yuzna	<b>Submission ID:</b> 3540
3802	Minnesota needs the tax money, so turn the company loose so that we can become a world leader in green mining technology. I would suggest linking the university of minnesota with polymet to form as research project in green mining technologies using the iron range as a test bed.	EOO
<b>Sender Last Name:</b>	Zakruistek	<b>Submission ID:</b> 1096
1200	I support PolyMet mining project. Northern Minnesota needs more jobs unless you want to pay welfare!	EOO
<b>Sender Last Name:</b>	Zelinskas	<b>Submission ID:</b> 3695
19733	EPA believes the information about the project's estimation of acid generation needs to be updated. The project's proposed operation and post-closure management plan for acid-generating waste rock and wastewater is inadequate and needs to be improved. The proposed approaches to manage acid generation are untested or unproven at the proposed scale. EPA believes the tailings basin will contribute to water quality impacts by leaking contaminants into groundwater that may be hydraulically connected to surface water. EPA believes the Environmental Impact Statement (EIS) needs to include adequate hydrogeological and hydrological analyses for the tailings basin and surrounding area and for the mine site. Tailings basin and mine site water management needs to be based on adequate hydrogeological/hydrological information.	WR1E,PD2,PD3,PD4,PD8

*Alphabetical by sender's first name*

<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
19734	EPA finds this project may have substantial and unacceptable adverse impacts on aquatic resources of national importance (ARNI). EPA believes the coniferous and open bogs, comprising a large percentage of the approximately 33,880 total wetland acres, within the Partridge River Watershed to be an ARNI due to the values they provide in terms of unique habitat, biodiversity, downstream water quality, and flood control specifically, to the Lake Superior Watershed and the Great Lakes Basin.	WE1
19735	With impacts to over 1,000 acres of wetlands, the DEIS provides incomplete and inadequate compensation for the loss of wetlands and their function. Indirect impacts to wetlands are not completely identified or compensated for in the mitigation plan. EPA also believes that some of the mitigation offered for direct impacts is inadequate, given that the type and function of wetlands impacted is difficult to replace. EPA's preferred mitigation ratios for the project's impacts are described in the attached detailed comments. Insofar as the DEIS for this project is the chief environmental document supporting the issuance of the USACE CWA Section 404 permit, a revised or supplemental DEIS should identify and describe mitigation for all impacts. It should also include wetland monitoring plans and adaptive management plans, especially related to indirect impacts to mine site wetlands. The Section 404(b)(1) Guidelines, 40 CFR Section 230.10(b), prohibit discharges that will result in a violation of the water quality standards. If water quality standards cannot be met in conjunction with this project as described within the DEIS, U.S. EPA would not support the issuance of a permit for this project. If our concerns are not addressed prior to the issuance of the Section 404 permit, EPA may elevate pursuant to Part IV, paragraph 3(a) and 3(b) of the August 1992 CWA Section 404(q) of the Memorandum of Agreement between EPA and the Department of Army.	WE2,WE3,WE4
19736	We have also identified discharges that may require National Pollutant Discharge Elimination System (NPDES) permit coverage in addition to the permit requirements listed in Table 1.1-1 (Government Permit and Approvals).	WR3I
19736	Long-term post-closure treatment will be necessary to protect water quality; therefore, EPA believes financial assurance information should have been included in the DEIS. The amount and viability of financial assurance are critical factors in determining the effectiveness of these activities, and EPA believes it is necessary to analyze and disclose financial assurance factors in the DEIS to determine the significance of the impacts and inform decisions about the project. Financial assurance information includes a description of State and/or federal agency requirements, closure costs, estimated bond amounts needed for each closure and reclamation activity, and how the bonds should be modified should additional temporary, long-term, or perpetual treatment and/or remediation needs be determined during operations.	PD2
19736	EPA believes that because of deficiencies in the DEIS, additional information, alternatives, and mitigation measures should be evaluated and made available for public comment in a revised or supplemental DEIS. EPA will continue to work with USACE and the cooperating agencies to resolve the issues we have identified. If we are unable to resolve our concerns, this matter may be a candidate for referral to the Council on Environmental Quality (CEQ) for resolution. We appreciate the opportunity to review the DEIS. Please feel free to contact me at 312-353-2000 or Kenneth Westlake of my staff at 312-886-2910 should you desire a meeting to discuss these comments.	PRO3
19736	Synopsis: The DEIS describes a proposed action that will exceed or have the potential to exceed surface water quality standards in the Partridge River, Embarrass River and downstream in Colby Lake (a drinking water source) and the St. Louis River. EPA also concludes that the DEIS underestimates the potential for waste rock and exposed pit faces to generate acid rock drainage (ARD) and the potential for this drainage to enter the environment. EPA believes that there are water quality impacts that have been unevaluated because of gaps in hydrogeological and hydrological site assessments. Since hydrogeology at the mine site is not well described, EPA is concerned that fate and destination of long-term drainage is unknown. We are concerned that mine operation and closure decisions will be made based on inadequate information. Neither the Tailings Basin Alternative nor the Mine Site Alternative would completely prevent or mitigate impacts to water quality.	WR3A
19738	Finally, due to the projected need for long-term water treatment, EPA does not agree with DEIS statements that the Proposed Action could achieve maintenance-free closure.	WR3I

**Sender Last Name:** Zentner

**Submission ID:** 3624

*Alphabetical by sender's first name*

<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
776	LAND SALE Legislation was introduced in the U.S. Senate, and House that would have authorized the sale of these lands had the legislations passed. The transactions would have been apart from the Project EIS. The issue of lands to be bought, sold, or, transferred; belong in the EIS, not outside as a separate diversion.	PRO4
1085	WETLANDS: The project proposes to destroy a significant amount of wetlands. Over the course of the wetlands discussions, there have been a number of conversations, and meetings about location of wetland replacements, amounts, and types. As these discussions have evolved, it is becoming dear that the course outlined by the Wetland Conservation Act in Minnesota, especially the avoidance, mitigation, and replacement within the watershed; be followed. At one time it did appear there might be merit in using Poly Met as an opportunity to create significant replacement outside of the watershed. If this had merit, it was because it was perceived greater biological productivity would be a likely result; especially targeted toward wildlife in other Minnesota locations. This certainly would not apply for example; to Atkin County. Those discussions did not take into consideration the mercury sequestration capability of our northern peat bogs. This is the wetland type being lost to the project. Understanding that information puts forth the requirement that replacement, be of the same or very similar type of wetland within the watershed in order to minimize the loss of mercury sequestration in an area already known for mercury problems in fish advisories etc. Seeking out the most economical and readily available near by counties for wetlands mitigation may be economically attractive, and, politically available. And, the action could be justified in the WCA; but it is not in the original spirit and intent of the WCA that many of us worked to create. The wetland process should follow avoidance, minimization, and; when necessary replacement of amount, and, function, within the watershed of the existing wetlands impact.	WE2,WE3,WE4
1158	WILDLIFE CORRIDORS: The history of mining in the area of the proposed site has eliminated a significant number of wildlife corridors according to expert opinion. The estimate is; that thirteen such corridors remain in the area. It is also stated that the Project will eliminate two to three of those remaining corridors. There is no discussion of mitigation plans for this negative impact. The area is home to some of our most significant species, including some that are struggling, or, are generally acknowledged as rare. The EIS must indude such a discussion and proposed response.	WI5



*Alphabetical by sender's first name*

<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
3328	MERCURY/ SULFATES : My read of the proposal suggests that mercury additions to the environment could occur sever a ways. First, in the wetlands destruction, we lose the sequestration science concludes is part of the capability of the bog type wetlands. Next we read that reservoir and stream areas may be exposed by draw downs and other manipulations of affected watersheds in the proposed operation of the project. The process of disturbing the land to procure the elements sought for the mining process will expose the mercury in soils; and, the waste remaining after processing presents long term potential exposure for mercury contamination. The EIS does not adequately deal with these additions, or, their prevention, adequately. The potential for mercury levels to impact the lower St. Louis River, and Duluth-Superior Estuary are troubling. The tax dollars invested in resource recovery; have varied from dramatic improvements, to more modest progress. Regardless, the millions invested must not be wasted by upper watershed mining. The economic value of the improvements must not be put at risk! There is a long and well documented history of the impact of sulfate levels on wild rice. Minnesota has worked to restore our original wild rice cultures. These efforts have had several objectives. One is the desire to support enhanced wildlife populations through the availability of this critical food source. And, these restorations aid native cultures as well as non native interest in rice harvesting and use. Several rivers, and or river segments show the degradation of wild rice beds as a result of mining impacts. It appears that this project has the potential to exacerbate this condition. I see no assurance in the EIS that adequately recognizes this problem. Nor do I se e where there is a requirement to identify a reference stream; and, the required actions to maintain the existing quality where natural conditions are desirable for rice, and, the operating requirements to allow TMDL attainment on segments not now meeting required sulfate level. Related to mercury, sulfates, and other pollutants; is the issue of drainage from tailings basins, or other project sources. I've read statements that there is no threat to places like the BWCAW, as potential waste flow is away from the Boundary Water Canoe Area. While these statements ignore the other concerns such as air transport; I am compelled to add that as a lay person, I am well aware that hydrology is a tricky subject indeed. I do not find any comprehensive modeling that attempts to assess for certain the drainage from waste rock storage during or, after mining. Confirmation of potential for flows behaving in a different manner than projected must be a part o f a more serious examination of area hydrology as a part of the EIS .	EOO,WR1E,WR3N
3329	ST. LOUIS RIVER & ESTUARY/ Reference Streams I have fished the St. Louis River, from the Duluth Superior Area upstream to the Eveleth area, for many years. I am well aware that over the years of my life this resource has slowly recovered from the impacts of logging, and, industry. As a result; from the estuary upstream fora significant stretch; until the impacts of taconite mining become more evident (wild rice etc.), the St. Louis River has improved as a recreational resource. This is reflected not only in the wildlife populations; and, in the numbers of recreation users; but it is also evident in the significant residential real estate development on both the WI and, MN side of the estuary. This physical recovery has been financed by the taxpayer. The ability to continue, and, maintain this recovery, is at least in part; predicated on the mitigation of the impacts of Poly Met; and, any projects to follow. To fail to adequately consider the potential impacts through out the watershed is unacceptable. The present EIS does not, in my opinion, satisfy that requirement. Given the water quality issues existing in the St. Louis River, and other area streams that have been impacted by mining, and, potentially impacted by this project; it is essential that a near by high quality stream segment, that is representative of generally understood post glacial plant and animal communities be used as a reference stream in order to objectively construe the treatment needed to protect St. Louis River and other streams; and, to prevent the Poly Met Project from creating a condition that precludes successful TMDL strategies over time.	WR3B
3758	The Minnesota Department of Natural Resources periodically notices bids for mineral prospecting and, knows full well the current relatively high rates of interest reflected in the sale o f lease bids offered. There is enough intellectual knowledge at DNR, along with the information on Poly Met, and present conditions to cause a discussion of the cumulative impacts. In fact a serious discussion of cumulative impacts and their potential for degradation of existing values, and, or preventing current attainment efforts from reaching their goals, is an imperative for the Poly Met EIS.	G9

*Alphabetical by sender's first name*

<b>Comment ID</b>	<b>Comment Text</b>	<b>Theme Codes</b>
3904	<p>I have lived in Duluth, Minnesota since 1955. I have long been active in the area of the proposed sulfide mining activity as an outdoor user with a variety of interest ; and for a very long time (beginning in the 1960's) as an active conservationist. I am also a retired business owner, and understand and support the need for a healthy and prospering economy. My interest' include, serving on the original board of the Western Lake Superior Sanitary District, an authority whose mission could potentially, be impacted by a Poly Met Mine. I have served on the Minnesota Pollution Control Agency, 1974-79 and have experienced very directly participation in applying the rules, and outcomes of PL-92-500 (Clean Water Act). I've served as National President of the Izaak Walton League of America . My experiences have included public lands management issues, watershed restorations, wetlands restorations, wildlife management issues, response to invasive species management challenges; as well as working to secure adequate funding for our natural resource restoration, protection and enhancement. I actively participate in outdoor recreation year round in the area near and adjacent to the proposed sulfide mining activity. I am not writing as a technical expert. However; I have maintained a very high level of citizen participation over more than four decades. As a result; I have experienced a great deal of education and practical experience. These combine to give me a significant historical context for expected outcomes and the likelihood that such a complex endeavor will cause unanticipated consequences; and the ability after permits are secured to effectively deal with unintended, negative results. Post permit mitigation, and, correction, if possible; will be very difficult technically, financially, and; politically. Getting it right now is critical. It is the only alternative. Understanding the truth in the paragraph above is as important as any technical detail about this project. I am going to comment briefly on the following relevant subject areas: 1. Mercury &amp; sulfate concerns 2. cumulative impacts 3. perpetual management 4. financial assurance 5. wetland mitigation including focus on mercury sequestration 6. wildlife corridors 7. potential impacts on St . Louis and other area streams, and, lack of identification of a reference stream in the area 8. land transfer/ sale issues My comments will be relatively brief as my emphasis will be on the importance of these project related issues; not on attempting to present a lot of technical data. Others are far more qualified to comment technically, than I am. I will say however, that given that it is acknowledged that the area of potential impact does not attain State or National goals in a variety of environmental policy areas, (fish consumption, clean water act TMDL attainment standards etc), that the EIS must describe mitigation outcomes that allow achievement of those goals, or at a minimum, not add to the inability of ongoing actions to achieve compliance. Finally I will state that while this proposed mine has support from those who believe the mine will create high paying long term employment of significant importance to Northern Minnesota, the final EIS must make it dear that the Project does not threaten existing resources of State, National and World significance, nor the jobs and economies associated with them.</p>	EOO,G2

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**Comment ID    Comment Text**

**Theme Codes**

3905 PERPETUAL MANAGEMENT/ FINANCIAL ASSURANCES If the Poly Met project goes forward, the conditions prescribing pre and post project environmental management, and; their financial arrangements are perhaps, as critical if not, the most critical environmental protection elements of the Project/ EIS . In order to understand the difficulty Minnesota faces in providing perpetual management of the site during and post mining, and with Poly Met and successor organizations; one must understand our world and business community today. One must look beyond the present proposal. In the last thirty to forty years corporate power and influence among very large global companies has increased by many magnitudes. Our society has encouraged this as a necessary response to required capitalization, and; global competition. The result includes corporations that in some cases are very ready to use their legal and political opportunities to avoid previous commitments. It is dangerous to generalize. But, it is a fact that modern global corporations appear, disappear, use bankruptcy; and, other options to avoid a wide variety of obligations resulting from previous agreements, agreements usually made in good faith at the time. Such a system often places the significant burden that remains, on two targets. First; the tax payer who had been promised jobs and tax income, is financing the obligations created by failure to fulfill previous promise' by someone else. Second, natural resources are harmed, new business' is precluded from using the site; and existing business' are often impacted negatively by the pollution impact. We need only to read the daily news about one aquatic invader after another in our Great Lakes to understand the impact on our quality of life, and our pocketbooks. ATV use is another point of instruction one needs to understand before, relying on the Minnesota regulatory framework as adequate in the matter of ensuring that Poly Met will be under appropriate regulatory protections and functions. A small group of users have been successful in denying the wishes of professional forest and fisheries groups, and the general public. The Legislature after a great deal of public in put, and, debate, passed a very compromised piece of legislation that was almost immediately weakened through an amendment that rewrote the rules "north of highway two". We must understand that our regulatory system will not succeed in correcting a project that may be inadequately described and analyzed in this EIS. Understanding these possibilities, (post project risk) should result in pre permit perpetual care arrangements that are adequate given the magnitude of the potential impact; and such arrangements are agreed to before permit issuance and; and the financial arrangements are delivered worked out before permit issuance as well . The EIS must at a minimum; recognize this critical need, and; set the direction for resolution.

G4A

**Sender Last Name:**    Zientek

**Submission ID:** 3483

3757 I would just like it to be known that I am utterly against any mining company doing sulfide mining in MN until it can be PROVEN safe (and not just on a computer model but in real life). Don't get me wrong, I would love it if some good paying jobs came to this area--I would love to have one myself!--but the short-term gains cannot possibly outweigh the forever to be lost if our beautiful, clean waters are destroyed. I don't choose to live in this area because of the great paying jobs-- my family and I eek out a living here because we want the clean air and the clean water. My well water is the best tasting water I've ever had and clean water is an absolute blessing to this whole area. Polymet Job: \$50,000 (give or take, and for how long?) Clean water: Priceless Please take Wisconsin's good example to heart and put a moratorium on this type of mining until the mining companies can GUARANTEE that no damage will be done. It's impossible to put the genie back in the bottle once degradation has occurred! Please do not be cavalier about this---think how your decision will affect generations to come! Thank you for your time and the opportunity to state my opinion.

EOO,G2B,G7,G12

**Sender Last Name:**    Zimmerman

**Submission ID:** 202

*Alphabetical by sender's first name*

Comment ID	Comment Text	Theme Codes
200	I am writing in support of PolyMet’s NorthMet project. I would like to see the project given the green light to begin. It is clear to me that PolyMet has done everything that they have been asked to do and more to prove the environmental viability of the project. PolyMet has demonstrated that it can adhere to MN’s strict requirements when it comes to protecting the air, water, and land. Once allowed to proceed PolyMet will be a domestic source of these important metals which decreases our dependence on unstable foreign suppliers who may or may not practice sound environmental practices, more than likely they do not. This project will contribute significantly to both the State and to our local economy at a critical time. The plant will support 400 full time employees and most likely 2 to 3 times that amount in local jobs that are their to support the plant. PolyMet will also pay millions of dollars in local and state taxes also at a time that is critical to our government. I work and play in the area and I live just across the bridge in Wisconsin. I am very much looking forward to this project getting underway. I ask that you support the project as well.	EOO,G5
<b>Sender Last Name:</b> Zink.pdf		<b>Submission ID:</b> 2617
3147	I have visited the Boundary Waters area every summer for over a decade and want to plan on it's pristine beauty being available to me and other Minnesotans as well as many other Americans and international visitors. If this proposed mining is allowed, the Boundary Waters as we know it will no longer exist. If our good neighbors to the East have banned this mining until proven safe, then Minnesotan's should exercise our best judgement and do the same! I strongly oppose this proposal.	EOO,G7,G12
<b>Sender Last Name:</b> zkieghty		<b>Submission ID:</b> 3020
3438	TtqMMu <a href="http://sdutxdcgejaq.com/">sdutxdcgejaq</a>, [url=http://syothkxxztkd.com/]syothkxxztkd[/url], [link=http://pcavkcqsyww.com/]pcavkcqsyww[/link], http://phoglwsrnujs.com/	G15