

Tamarack Mining Project EIS Scoping

Talon Nickel (USA) LLC's Response to RGU Comments on Project Proposal

Under Minnesota Rules part 4410.1400, the Responsible Governmental Unit (RGU) is to determine whether the proposer's data or information submittal is complete, and if not, the RGU is to return the submittal to the proposer for completion of the missing data.

The DNR has determined that Talon's June 21, 2023, Tamarack Mining Project proposal is incomplete. The table below includes the DNR's comments associated with its completeness decision, followed by Talon Nickel (USA) LLC's responses as project proposer.

Comment No.	EAW Section	Line No.	Table; Figure; Graphic	DNR Comment 9/19/2023	Requested Action By DNR	Talon Response and Treatment in EAW 10/11/2023
1	3	21		Partial information can be provided at this time for Item 3, RGU. For "Contact person," list: MN Department of Natural Resources. For "Address," list: 500 Lafayette Road. For "City, State, ZIP," list: St. Paul, MN 55155.	Modify text.	Comment is noted. EAW text was modified.
2	5	39	Table 1	Table 1 and Table 2. The project Legal Land Description for T48N, R22W, Section 04 may be incorrect. Recheck location in T48N, R22W, Section 04; is the project actually in the NENE ¼-¼-Section (for PID 05-0-005300) instead of SENE ¼-¼-Section as listed in Table 1?	Confirm listing in Table 1; edit document if necessary.	Legal Description is verified as correct.
3	5	39	Table 1, 2	Confirm if the following ¼-¼-Sections should be listed in Table 1. Specifically: 05-0-003500 in T48N R22W S03 in NESW and also in NESE; 05-0-004600 in T48N R22W S03 in SENW and SESW, and also in SENE and SESW; 61-0-002600 in T48N R22W S10 in NWSE, and also in NWSW; 61-0-033000 in small segments of: T48N R22W S10 in SESW, and also in SESE; T48N R22W S15 in NENW, NWNW, and NWNE, and also in NENE and NWSW; and also in T48N R22W S16 in NESE and NESW though it appears not all of 61-0-033000 is part of the Project.	Confirm listing in Table 1; edit document if necessary.	Table 1 is confirmed to be correct. Some land parcels are part of the Project Area, but also extend beyond the Project Boundary. The Legal Description list (Table 1) only includes Quarter that the Project Area falls within.
4	5	100	Figure 1	Figure 1. The figure would benefit from inclusion of an inset that shows the project site relative to the State of Minnesota, or at least the north-central part of the state.	Edit figure to include inset scaled to regional location of project.	Figure 1 has been updated.
5	5	103	Figure 4	Figure 4. The figure would benefit from addition of a few of the larger, basic facility labels so the reader does not have bounce between other figures to determine where drainage may be impacted.	Edit figure as noted.	Figure 4 has been updated.
6	5	107	Figure 8	Figure 8. Geologically-relevant faults and fracture zones should be identified, probably in a second figure as a side-view cross section.	Edit figure as noted.	See Response to Comment #415.
7	Abbreviations	121		Consider adding units or descriptors measuring noise and vibration to the acronym table.	Address comment; modify text if warranted.	The Project reviewed the noise and vibration sections and did not identify descriptors that should be added to the acronym table. The acronym list contains the acronyms used in the EAW. Name mnemonics that would have been used only a couple of times were not used as acronyms.
8	Abbreviations	121		The list of acronyms needs to add Tribal Historic Preservation Officer (THPO), Minnesota Indian Affairs Commission (MIAC), National Register of Historic Places (NRHP), Traditional Cultural Properties (TCP), National Historic Preservation Act (NHPA), Minnesota Field Archaeology Act (MFAA).	Address comment; modify text if warranted.	All acronyms used in the EAW are included in the list of acronyms.

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9	6a	166		Item 11a notes at Line 1112 "[t]he TIC hosts nickel-copper-cobalt sulfide mineralization with associated platinum, palladium, and gold." Recognizing the EQB's guidance is to limit the Monitor notice to 50 words or less, if platinum, palladium, and gold are anticipated to be extracted as marketed (bi-)products, acknowledging this may be warranted in the Monitor project summary or elsewhere in the document.	Advisory only; future discussion item as part of developing the purpose statement and ensuring an accurate project description. The EQB Monitor notice text should be consistent with the purpose statement.	Comment is noted. Talon will participate in future discussions on this topic.
10	6a	166		RGU notes that including "...for use in electric vehicles and other industries..." in the EQB Monitor notice could be viewed as articulating the project's need (beyond disclosing project purpose). Disclosing project need is typically done for public actions although not prohibited for private actions. Not required for Monitor notice.	Advisory only; future discussion item as part of developing the purpose statement and ensuring an accurate project description. The EQB Monitor notice should be consistent with the purpose statement.	Comment is noted. The Project will participate in future discussions on this topic.
11	6a	178		The document should consistently reference the out-of-state processing facility as being located in North Dakota. The term "location outside of Minnesota" is used at Lines 170 and 220; these should be changed to North Dakota.	Modify text.	Numerous lines in the document have been updated to specify the proposed processing location as being in Mercer County, North Dakota.
12	6b	178		For clarity and to inform future permitting, providing some additional detail regarding agreement types, business structure, roles, and similar would be useful to public understanding.	Modify text; future discussion item if desired.	The text under the "Project Ownership Status" heading has been revised to include additional detail as follows: Talon Nickel (USA) LLC is the majority-owner and has operational control of the Tamarack Mining Project ("Project") through a joint-venture agreement with Kennecott Exploration Company, which is part of the Rio Tinto Group of Companies ("Rio Tinto"). As of September 2023, Talon owns a 51% share of the Project while Rio Tinto owns a 49% share. Talon is currently responsible for funding 100% of project expenditures. Upon completion of certain Project milestones as well as a cash payment of US \$10 million to Rio Tinto, Talon may become the owner of up to 60% of the Project at which time Rio Tinto will be responsible for funding 40% of Project expenses on a pro-rata basis, otherwise its ownership share will be progressively diluted (reduced). At all times, Talon maintains operational control of all project decisions including technical items as well as financial items such as selection of customers for the metal concentrate offtake.

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13	6b	182		The text to this part of Item 6b provides the operational areas in acres, but the way the information is laid out results in confusing mathematics. When discussing Project acreage, one approach would be to: 1. Explain the total project area as being approximately 447.0 acres due to approximately 263.3 acres of surface boundaries, approximately 224.9 acres of underground boundaries, with approximately 41.2 acres of overlap. 2. Describe the approximately 263.3 acres of surface boundaries (which may not add-up with the current descriptions provided; requires checking). 3. Describe the approximately 224.9 acres of underground boundaries.	Consider the proposed approach and apply to the description of project elements and acreages. Otherwise edit document to address potential points of confusion.	To enhance clarity and reduce potential confusion, a summary table has been added to this section to clarify and reconcile the total Project Area relative to the Underground Boundary and the various components within the Surface Boundary. The text of the EAW was also modified. See Response to Comment #22.
14	6b	182		The proposed EAW text identifies the presence of both existing and new/created impervious surface associated with project development. The RGU notes both EAW Item 11 and the Draft Scoping Decision Document would likely require assessment of potential impacts due to project-related impervious surface creation in the EIS.	Advisory only; future discussion item.	Comment is noted.
15	6b	182		DNR has yet to determine the EIS scope regarding non-Minnesota components, including how targeted-mineral concentrates might be addressed. However, full characterization of ore and waste rock will be necessary to support both the EIS analyses and permitting requirements. This could include identifying the average fractions expected for target metals, such as nickel, copper, cobalt, and iron (for example) out of the 800,000 short tons of ore mined out annually.	Advisory only; future discussion item.	Comment is noted. Future discussion item, as necessary, in development of DSDD.
16	6b	182		DNR has yet to determine the EIS scope regarding non-Minnesota components, including potential rail transport. However, assessment of potential rail transport effects within Minnesota could include changes to rail traffic estimates between Aitkin County and the Minnesota border with North Dakota.	Advisory only; future discussion item.	Comment is noted. Future discussion item, as necessary, in development of DSDD.
17	6b	182		DNR has yet to determine the EIS scope regarding non-Minnesota components, including the proposed concentrating facility in North Dakota. However, it is appropriate for Item 6b to acknowledge the actual processing and tailings management site if it is known prior to document release for public review and comment.	Provide a sentence detailing the location of the North Dakota facilities; edit document as required.	The processing and tailings management site will be located outside of Minnesota in Mercer County, North Dakota, in the western half of North Dakota. No processing or tailings management will be done in Minnesota. The section has been updated to reflect this.
18	6b	182		DNR has yet to determine the EIS scope regarding non-Minnesota components, including any required permits or approvals from any jurisdiction in North Dakota. However, it is likely the Draft Scoping Decision Document will include a provision to summarize any permits and approvals required in North Dakota in a format similar to that in EAW Item 9.	Advisory only; future discussion item.	Comment is noted. Future discussion item, as necessary, in development of DSDD.
19	6b	182		The EAW provides an overview of the mine ventilation system at Lines 477-484. It is likely the Draft Scoping Decision Document would require estimates of how much air the ventilation system move, the types of contaminants that may be captured, including method(s) of capture (e.g., filtration). This is partially addressed in EAW Item 17a at Lines 2023-2027.	Advisory only; future discussion item.	Future discussion item, as necessary, in development of DSDD.
20	6b	182		The document provides little discussion of the water treatment plant itself but does identify it plays a key role in water management. Some information is provided at Lines 658-663, including identification of the preferred reverse-osmosis treatment technology. It is likely the Draft Scoping Decision Document would identify the need for a detailed water treatment plan for reference in the EIS assessment of potential impacts to water resources. Specific to the development of the scoping EAW, Item 6b would benefit from developing a paragraph that consolidates the description of the water treatment plant	Consider the proposed approach and apply to Item 6b. Modify text as appropriate.	The Project will address this question, as necessary, in the EIS.

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				components, preferred treatment method, and other relevant information (likely already present but dispersed in the greater text).		
21	6b	182		The project description would benefit from a mining process flowsheet that captures all activities associated with rock movement from underground to the surface. This would not replace the existing graphics (e.g., 9, 10, 11) but would provide a simplified presentation of how mining would occur.	Consider how to depict mining process and add graphic to document.	Graphic 9 displays the steps involved in the mining process occurring underground, while Graphic 12 displays the flows and steps of materials movement throughout the site. Proposer requests clarification and examples regarding what information is requested to be included on this new simplified graphic.
22	6b	182		Currently, the discussion regarding the surface boundary condition is discontinuous, which adds to the confusion. There is a discussion about the approximately 79.1 acres of new development, but no discussion regarding the approximately 3.9 acres of existing development. However, this is only approximately 83.0 acres. What about the remaining approximately 180.3 acres?	Address comment; modify text if warranted.	The document text beginning at this line has been modified as follows to clarify the acreage of new vs existing developed surfaces. A description of the remaining 180.3 acres is provided in this section and has been moved to directly follow this paragraph (instead of being located after Graphic 2) to make the text regarding boundary acreages in this section contiguous. "The total acreage of new plus existing developed surfaces utilized as part of the Project would amount to 83.0 acres. The total additional surfaces developed for the Project would amount to approximately 79.1 acres (77.6 acres developed/impervious surfaces and 1.5 acres industrial stormwater pond) after construction is complete. This encompasses the buildings, stockpiles, parking areas, and various other facilities for production operations including the railway spur to connect to the existing BNSF railway line. Approximately 3.9 acres within the Project Area already consists of developed surfaces (encompassing existing residential and agricultural buildings, parking areas, etc.); these features would be replaced with Project-related developed surfaces such as those mentioned above."
23	6b	187		The text here is partially duplicative of information provided in lines 203-206. To reduce duplication, eliminate the first sentence and add the second sentence to the paragraph at Lines 183-186.	Consider comment; edit text.	Comment is noted.
24	6b	187		It is unclear what "total additional developed surfaces" is referring too? Is this based on the current developed surface status or is it beyond the 224.9 acres listed on line 194?	Respond to question; clarify text as warranted.	Comment is noted. See Responses to Comments 13 and 22.

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25	6b	196	Figure 1, 2; Graphic 1	The surface facilities outlines in Graphic 1 do not appear to be consistent with the "surface boundary" in Figures 1 or 2. Confirm consistency.	Consider comment; edit figure as warranted.	Graphic 1 was modified to align better with Figures 1 and 2. As stated in the EAW "an offset distance of at approximately 200 feet has been applied between the extent of the developed surface and the project boundary (with variability as appropriate to align with public roadways, certainty property boundaries, and other project features)."
26	6b	196	Figure 2; Graphic 1	It is not clear how the outline of the areas represented on Graphic 1 is correspond to the outline on Figure 2. Confirm consistency.	Consider comment; edit figure as warranted.	See Response to Comment #25.
27	6b	196	Graphic 1	Graphic 1 needs a legend to distinguish above-ground and underground components/areas. Also, should reorient the map, with the north at the top of the page as with the other figures	Consider comment; edit figure as warranted.	Graphic updated as requested. The dark blue polygons show the surface projection of the underground mine workings as they relate to the surface facilities.
28	6b	200	Figure 1	The project full area (Black outline in Figure 1) is not mentioned within the document. The processing area is stated as 447 acres, but the full site area is closer to 600 acres (from google earth estimations). This would be valuable information to include.	Consider comment; edit figure as warranted.	The Project outline on Figure 1, labeled "Project Area" is defined in the EAW as "The project area is defined by the surface boundary and the underground boundary areas, as shown on Figure 2, and together comprise 447.0 acres."
29	6b	200	Figure 3; Graphic 2	The identified 'facility elements' within the EIS Scoping Document do not match the names used on Figure 3. For clarity the same names/identifiers should be used throughout the document and match what is used within the Figures. Example: Cemented Backfill Plant vs Backfill Materials Crusher Building?; Enclosed Ore Storage and Railcar Loadout Building = Ore Receiving Building?; Stormwater Wet Sediment Basin = Storm Water Pond?; Glacial Till is not identified on Figure 3 but it is called out in line 233.	Consider comment; edit figure and/or text as warranted.	The Project has standardized terminology across graphics, figures, F37tables, and texts.
30	6b	202		Note to Editor: May need to consider some separation in document of any discussion for underground acreage (surface expression) versus actual surface development acreage. Potential for confusion with reviewers.	Advisory only.	Comment is noted.
31	6b	203		Should include the number of structures and facilities and their anticipated size and height. This information may be needed to assess visual impacts to natural features and cultural landscape(s)/traditional cultural properties.	Consider comment; add detail if available. If not available, then the issue flagged for the draft scoping decision document.	Future discussion item, as necessary, in development of DSDD.
32	6b	204	Graphic 2	It is unclear which of the facilities shown in Graphic 2 already exist on the surface. Clarify if the 3.9 acres of existing developed surface has infrastructure already built upon it, and if so, identify what the structures are and what they are being used for.	Consider comment; edit document as needed.	Comment is noted. None of the facilities shown in graphic 2 exist at this time. As stated in the EAW "Construction would begin by first removing existing buildings, septic systems and/or leach fields, and other structures (e.g., water and electrical services) that would not be re-purposed as part of the mine facility."

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33	6b	207		Should provide approximate acreage	Consider comment; edit document as needed.	The following text has been added to the Project Description in the referenced section. "The two Construction Staging Areas (temporary) are shown on Figure 3. Together, these areas have approximately 21 acres of uplands within the project boundary that is suitable for use as temporary equipment staging without disrupting other construction activities. This acreage has some overlap with the developed surfaces described above and temporary access surfaces described below. It is expected that not all of this area would ultimately be utilized for temporary staging of construction equipment and supplies."
34	6b	212		Typo: "For these activities, an offset distance of at approximately 200 feet has been applied ..."	Make edit.	Comment is noted. The EAW is edited.
35	6b	216		The full list of metals that will be extracted from ore needs to be stated. If more than one concentrate will be produced the types of concentrate also need to be stated.	Consider comment; edit document as needed.	The metals expected to be economically extracted from the ore include copper, nickel, and an iron byproduct. The ore will be shipped to the out-of-state processing facility located in Mercer County, North Dakota where the concentrate products produced will be a copper concentrate and a nickel concentrate (which also contains iron). The nickel and copper concentrates will also contain minor concentrations of additional metals, including gold, cobalt, platinum, and palladium. At this time, it has not been determined whether economic value would be able to be derived from the presence of these metals in the concentrate.
36	6b	217		The extraction timeline should be better defined. Is the 7-10 year period expected to be contiguous or potentially 7-10 years staggered over a larger time period (e.g. based on market demand)?	Answer question; modify text if warranted.	The Project expects the operation to be continuous, though the exact duration of mine life would be 7- to 10-years, depending on results of ongoing studies such as rate of production ramp-up and estimated production costs.
37	6b	217		Provide greater details on the duration of the entire mine life, including a description of mine life phases and in what year each phase is anticipated to begin. The Project Description only states the length of the operations period, but not closure or post-closure. Some reclamation activities are mentioned in later sections of the EAW. How would water, stockpiles, and discharge be managed in closure and during periods of care and maintenance? This information is being requested for inclusion in the next data submittal.	Consider comment; edit document as needed.	Talon Metals has supplied project descriptions that are deemed sufficient for defining the scope of analyses for the EIS. It is anticipated that these descriptions will undergo revisions throughout the EIS development to meet the requirements of the EIS scope.
38		218		What are the North Dakota project components? What metal concentrate products are planned to be produced?	Answer questions.	Activities at the out-of-state processing facility located in Mercer County, North Dakota will include crushing, grinding, flotation for metals recovery, tailings storage, and concentrate preparation/handling. There will also be rail facilities for receiving inbound shipments of ore and sending outbound shipment of concentrate products. The concentrate products will be a copper concentrate and a nickel

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						concentrate. The iron byproduct is contained within the nickel concentrate.
39	6b	222		Include the Temporary Modular Water Treatment plant as a facility element	Consider comment; edit document as needed.	Comment is noted. The facility elements listed in the Project Overview and shown in Figure 3 are the structures necessary for the long-term operation of the mine, not the temporary facilities used during the construction phase.
40	6b	227		Bullet 3, Line 4: '... an offset distance of at approximately...' should read '... an offset distance of approximately...'	Consider comment; edit document as needed.	See Response to Comment #34.
41	6b	229		There appear to be multiple separate treatment plants needed for the site: contact water, non-potable water, potable water, & sanitary treatment (in addition to ISW treatment). These may each generate their own waste streams (RO reject, filter backwash solids, sludge, etc..). information on these systems will need to be substantially expanded for the EIS.	Advisory only. Level of detail to be determined for the draft scoping decision document.	Future discussion item, as necessary, in development of DSDD.
42	6b	238		More detail relative to railcar handling and localized environmental impacts is needed in the EIS.	Advisory only. Level of detail to be determined for the draft scoping decision document.	Future discussion item, as necessary, in development of DSDD.
43	6b	238		Provide additional detail and description in text and in graphic or figures of the ore storage and rail loadout facility to evaluate potential for impact and level of review in the EIS.	Consider comment; edit document, add graphic or figure, as needed. Final level of detail to be determined for the draft scoping decision document.	The Project will address this question, as necessary, in the EIS. In the meantime, Figure 3 in the EAW includes a graphic representation of the buildings, page 19 provides some description of operations in the buildings, Table 3 indicates approximate square footage of the buildings.
44	6b	244		At Line 217 the document indicates a 7-10 year production rate while here it indicates 10 years. To reduce confusion these estimates should be reconciled. More broadly, addressing the timing of construction, operations, and reclamation and closure would benefit from being consolidated into a section at the end of Item 6b.	Consider comment; edit document.	Mine life duration statements have been standardized to read "7- to 10- years." The precise duration of mine life between 7- to 10-years would be dependent on results of ongoing studies such as rate of production ramp-up and estimated production costs.
45	6b	245		Little detail provided for timing and duration of construction. Construction slated to begin 2026. To the degree that information is available, describe activities seasonally, especially related to peatland disturbance. The draft scoping decision will likely require detailed information on construction sequencing for the impact assessment(s).	Consider comment; edit document.	See Response to Comment #46
46	6b	245		Provide estimated years/months for construction.	Consider comment; edit document.	Please reference lines 245-248 of the original Project Description submission for brief description of proposed project timeline. Currently, no further information is available regarding construction schedule, duration, or seasonality.

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47	6b	249		Regarding site preparation, little detail is provided on historical land use or existing conditions to put demolition and construction requirements into context. Clearly there are existing infrastructure, buildings, and utilities.	Consider comment; edit document.	Section 10 of the EAW covers land use at the site. "There are a handful of structures within the Project Area, including farmsteads and infrastructure associated with Talon's current exploratory drilling program. Existing land use around and within the Project Area consists of industrial development (environmental studies, geophysical surveys, and exploratory drilling), farmsteads and associated pastures/hay fields, areas of upland forest, timber harvesting tree plantations, and large wetland complexes. Some of the land in the area was ditched and drained several decades ago for agricultural purposes." The Project also deleted the repeated sentence in section 10 "There are a handful of structures within the Project Area, including farmsteads and infrastructure There are a handful of structures within the Project Area, including farmsteads and infrastructure associated"
48	6b	249		Confirm if there is a need for any blasting at or near the surface. If so, include in construction plans.	Consider comment; edit document.	See Response to Comment #109 regarding underground development blasting. There is currently no identified need for any surface or near-surface blasting relating to surface facilities construction.
49	6b	256		RGU notes that the wastewater generated by the tunneling of the loop access tunnel will need to be quantified/qualified and the mobile/modular treatment plant will need to be specified to address all water quality needs if this water is to be discharged.	Advisory only; treatment of topic to be captured in draft scoping decision document.	Comment is noted. Future discussion item, as necessary, in development of DSDD.
50	6b	259		Additional detail necessary to describe railway spur construction plans for reviewers to assess the potential types of impacts, along with potential extent and reversibility, on the peatland that the spur would disturb.	Consider comment; edit text with additional detail for clarity, including new construction figures.	Comment is noted. The Project will address this question, as necessary, in the EIS.
51	6b	259		Provide additional information regarding construction of the railway through the wetlands. Wetland impacts (i.e., permanent, temporary, or indirect), including hydrologic impacts, should be evaluated. Any construction dewatering should be described and a plan for monitoring for ground and surface water impacts during construction should be developed.	Consider comment; edit text with additional detail for clarity, including new construction figures.	Comment is noted. The Project will address this question, as necessary, in the EIS.
52	6b	259		Using a permeable fill material to construct the railway spur in the wetland should be investigated to allow for ground and surface water flow through the spur.	Consider comment; edit text with additional detail for clarity.	Comment is noted. EAW has been edited to note that "The railway spur will be constructed with appropriate materials or features to enable water to flow across and/or under the developed surface to facilitate water movement between each side of the railway spur and address the potential for differences in water levels and/or other hydrological impacts." The Project will address this question, as necessary, in the EIS.

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53	6b	260		RGU notes that the loss of wetlands and peat may have an effect on water levels, CO2 and CH4 flux, sulfate, and mercury concentrations. Likely that monitoring of sulfate and mercury concentrations as well as CO2 and CH4 emissions would be necessary in the surrounding wetlands.	Advisory only; it will likely be necessary for the draft scoping decision to specifically address peat excavation and range of potential impacts. Modify submittal text where it makes sense to fill in details on treatment of excavated peat.	See Response to Comment #52. The Project will further address this question, as necessary, in the EIS.
54	6b	260		This section suggests potentially large volumes of peat would be excavated as part of the rail spur construction. Peat excavation is not discussed as part of the mine surface facility construction and it is not clear if this detail is omitted or not required. Further, no specific offsite location is stated for dredged material and it is not possible to assess impacts of these spoils materials.	Advisory only; it will likely be necessary for the draft scoping decision to specifically address peat excavation and range of potential impacts. Modify submittal text where it makes sense to fill in details on treatment of excavated peat.	Comment is noted. Based on available data, it is anticipated that most of the peat excavated would be related to the rail spur construction, with the remainder for the other mine surface buildings and facilities. The layout of the other mine surface buildings and facilities was shaped to fit available uploads and avoid, to the extent possible, wetlands areas where peat excavation would be required. Future discussion item, as necessary, in development of DSDD.
55	6b	262		Excavation of peat on state lands may require a state lease for the removal of peat. More detail required to better understand the potential regulatory requirements and identify potential impacts from proposed activity.	Consider comment; provide additional detail on proposed action.	Comment is noted. See Response to Comment #54.
56	6b	263		Would the peat being "beneficially reused" occur as a land application or by product sale? If land application, this could potentially need additional permitting (not already identified within Section 9).	Answer question; modify text if warranted. Future discussion item in development of draft scoping decision document. If land application is occurring, this would need to be discussed and considered within the GHG and Cumulative effects sections.	The Project does not plan to have a peat stockpile and is actively looking for a beneficial reuse of the peat. The Project is also willing to continue the discussion with the state regarding possible reuses. This was deleted from the EAW: "The peat would be beneficially re-used as a soil amendment to the extent possible at Talon-owned properties or other offsite locations." This was added to the EAW: "The project is seeking a beneficial reuse for the peat at an offsite location."
57	6b	263		Detailed information on peat thickness is needed for the DEIS. If peat is proposed to be used at other Talon properties, this should be identified.	Advisory only regarding details on peat resource, however any proposed uses should be captured in the document. Future discussion item around treatment of peat, including any potential for offsite transport and	Comment is noted.

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					any potential impacts for inclusion in the draft scoping decision document.	
58	6b	265		Upland offsite soil/peat disposal sites should be identified.	Consider comment; edit document as needed.	The Project does not plan to have a peat stockpile and is actively looking for a beneficial reuse of the peat. The Project is also willing to continue the discussion with the state regarding possible reuses.
59	6b	266	Graphic 4	In Graphic 4: Three-Dimensional Sketch of Underground Mine Workings, the graphic illustrates the various components that will make up the underground mine features. But the graphic seems to leave out the collection and removal system of the water that infiltrates through the ventilation raises and escapeways. If available, understanding of the project would benefit from inclusion of a graphic of the water collection and removal system. Regardless, a detailed understanding of the proposed system will be required to assess potential impacts.	Address comment; modify text and/or provide new graphic if possible. Future discussion item for proposed treatment in the draft scoping decision document.	Management of underground contact water is described in lines 666-684 of the initial Project Description submission. Graphic 4 displays the mine development excavations, and was not intended to display the layout of underground infrastructure and equipment installations. The exact elevations and placement locations of the underground settling sumps, underground pump stations, piping system routing, and other water handling infrastructure design details will inform the Project's EIS data submission.
60	6b	266		This section also discusses the water-tight liner that would be installed and progressively extended as the tunnel advances in order to permanently control ingress of groundwater. Is a leak detection system proposed?	Answer question. If yes, then modify text to include this project feature. If no, then provide an explanation why this is the case?	No leakage detection system is planned for the project and is not typical for a tunnel of this nature. The tunnel lining includes dual waterproofing measures: gaskets between the concrete lining segments as well as annular grouting between the extrados of the lining and the ground.
61	6b	266		If known, what type of maintenance and repair protocol would be applied to the water-tight liner?	Answer question.	The gasketed precast concrete segmental lining system proposed for the project is resilient and designed to require minimal maintenance while accommodating the service loads. These types of lining systems are regularly used for tunnels where routine maintenance is challenging without creating a major service disruption (such as a sewer or light rail tunnel). In such tunnels, inspections are typically performed on 5- to 10-year cycles. For the proposed tunnel, detailed lining inspections would be performed on an annual basis. In addition, mine personnel will use the tunnel on a nearly continuous basis during mine operations, and any unusual conditions (such as seeps) that develop can be identified and addressed as they occur. Repair protocols have not been established at this time. Typically, defects that may develop over time include minor cracking or seeps. Defects are evaluated on a case-by-case basis, but significant lining repairs are very rarely required.
62	6b	266		How long is the water-tight liner projected to last?	Answer question.	The gasketed precast concrete segmental lining is typically designed for a 100-year design life. The gasketed lining and annular grout between the lining and ground provide a secondary seal against groundwater ingress. This type of lining system has a well-documented record of satisfactory performance and is commonly used in very demanding operational conditions.

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63	6b	266		Will the water-tight liner be left in place or removed upon mine closure?	Answer question.	Yes, the watertight tunnel liner will be left in place upon closure, it is permanently grouted in place.
64	6b	266		When available, the design for the circular access tunnel should be provided. Information should include the final tunnel location, tunnel depth, tunnel diameter, precast concrete liner thickness etc.. It would be helpful to provide figure(s) that show where the tunnel will be constructed in surficial sediments and where it will be constructed in bedrock.	Consider comment; edit document as needed. Add figures as suggested.	Comment is noted. The Project will address this question, as necessary, in the EIS.
65	6b	266		Clarify whether there will be any groundwater inflow during the construction of the loop-shaped declines. It was stated in lines 276-277 that a pressurized-face TBM was selected to drill the loop-shaped tunnel because it can excavate through saturated soils without needing to remove water from the surrounding soils or rock formations. However, in lines 1491-1492, it was stated that the construction of the declines would use a tunnel boring machine, which is able to develop the declines with minimal groundwater inflow from the surrounding unconsolidated sediments. Groundwater inflow must be estimated if there will be minimal inflow during access tunnel construction and groundwater and wetland impacts must be evaluated. A plan for monitoring for groundwater and wetland impacts during decline construction should be developed.	Edit document as needed to address comment. Further discussion of issue required to for treatment in draft scoping decision document.	The tunnel lining includes dual waterproofing measures: gaskets between the concrete lining segments as well as annular grouting between the extrados of the lining and the ground. Final inflow criteria have not yet been established. Based on the historic performance of gasketed precast concrete segmental linings, typical inflow rates range from 1 to 5 gpm / 1,000 feet of tunnel. During construction, any isolated seeps with inflow rates greater than 0.2 gpm typically require supplemental grouting to cut off. Approximately 1,500 feet of the tunnel will be constructed in soft or mixed ground conditions which will have the potential to generate seepage. The remaining length of tunnel will be constructed in rock with extremely low permeability. Inflows of less than 0.5 gpm/1,000 feet of tunnel are anticipated within the rock section. The groundwater seepage estimates and design criteria would be refined during the feasibility and detailed design stages of the project and would be provided for analysis in the EIS.

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66	6b	267		Is a separate emergency egress being considered?	Answer question.	<p>The mine would be regulated by the Mine Safety and Health Administration (MSHA), an agency within the US Department of Labor. MSHA regulations require all underground mines to have both a primary and secondary egress (escapeway) established before production operations can begin.</p> <p>Two Declines would be developed from surface to the top of the ore deposit, and will be connected in a loop configuration. One of these Declines would serve as the initial segment of the primary escapeway, and the other would be the initial segment of the secondary escapeway.</p> <p>Starting from the top of the ore deposit, a spiral haulage ramp would be developed to follow the ore to its deepest extent. This would form the remainder of the primary escapeway connecting to the bottom of the mine access Declines.</p> <p>Meanwhile, this spiral haulage ramp would be developed alongside a series of connected raises (internal shafts) which would include personnel ladders. These would form the secondary escapeway connecting to the bottom of the mine access Declines.</p> <p>In this manner there would be two separate and independent routes of egress from all production levels of the mine.</p>
67	6b	275		It is likely the loaded haul trucks will induce ground-borne vibration as they travel from the working face, through the tunnel, to the surface. It will be necessary to understand what those vibration levels would be, whether there is a potential to induce cracks in the tunnel (creating a pathway for pollutants to enter groundwater) to be evaluated, any monitoring required to monitor for cracks in the tunnel, and how will the tunnel design prevent cracks from allowing pollutants to enter groundwater?	Advisory only; future discussion issue for development of draft scoping decision document.	<p>The gasketed precast concrete segmental lining system proposed for the project is resilient and designed to require minimal maintenance while accommodating the service loads. These types of lining systems are regularly used for tunnels carrying heavy vehicle, impact, and vibration loads (for light rail and subway tunnels).</p> <p>For the proposed tunnel, daily visual inspections will be conducted as part of Mine Safety and Health Administration requirements, and detailed lining inspections would be performed on an annual basis. In addition, mine personnel will use the tunnel on a nearly continuous basis during mine operations.</p> <p>Additional details regarding liner design and monitoring would be evaluated as part of the EIS.</p>
68	6b	275		Is monitoring proposed for groundwater to determine if pollutants enter groundwater along the inside or outside of the tunnels throughout the lifespan of the project (and after closure)?	Answer question; modify text if warranted.	Any monitoring requirements for the construction, operations, and closure will be an outcome of the Environmental Review and Permitting process.
69	6b	276		It is noted that TBM cutting surfaces are abraded as they work. It will be necessary to understand what is the chemical composition of the different cutting surfaces, what metals and other elements could be introduced into groundwater due to this abrasion, in what quantities, and how do those quantities affect surrounding water quality? Similar information could be	Advisory only; future discussion item in development of draft scoping decision document.	<p>Comment is noted.</p> <p>The Project will address this question, as necessary, in the EIS.</p>

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				needed for any lubricants, paints, or other materials that will wear off during TBM use.		
70	6b	277		It would likely be necessary to assess any changes in groundwater resulting from tunnel boring machine excavation and grouting. This includes changes to aquifers, groundwater flow, and potential changes to wetlands at the surface.	Advisory only; future discussion item in development of draft scoping decision document.	Comment is noted. The Project will address this question, as necessary, in the EIS.
71	6b	279		General Question: What dictates the radius of the tunnel arc? Is the tunnel radius determined by the limitations of the TBM or the equipment that will be used in the mine? Is the amount of tunneling minimized?	Answer question.	The curve radius of the tunnel has been determined to be 1000 feet based on: -The typical steering capabilities of a TBM in this diameter range; -The typical segmental lining design and performance in this diameter range; -Documented successful installation this geometry on previous TBM projects -The minimum amount of tunneling to reach the target area at the maximum gradient allowed by the mine trucks. The cylindrical steel body of a TBM in this diameter range is up to 12m in length. The body (called a "shield") is provided with a sealed articulated joint approximately in the middle. This articulation breaks the cylindrical shield into two halves and is designed to provide the necessary flexibility to negotiate curves and make line and grade adjustments while advancing. Further back, the segmental lining is specifically designed and assembled to match the curve radius excavated by the TBM and provide a balanced thrust force reaction during TBM advance. For safety reasons, the tunnel is straight until the TBM has a sufficient cover of competent rock, after which the 1000 feet curve radius starts. Significant effort has been put into minimizing the amount of tunneling, and will continue to be refined as the design progresses.
72	6b	281		Does Talon propose to assess potential blasting-related impacts in terms of by ground vibration and airblast? Would the environmental or acceptable human response be evaluated? Would a limit to prevent structural damage be evaluated? Would Talon develop ground vibration contours (from blasting), and airblast contours for overpressure levels?	Answer questions.	Blasting can also generate low-frequency ground vibrations and air blast. A major mitigation of these effects is that blasting at Tamarack would only occur after the mine access Declines have reached the deep bedrock (over 300 feet below surface elevation and approximately one-half mile laterally from the tunnel opening /Portal). The Project would ensure that any ground vibration aligns with the standards and limits currently set in the Minnesota Permit to Mine regulations. Vibration and noise studies will be conducted to inform the EIS data submittal.
73	6b	281		Regarding assessment of blasting-related impacts, does Talon propose to identify impacts to sensitive receptors, which could include residences, recreational areas or sites, or impacts to tribal members that may have a cultural or spiritual connection to the project vicinity.	Answer question.	Comment is noted. Future discussion item, as necessary, in development of DSDD.

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74	6b	289		More information on the watertight liner is needed. Will the entire liner be left in place? It will need to be understood how the liner may change hydraulic conductivity in the overburden, saturated unconsolidated sediments and bedrock.	Answer question.	The tunnel lining includes dual waterproofing measures: gaskets between the concrete lining segments as well as annular grouting between the extrados of the lining and the ground. The liner installed for mining is permanent and it will not be removed. The tunnel and liner are linear features and will not affect the bulk permeability, hydraulic gradients or flow direction at project scale.
75	6b	290		Assessing potential impacts to the surrounding strata would require information on the expected performance of the watertight liner. This would involve a number of considerations. A range of water leakage values (from excellent installation/performance to poor installation/performance) could be expected. Information on the expected lifespan of the liner is needed. Would the liner need to be replaced? What happens to the liner over the long term? This is important given that the current plan is not to backfill the access tunnels in the glacial till.	Advisory only; future discussion item in development of draft scoping decision document, especially in terms of data needs, requisite analyses, and reporting. Edit document where clarification is warranted.	Comment is noted. See Response to Comment #61.
76	6b	292		This section describes various features of the two box cuts. However, missing from the box cut descriptions are the handling of the overburden material generated by the box cut and decline excavation process.	Consider comment; edit document as needed.	Overburden removed from the box cuts and the Decline excavation will be placed on the dedicated temporary Overburden Stockpile (temporary) managed as per Minnesota Rules, chapter 6132. Lines 498–502 were updated to provide more clarity.
77	6b	292		How long will be the overburden be set aside?	Answer question.	Potential uses for the overburden material are stated in lines 498–502. The timing and further details of how this material will be used will be more defined in the feasibility design and will be provided for the EIS.
78	6b	292		How much of the overburden will be set aside and how much will be used as a backfill for the box cuts?	Answer question.	Quantities of overburden material, and what proportion will be used for backfilling the box cuts, is a function of the box cut and tunnel alignment design which is in the process of being refined. The Project will address, as necessary, this issue in the EIS.
79	6b	292		At mine closing, will these box cuts be removed and the stored overburden used to refill the opening?	Answer question.	Comment noted. Future discussion of this item would be part of developing the Draft Scoping Decision Document, and to be further evaluated for the EIS.
80	6b	292		How will the overburden be protected during its storage? Will there be a cover? How about a liner?	Answer question.	Overburden will be managed as per Minnesota Rules, chapter 6132.
81	6b	292		What is the overburden's soil chemistry; is it high in sulfide-bound minerals?	Answer question.	The Materials Characterization Program is underway and designed to collect a range of data needed to understand the geochemical constituents of overburden materials. Sulfur data will be collected from the overburden for analysis in the EIS data submission.

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82	6b	292		Where is excavation material placed from "box-cut" construction and what is done with groundwater pumped during construction (prior to liner installation).	Answer question.	Refer to lines 498 – 502 for details on overburden material handling from the box cuts. Lines 295 – 297 provides detail on the excavation support system that will be designed to minimize groundwater inflow into the box cuts during construction. Minor seepage of water is still expected to leak though the excavation support system, and this water will be treated according to regulatory requirements. Further design of the excavation support system is underway and will be included for evaluation in the EIS.
83	6b	298		More information on the watertight liner is needed. Will the entire liner be left in place? It will need to be understood how the liner may change hydraulic conductivity in the overburden, saturated unconsolidated sediments and bedrock.	Answer question.	Since the liner is an impermeable feature, it is not expected to have an impact on the site hydrology or hydrogeology at a project scale. The Project will address this issue, as necessary, in the EIS.
84	6b	312		The EIS would likely evaluate the impact of a pressurized-face Tunnel Boring Machine (TBM) that pressure-pushes its drill bit through a water-saturated substratum of rock and soil by using its own air or water, thrusting aside from the bored hole the groundwater and overburden it displaces. The potential for impacts on the water table and underground water hydraulics during its operations, leading to surface water alterations in a wetland and spongy area like Tamarack, would need to be evaluated.	Advisory only; future discussion item in development of draft scoping decision document.	Comment is noted. The Project will address, as necessary, this issue in the EIS.
85	6b	312	Figure 6	Where is the TBM assembled? How is it shipped to the site? What types of maintenance are required?	Answer questions; edit text as needed.	The TBM is assembled at the manufacturer facility in Europe, USA, or China to perform shop testing and commissioning of the main functions and systems. After shop acceptance, the TBM is partially disassembled for shipment in transportable sections. From the manufacturer facility truck trailers take all the TBM sub-sections to the closest commercial port for shipment to the USA. From the port of entry (TBD) truck trailers are loaded for transportation to site. Once all the partially assembled elements are received at site, the TBM is re-assembled in its entirety, commissioned, and launched. TBM preventive maintenance is regularly scheduled and performed by the Contractor as per manufacturer recommendations on a daily, weekly, and monthly basis. This is essential to the efficient operation of the TBM as it ultimately minimizes downtime.
86	6b	312	Figure 6	Need to discuss maintenance requirements/operational constraints of TBM	Consider comment; edit text as needed.	Comment is noted. See Response to Comment #85. Operational constraints are addressed during the detailed design process and means and methods analysis and will be provided for the EIS to assess, as necessary.

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87	6b	336		What kind of monitoring and control measures will be emplaced to assess potential ground settlement as a result of tunneling with the TBM?	Answer question.	TBM tunnels are commonly excavated in soft ground and below sensitive structures in dense urban environments. In these types of environments, TBM mining is required to comply with very tight settlement tolerances. Settlement limits will be proposed by the designer as part of the feasibility design and will be available to assess during the EIS. If the proposed settlement limits need to be adjusted, it will be refined during the detailed design process. Ground monitoring points (i.e., survey targets) would be installed on surface along the TBM alignment at specified intervals to monitor any subsidence while advancing through the soft ground portions of the tunnel. No surface settlements are anticipated in the rock section of the alignment.
88	6b	336		In describing the decline that develops beyond the box cut, this section briefly describes the bedrock material referred as the “development rock”, but then points the EAW reader to a different section for detailed information, but this section is misidentified as “Overburden and Development Management” rather than the correct Overburden, Development Rock, and Backfill Materials Management section.	Consider comment; edit text as needed.	Text updated in the EAW to refer to Overburden, Development Rock, and Backfill Materials Management section.
89	6b	337		Development rock is termed waste rock in MN Rules Chapter 6132 which applies to this project. Revise to refer to the various categories or types of rocks with terms that apply in Minnesota.	Edit document.	The Project disagrees that development rock is synonymous with waste rock in an underground mining context. Class 1 and Class 2 development rock is going to be reused as part of the mining process. Proposer requests to have further discussion regarding this item.
90	6b	338		It does not appear that the temporary overburden storage area will be lined. What is the rationale (as currently known) for not lining the storage area? This is a potential concern since wetland peat will be a portion of overburden removed, which may lead to risk of mercury/methyl mercury leaching after rain events.	Answer question. Response will inform development of draft scoping decision document.	The EAW is correct. The Project does not intend to line the unconsolidated glacial till “overburden”. Depending on the geotechnical analysis of the glacial till removed, the Project intends to use this material as construction fill. The pile of unused material will be managed by to comply with Minnesota Rules, chapter 6132. The Project does not plan to have a peat stockpile and is actively looking for a beneficial reuse of the peat. The Project is also willing to continue the discussion with the state regarding possible reuses.
91	6b	338		Activities defined as temporary will need more discussion and review as they may related to determination of start of construction as well as any electrical generating units as they may need permit authorization prior to being brought onsite.	Advisory only. Permitting consideration.	Comment is noted. The Project will address, as necessary, this issue in the EIS.
92	6b	340		what is the liner design for the backfill materials storage area?	Answer question.	Comment is noted. The Project will address, as necessary, this issue in the EIS.

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93	6b	340		Describe how the development rock would be staged in the backfill materials storage area including length of time before being used as backfill material, as well as associated geochemical characterization.	Consider comment; edit text as needed.	<p>The Backfill Materials Stockpile containing the development rock would have numerous controls and mitigations in place – the stockpile would be lined, would only be in existence for a short period of time, and all runoff and leachate would be sent to the Contact Water Treatment Plant. Additional description of the development rock stockpile can be referenced at lines 543-556 of the initial Project Description submission.</p> <p>Geochemical characterization of the development rock is a key component of the ongoing Materials Characterization Program which will be further developed for the EIS data submission.</p> <p>The Project will address, as necessary, this issue in the EIS.</p>
94	6b	343		Provide additional detail on "temporary" facilities that are needed for the TBM operations, including layout, locations, etc.. and which ones are planned to serve a "permanent function" for mine operations, hence not temporary.	Consider comment; edit text as needed.	<p>The nature, location and layout of temporary facilities required to support the TBM operations are dependent on the type of pressurized face TBM that will be proposed for the project. The layout of the supporting services will also need to be coordinated with surface construction activities and will change as the design progresses to optimize coordination between surface construction and tunneling activities. A feasibility engineering design will provide conceptual layout, including temporary facilities required for the tunneling activities and will be available for the EIS. Further details on the facilities will be provided for the EIS when the design has progressed further.</p>
95	6b	347		What are the noise and/or vibrational effects to the area from the use of the TBM?	Answer question. The draft scoping decision document could identify the need to determine whether this activity could impact species sensitive to noise and vibration (as an EIS issue).	<p>TBM tunneling has been preferred and successfully used in dense urban areas (e.g., downtown New York and Los Angeles). TBM tunneling is selected for these sorts of projects, in part, because of their strict noise and vibration requirements.</p> <p>The rock breaking mechanism of a TBM is based on disc cutting tools continuously rotating against the face, and does not involve any high energy or repeated impacts typical of other mechanical excavation means. In consideration of the depth of the rock section of the tunnel (greater than 130 feet deep) and damping effect generated by the thick soil layer above it, we do not anticipate perceivable noise and vibrational effects to the area. In any case, construction will be in compliance with local/state/federal ordinances.</p>
96	6b	347		There is a brief discussion regarding the use of a temporary water treatment while the permanent water treatment plant is under construction. If known what is the comparison of water output quality and quantity between the temporary and permanent water treatment systems?	Answer question.	<p>A Temporary Contact Water Treatment Plant would remove suspended solids from the recirculating flow during Decline construction. Once the boring machine enters the bedrock, small amounts of bedrock water may be encountered. Excavated rock would be placed onto the Backfill Material Storage Facility. This contact water would be collected and treated in the Temporary Contact Water Treatment Plant to remove constituents that could be present in the bedrock and/or released from the development rock. The exact location and design of the Temporary Contact Water Treatment Plant as well as estimates of flow, influent, effluent water quality, and water quality limits would be developed during the EIS.</p>

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97	6b	347		More information is required regarding the specific parameters that will be treated by the mobile or modular water treatment units, as well as supporting evidence of the parameter removal rates achieved (i.e. bench work, analogue site results, etc..).	Advisory only. Future discussion in development of draft scoping decision document.	Comment is noted. The Project will address, as necessary, this issue in the EIS. See Response to Comment #96.
98	6b	347		Detail on mobile/modular water treatment units is needed. How much water is treated by these units? What is their performance? What are their energy and maintenance needs?	Advisory only. Future discussion in development of draft scoping decision document.	Comment is noted. The Project will address, as necessary, this issue in the EIS. See Response to Comment #96.
99	6b	347		A more detailed description of the temporary water treatment mobile/modular units (comparable to the TBM description) and expected water parameters that will need treatment to meet standards would assist reviewers in assessing sufficiency of such technology for the initial project phases.	Advisory only. Future discussion in development of draft scoping decision document.	Comment is noted. The Project will address, as necessary, this issue in the EIS. See Response to Comment #96.
100	6b	347		What does "as necessary" mean for temporary water treatment?	Answer question.	"As necessary" means that all water produced during construction that would not meet the relevant discharge standards would be captured and routed to the Temporary Contact Water Treatment Plant prior to discharge.
101	6b	347		How long will the temporary water treatment system be used until the permanent system comes online?	Answer question.	Comment is noted. The Project will address this question, as necessary, in the EIS.
102	6b	347		This section also mentions how the temporary water treatment system's water discharge will meet water quality standards, but whose? Minnesota's? This should be explicitly stated.	Consider comment; edit document as needed.	The Project will meet water quality standards as described in Minnesota Rules, chapter 7050.0220 subpart 3a.
103	6b	347		What type of treatment is proposed for the modular water treatment plant that will be used during construction? What contaminants are expected to be elevated in construction contact water and what contaminants will the modular water treatment system address? Where will the system be located (not currently indicated in any figures/graphics)? Where will the water be discharged? How were discharge quality/quantity objectives developed?	Consider comment; edit text with additional detail for clarity.	Comment is noted. The Project will address, as necessary, this issue in the EIS. See Response to Comment #96.
104	6b	353		Any long term consequences of the TBM, both during the mine operation and after mine closure, would need to be considered.	Advisory only; future discussion item in development of draft scoping decision document.	Comment is noted. The Project will address, as necessary, this issue in the EIS.

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105	6b	355		The document provides use of the TBM for light rail construction in the Metro Twin Cities. Given these tunnels typically operate at shallower depths than proposed for the Tamarack Mine, it is appropriate to identify examples of TBM usage to greater depths, especially for mining-related applications.	Consider comment; provide examples if available.	TBMs have a long track record of successfully completing projects in the same proposed depth range as the Tamarack Mining Project (maximum depth of approximately 400 feet). Some example projects that have been completed are: -Rondout-West Branch Bypass Tunnel, NY (USA): 2.6-mile-long, 14-foot diameter, 900 feet cover -Kanehe / Kailua Sewer Tunnel, HI (USA): 3.3-mile-long, 10-foot diameter, 600 feet cover -Grosvenor Coal Decline Tunnel, (AUS): Twin tunnels, 4,800-feet long, 22-foot diameter, 500 feet cover -Sound Transit North Link Tunnel, WA (USA): 3.8-mile long, 22-foot diameter, 140 feet cover -Diamond Fork Tunnel, UT (USA): 4.3-mile long, 11-foot diameter, 1,000 feet cover -Port Mann Water Supply Tunnel, BC (CAN): 3,300-feet long, 11-foot diameter, 180 feet cover (under Fraser River) -Brightwater , WA (USA):3.8-mile long, 13-foot diameter, 450 feet cover
106	6b	355		Have TBMs been used for other mining projects? If first time, more explanation as to why this technique is being used instead of other underground mining techniques.	Answer question.	EAW text updated to provide examples of TBMs used in other mining projects as well as additional information added to why this technique is proposed instead of conventional tunneling techniques.
107	6b	358		In this section, it says "Both [underground development and ore extraction] would utilize conventional drill-and-blast excavation methods to advance the mining "heading." Are seismic impacts predicted?	Answer question.	Comment is noted. See Response to Comment #109
108	6b	358		What are the noise and/or vibrational impacts to the area from use of conventional drill-and-blast excavation methods?	Answer question. The draft scoping decision document could identify this as an issue whether this activity could impact species sensitive to noise and vibration.	Comment is noted. See Response to Comment #109

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109	6b	358		In the mining cycle, explosive ammonium nitrate and fuel oil (ANFO) are used. At a high level what are the types of environmental impacts associated with use of ANFO?	Answer question. The response can be considered in development of the draft scoping decision document.	<p>Drill-and-blast mining will begin roughly 300 feet below surface, starting from near the bottom of the mine access Declines (which are developed using a tunnel boring machine, which does not involve blasting). Explosives used for the underground drill-and-blast mining will primarily consist of a water-resistant ANFO emulsion which is suitable for use in wet areas, rather than conventional ANFO in “prill” (pellet) form.</p> <p>The detonation of conventional prill ANFO is often incomplete in a wet environment, leaving behind by-products of unreacted ANFO as nitrate, nitrite and ammonia which could potentially impact groundwater. This will be mitigated by using of the water-resistant ANFO emulsion explosive.</p> <p>Additional potential environmental effects of ANFO use include the generation of blasting gases- primarily nitrogen dioxide, carbon monoxide, carbon dioxide, and ammonia. The mine ventilation system will promptly dilute these gases to safe levels (per Mine Safety and Health Administration and/or National Institute for Occupational Safety & Health standards) so that workers can re-enter the mine.</p> <p>Blasting will result in the generation of dust underground, which would be controlled by the mine’s Mine Exhaust Filtration Building.</p> <p>Blasting can also generate low-frequency ground vibrations and air blast. A major mitigation of these effects is that blasting at Tamarack would only occur after the mine access Declines have reached the deep bedrock (over 300 feet below surface elevation and approximately one-half mile laterally from the tunnel opening /Portal). The Project would ensure that any ground vibration aligns with the standards and limits currently set in the Minnesota Permit to Mine regulations. Vibration and noise studies will be conducted to inform the EIS data submittal.</p> <p>An additional mitigation to all the above impacts is the small size of the individual underground blasts. A typical underground blast by the Project would be a small fraction of the size (1-2%) of a conventional surface mine blast.</p>
110	6b	358		The assessment of potential vibration effects will likely require development of a underground seismic profile for explosive detonations.	Advisory only. Future discussion in development of draft scoping decision document.	<p>Comment is noted.</p> <p>See Response to Comment #109</p>

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111	6b	358		The document indicates that prior to release, exhaust air would undergo a filtration or scrubbing process to reduce the amount of suspended dust and particulates. Why would the ventilation system be reducing and not eliminating the suspended particulates? Are there limits to efficacy of elimination, and if yes, what would they be?	Answer question.	<p>Particulate capture from an underground mine exhaust requires consideration of several factors including the high airflow velocities, high level of dilution of particulates in the airstream, and high moisture levels resulting in saturated/condensing conditions when the air reaches surface.</p> <p>There are no existing examples of an underground metal mine operating a particulate capture system for its ventilation exhaust outlet. The Project has identified multiple dust-capture technologies which may potentially be suitable for this application. Due to the lack of benchmarking data from other mining operations, the Project will provide an estimate of particulate capture efficiency as part of the EIS data submittal once additional engineering work has been completed.</p>
112	6b	358		RGU notes that the EIS could investigate potential health risks associated with suspended dust and particulates.	Advisory only. Future discussion in development of draft scoping decision document.	<p>Comment is noted.</p> <p>Future discussion item, as necessary, in development of DSDD.</p>
113	6b	358		RGU notes that these EIS could require identification of individual protection measures to safeguard workers from any impacts associated with suspended dust and particulates.	Advisory only. Future discussion in development of draft scoping decision document.	<p>Comment is noted.</p> <p>Future discussion item, as necessary, in development of DSDD.</p>
114	6b	358		Can an estimate be provided regarding the rate that fresh air would need to be brought in to service the mine such that there is adequate amount of air for the employees and in excess to adequately remove the dust and blasting gasses?	Answer question.	<p>The total airflow through the mine workings is currently anticipated to be approximately 440,000 cubic feet per minute (CFM). The ultimate designed mine ventilation airflow quantity will be driven by a number of factors:</p> <ul style="list-style-type: none"> -Dilution of underground vehicle emissions -Rapid clearance of underground dust generated in active working areas where personnel are present -Rapid clearance of blasting gases and dust so that personnel can return underground after blasting -Avoidance of excessively high local air velocities which could result in excessive entrainment of settled dust, or difficulty for personnel walking.

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115	6b	358		Is it known whether the dust would include silicate fibers? If so, will ventilation be enough to capture these fibers in order to protect employee health and prevent silicosis?	Answer question. The response can be considered in development of the draft scoping decision document.	<p>Dust in the underground mine would be expected to contain some amount of silicate dust.</p> <p>The Materials Characterization Program is underway and designed to collect a range of data needed to determine the presence of elongate mineral particles in the development rock and ore. This data will be available for the EIS.</p> <p>All underground mines receive inspections by Mine Safety and Health Administration (MSHA) officials on a minimum quarterly interval (at least four inspections per year). A component of these inspections will include sampling of employees' exposure to respirable crystalline silica, to ensure individual exposure over the length of the shift is below the MSHA health standard. In addition, the Project's Health & Safety Department would conduct significant sampling between the regular MSHA inspections.</p> <p>The primary method of control for silica dust underground is to prevent its generation by use of water during potentially dust-generating operations. This includes, but is not limited to:</p> <ul style="list-style-type: none"> - Utilizing wet-drilling processes which inject water through the drill bit as blastholes are being drilled. - Thoroughly wetting down the piles of blasted rock with a water hose before handling or loading. - Using water trucks to dampen haulage routes to prevent generation of roadway dust. <p>The mine ventilation system will provide sufficient airflow velocities to rapidly clear any concentration of dust generated in an individual work area:</p> <ul style="list-style-type: none"> - Additional supplementary controls include enclosed cabs with dust-filtration systems on haul trucks and front end loaders, which are the types of equipment which would typically be most exposed to dust-generating activities. - Personal respirators would also be worn for specialty operations which may generate dust, such as spraying shotcrete.
116	6b	358		In bolting, there may be situations where grouted bolts will be used. At a high level are there types of environmental impacts known to be associated with the use of the cementitious or resin grout?	Answer question. The response can be considered in development of the draft scoping decision document.	Grouted bolts would not comprise the majority of the total bolts installed during the mine life. These bolts would primarily be utilized in long-term infrastructure areas (such as primary haulage ramps, pump stations). Where a high degree of strength and long-term corrosion resistance is required polyester-based resin grout is most commonly used. The grout is designed to encapsulate the bolt and prevent direct contact with the rock and with groundwater to prevent corrosion. The grout has very low permeability, which minimizes its interaction with groundwater.

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117	6b	358		What would cause bolt corrosion? Simple oxidation from air? Reaction with the sulfide-laden rock? Acidic gasses from the explosives?	Answer question.	Rock bolt corrosion would occur over time and would primarily be caused by a reaction between oxygen, moisture, and corrosive components from the rock. In areas of the mine which will be open for a longer period before being backfilled (typically one year), corrosion-resistant bolts would be used. This could include galvanized bolts, stainless steel bolts, and bolts fully encapsulated in a cementitious or polymer-based resin grout.
118	6b	358		Will there be a sound-dampening curtains over the two surface portals that lead underground?	Answer question.	There are currently no plans for use of sound-dampening curtains. The initial blasting would only occur after the mine access Declines have reached the deep bedrock, over 300 feet below surface elevation and approximately one-half mile laterally from the tunnel opening (Portal). The Project will further evaluate noise impacts and any need for additional mitigations as part of the EIS.
119	6b	358		Has there been a baseline study conducted for the whole of Aitkin County to determine its past and current seismic profile to establish a seismic baseline?	Answer question.	Seismic data is collected by the US Geological Survey throughout the United States, including Aitkin County.
120	6b	358		After the blasting, fans and ducting are used to remove dust and blasting gasses. Will these be temporary features attached to permanent features, and then having the permanent feature extended farther into the mine?	Answer question.	To ventilate after blasting, an auxiliary (forcing) fan will be placed in the nearest location which has flow-through ventilation established. The fan will then pick up the intake air and force it through ducting mounted to the roof of the heading. The opening of the ducting will be located at the end of the heading, establishing airflow which ventilates the area and carries dust and gases back towards the main ventilation circuit. The following diagram illustrates a typical example of the use of an auxiliary forcing fan to ventilate a dead-end heading where blasting would occur.
121	6b	358		Will continuous emission monitoring system (CEMS) be used to detect carbon monoxide (CO), carbon dioxide (CO2), nitrogen dioxide (NO2), and other gasses from the explosives, from releases from the rock, and from releases due to other human activities?	Answer question.	Sensor stations for relevant gases would be placed at the Main Exhaust Stacks as well as numerous other strategic locations throughout the mine to monitor underground air quality after blasting and determine when personnel can re-enter the underground workings. These stations would be networked to a data collection system enabling all sensors to be monitored from surface. Levels of relevant gases would also be monitored during the shift to validate performance of the mine ventilation system to control gases from vehicle emissions. Handheld gas sensors would also be utilized to perform spot-checks at any area where there may be a need to monitor gas levels and a fixed sensor stations is not present. Gases would be controlled to comply with relevant Mine Safety and Health Administration concentration limits for health and safety of personnel working underground.
122	6b	358		How will the blast area and the rest of the mine opening be monitored to ensure air quality compliance?	Answer question.	See Response to Comment #121.

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123	6b	365		A likely project goal is to accurately blast along the margins of the ore body to minimize the amount of waste rock that is removed. The EIS would likely require detail on exactly how this would be accomplished.	Advisory only. Future discussion in development of draft scoping decision document.	Comment is noted. Future discussion item, as necessary, in development of DSDD.
124	6b	365		Underground drill and blast cycles will need more information to determine impacts. Specifically air emissions generated from explosives and rock material. Ventilation to surface will also need more characterization for evaluation of impacts due to blasting.	Advisory only. Future discussion in development of draft scoping decision document.	Comment is noted. Future discussion item, as necessary, in development of DSDD.
125	6b	366		What are the face dimensions?	Answer question.	Face dimensions (heading sizes) are discussed on lines 403-407 and 436-439 of the 6.b. Project Description section of the Project's initial Environmental Assessment Worksheet submittal.
126	6b	370		Will ANFO impact contribute to increased nitrate levels in groundwater and how would this be monitored and remediated?	Answer question.	Blasting residuals, related to the use of explosives in the mine, will be present in the water pumped from the underground mine, as well as the water draining from the lined Backfill Material Stockpile. This water will all be collected, treated, and discharged. Water quality models for both these source waters and potential impacts to groundwater will be developed during the EIS process. See also Response to Comment #102.
127	6b	376		What is the estimate of fan power and airflow?	Answer question.	See Response to Comment #114 regarding expected underground airflow quantities. The precise amount of fan horsepower required to achieve this airflow will be an output of ongoing engineering studies.
128	6b	378		Could there be mercury released from exhaust air? Will this be monitored and measured?	Answer question. Future discussion item where the response can be considered in development of the draft scoping decision document.	Comment is noted. Future discussion item, as necessary, in development of DSDD.
129	6b	397		The three classifications are based on "low-sulfur", "moderate-sulfur", and "high-sulfur" levels of sulfate in the rock, with Class 1 being the lowest, and Class 3 being the highest. DNR will work with Talon to establish the appropriate chemical thresholds to classify the rock into those three classifications. The EIS would likely require research literature to support the classifications?	Advisory only. Future discussion in development of draft scoping decision document.	The Project is working with the DNR on a material characterization program which will be used to determine the specific classes of material. Data from other sites and the research literature will be incorporated as appropriate. Future discussion item, as necessary, in development of DSDD.
130	6b	397		If known, how often would the development rock be analyzed for their sulfide content?	Answer question; edit text as needed.	The development rock would be analyzed for sulfur/sulfide content and assigned a handling classification (Class 1, Class 2, or Class 3) for each separate blast (typically 300-500 tons of rock).
131	6b	397	Graphic 3, 4	In its initial description of the underground development, a typical underground site layout is described and then points the reader to "Graphic 3" instead of the correct Graphic 4: Three-Dimensional Sketch of Underground Mine Workings.	Consider comment; modify text to address the issue if needed.	Image caption has been revised to refer to Graphic 4 instead of Graphic 3

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132	6b	397		The bedrock that is being excavated deemed as “development rock” will be classified into three classifications based on their sulfur content; over the course of the mine’s life-time, how will the proportions of these three classes of rock vary?	Answer question. Future discussion item where the response can be considered in development of the draft scoping decision document.	The sulfur content of the development rock is anticipated to be relatively higher during pre-production and the first year of production, and relatively lower afterwards. This is due to the varying lithology of the development rock during these periods, which is expected to consist of a higher proportion of intrusive lithologies during the earlier period and a higher proportion of metasediments during the latter period. The variability of the specific classification category (Class 1, Class 2 or Class 3) would be dependent on determination of final categorization criteria as well as pending engineering work for mine development scheduling.
133	6b	408		RGU notes the EIS will likely require additional elemental analyses and/or ABA testing to establish the classifications.	Advisory only. Future discussion in development of draft scoping decision document.	A Materials Characterization Program is underway and includes a comprehensive suite of static and kinetic test methods run on all lithological units that compose ore and development rock. The Program is conducted with detailed and regular review by the DNR Lands and Minerals Division staff. Future discussion item, as necessary, in development of DSDD.
134	6b	412		What pumping rates are expected?	Answer question.	The pumping rates from the underground mine will be variable and expected to increase as the mine development increases. However, the pumping rates are expected to be consistent with the mine inflows. The preliminary estimate for peak life-of-mine inflow is 800 – 1,600 gpm (see EAW, starting line # 1344), this is based on preliminary assessment and would be updated with additional data and modeling for the EIS.
135	6b	425		The term “Tamarack Resource Area” is used without defining what this means. Does this reference the Tamarack Intrusive Complex (TIC) or something else that includes the TIC, or a small segment of the TIC?	Answer question.	In the context of line 427 of the initial Project Description, “the targeted ore within the Tamarack Resource Area” refers to the area of mineralization inside of the Project Boundary which is intended for extraction as part of the proposed Project. This Area is a subset of the overall Tamarack Intrusive Complex. While exploration drilling has encountered mineralization, to date there has been no resource delineated in the Tamarack Intrusive Complex outside of the Project Boundary.
136	6b	425		The ore extraction is targeting the ore rock, and minimizing dilution from unintentional excavation of non-ore rock, but what are the chemical properties of these non-ore rock? Are they sulfate rocks as well?	Answer question.	The Materials Characterization Program would cover all lithologies of rock produced as part of mine operations, including lithologies extracted as targeted ore, dilution within the ore, and development rock.
137	6b	425		Will the non-ore rock have a compounding or a synergetic effect on pollution?	Answer question.	Characteristics and potential reactivity of each of the rock types would be evaluated as part of the Materials Characterization Program under a work plan approved by the RGU.

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138	6b	425	Graphic 4, 10	Graphic 10: Simplified Illustration of Underground Mining Method does not correspond well with Graphic 4: Three-Dimensional Sketch of Underground Mine Workings. For example, Graphic 10 is missing the portal of the mine shaft.	Consider comment; modify document as needed.	Graphic 10 is a simple illustration and is not intended to be an exhaustive depiction of underground mining methods and supporting infrastructure.
139	6b	425	Graphic 10	Graphic 10: Simplified Illustration of Underground Mining Method begs the question: what contact exposure to atmospheric air and rain water will the excavated rock have?	Answer question.	<p>The ore and the Class 3 (higher-sulfur) development rock would be trucked out of the Portal and brought directly to the Enclosed Ore Storage Building and Rail Loadout Facility. The distance between the Portal and the Ore Storage Building would be approximately 150 yards. Assuming an average haul truck speed of 5 mph this would result in a very brief period of approximately 1 minute when the truckload of ore is not contained within either the mine workings or the Ore Storage Building.</p> <p>The Class 2 and Class 1 (lower-sulfur) development rock would be trucked from the Portal to the Backfill Materials Stockpile, where it would remain for a variable period of time until being used as feedstock for Cemented Rockfill (CRF) at the Cemented Backfill Plant. The stockpile will be lined, with the runoff and leachate collected and pumped to the Contact Water Treatment Plant.</p>
140	6b	444		If information is available: 1) how much cement would be used during the project; 2) where would that cement come from; and 3) what transportation methods would be used to transport cement? This information can be used to inform Item 18's assessment of the greenhouse gas emissions of this activity.	Answer question. Future discussion item where the response can be considered in development of the draft scoping decision document.	<p>Comment is noted.</p> <p>Future discussion item, as necessary, in development of DSDD.</p>
141	6b	444		RGU notes that the EIS could investigate any potential for CRF usage to result in water quality impacts.	Advisory only. Future discussion in development of draft scoping decision document.	<p>Comment is noted.</p> <p>Future discussion item, as necessary, in development of DSDD.</p>
142	6b	444		RGU notes that examination of potential CRF water quality impacts not only involves operations but also through the reclamation and closure phases of the project. This could include consideration of the make-up of the CRF and level of constituents that would be present and/or mobilized in groundwater.	Advisory only. Future discussion in development of draft scoping decision document.	<p>Comment is noted.</p> <p>Future discussion item, as necessary, in development of DSDD.</p>
143	6b	444		For the backfill, an engineered Cemented Rock Fill (CRF) will be used. Have there been studies done on their leaching characteristics?	Answer question.	<p>A Materials Characterization Program is underway and includes a comprehensive suite of static and kinetic test methods run on all lithological units that compose ore and development rock. The Program is conducted with detailed and regular review by the DNR Lands and Minerals Division staff. Static and kinetic testing of Cemented Rockfill is included in the program.</p> <p>The Project will address this question, as necessary, in the EIS.</p>

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144	6b	444		What is the long-term mitigation strategy to ensure little to no reactivity of the CRF with the air and water?	Answer question.	CRF will only be made utilizing Class 1 and Class 2 development rock. The Class 3 (higher-reactivity) development rock would not be kept on site for making CRF, instead it would be sent to the out-of-state processing facility along with the ore. The materials characterization static and kinetic testing of the CRF will inform management strategies that will be presented in the EIS data submission.
145	6b	444		Has the "crown pillar" strength been analyzed?	Answer question.	Refer to lines 468-470. The Project will address this question, as necessary, in the EIS.
146	6b	444		How will the "crown pillar" be kept safe during blasting to prevent subsidence?	How will the "crown pillar" be kept safe during blasting to prevent subsidence?	Refer to lines 468-470. The Project will address this question, as necessary, in the EIS.
147	6b	444		What happens if after excavation happens the deflection at the surface becomes not negligible?	Answer question.	Refer to lines 468-470. The Project will address this question, as necessary, in the EIS.
148	6b	445		Has limited backfill mixing underground to minimize "double hauling" been considered?	Answer question.	The potential for supplementary batching of backfill within the underground workings is the subject of ongoing engineering tradeoff studies. Timing-related considerations are an important factor, since the mining of development rock is front-loaded, with the majority of the development rock being generated during pre-production and the initial period of mine production. This material would be consumed to produce backfill at a relatively consistent rate throughout the mine production life until it is depleted and supplemented with purchased aggregates. The development rock would also need to be stored during the interim, and there is very little capacity for storing the material underground.
149	6b	445		what are the properties of the CRF compared to (for instance) concrete? Concrete would typically be 10-15% cement vs 4-10% cited for CRF. What would the strength and permeability of this material be expected to be? I'm assuming this will not be high strength (compared to concrete) and will have higher compared to the surrounding bedrock. What would the strength requirements be for this type of backfill?	Answer questions.	The strength requirement for the CRF is determined by empirical and numerical modeling, mining method, excavation size and geotechnical conditions. Once the required strength range is established, lab scale testing is conducted on the material planned to be used to produce the CRF. The lab testing provides a recipe specifying the percent of binder required and the binder: water ratio required to achieve the desired strength. Permeability testing is also conducted on the CRF. The Project has followed this process for the initial design of the project. The Project will provide the necessary information for the EIS data submission.
150	6b	445		The hydraulic characteristics of the cemented rock fill and any other material that is used for backfill should be evaluated because it will affect groundwater hydrology at closure and may impact the leaching of contaminants from the waste rock that is used in the backfill.	Advisory only. Future discussion in development of draft scoping decision document.	Comment is noted. Future discussion item, as necessary, in development of DSDD.

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151	6b	450		If underground drainage becomes acidic, then use of acid-resistant materials may become necessary. Has this been considered?	Answer questions.	Corrosion of rock bolts is the primary item which would be addressed using alternative methods and materials as necessary. See Responses to Comments #116 and #117. Other elements of underground infrastructure are readily accessible and available for inspection, maintenance and replacement, as necessary. Corrosion is a common consideration of many underground mines, and equipment such as pumps intended for mining usage are designed by manufacturers to be corrosion-resistant. All underground infrastructure would be inspected, and preventative maintenance performed on a regular schedule.
152	6b	452		If known the EIS should identify the source of externally purchased aggregate, which could allow greater specificity in assessing potential environmental impacts with this project.	Advisory only. Future discussion in development of draft scoping decision document.	Comment is noted. Future discussion item, as necessary, in development of DSDD.
153	6b	456		It is appropriate to note that no tailings are proposed for use in CRF. At Line 458, add the sentence: "No tailings usage is proposed with the project."	Edit text.	Comment is noted. EAW text was edited.
154	6b	466		Has any modeling been done to backup pillar depth and estimated subsidence?	Answer questions.	Refer to lines 468–470. The Project will address this question, as necessary, in the EIS.
155	6b	466		The hydraulic characteristics of the bedrock that comprises the crown pillar should be evaluated in order to determine whether mine dewatering will impact groundwater levels in the unconsolidated sediments above the pillar. A plan to monitor for impacts to the surficial aquifer from mine dewatering should be developed.	Advisory only. Future discussion in development of draft scoping decision document.	Comment is noted. Future discussion item, as necessary, in development of DSDD.
156	6b	466		Does Talon propose to prepare a report analyzing the potential for subsidence and assessing crown pillar stability? Factors that could be considered would be: proposed mining methods; depth of extraction; thickness of deposit; topography; and features of the rock mass located above the deposit.	Answer question.	Refer to lines 468–470. The Project will address this question, as necessary, in the EIS.
157	6b	466		Does Talon propose to report the crown pillar design methodology and provide a summary of all known fractures and joints considered in the design?	Answer question.	Refer to lines 468–470. The Project will address this question, as necessary, in the EIS.
158	6b	466		Does Talon propose to assess the potential for subsidence and crown pillar stability using a three-dimensional numerical simulation to be used over the operating life of the project? Would this include both the empirical Scaled Crown Pillar assessment plus numerical modeling?	Answer question.	Refer to lines 468–470. The Project will address this question, as necessary, in the EIS.
159	6b	466		Does the modeling for subsidence and crown pillar stability need to account for the presence and/or lack of backfill in the mined-out stopes?	Answer question.	Refer to lines 468–470. The Project will address this question, as necessary, in the EIS.
160	9	466	Table 8	Does Talon propose to consider the potential for any area above the stopes to be in a fracture of shear zone that could influence the potential for subsidence?	Answer question.	Comment is noted. Refer to lines 468–470. Additional information, analysis and

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						assumptions regarding the crown pillar modeling will be provided for the EIS.
161	6b	468		The EAW indicates that the crown pillar is 200 feet of bedrock plus 100 feet of overburden. Should it be assumed that the overburden does not have structural value and therefore the crown pillar thickness that applies to the project is 200 feet?	Answer question.	Refer to lines 468–470. The Project will address this question, as necessary, in the EIS data submission.
162	6b	468		The EAW states numerical and empirical analyses have shown less than 0.2 inches of subsidence over the mine. Provide these analyses and any supporting data so they can be reviewed.	Provide documentation to confirm the assertion.	Details regarding the methodologies and assumptions made for the crown pillar stability assessment will be provided in the EIS submission.
163	6b	469		No margin of error is provided for the crown pillar depth at the ground surface. Is the depth consistent throughout all locations and depths? In very low gradient wetlands such as peatlands, even small changes in elevation due to subsidence can impact microtopography and water chemistry and therefore plant communities. More detail is needed on this analysis.	Provide documentation to confirm the assertion.	Details regarding the methodologies and assumptions made for the crown pillar stability assessment will be provided in the EIS submission.
164	6b	471		If known, what is the volume of development rock that is expected to be generated?	Answer question.	Comment is noted. The exact volume of development rock expected to be generated will be dependent on final engineering of the layout of the underground workings. The Backfill Materials Stockpile would have adequate capacity to hold the peak anticipated volume of development rock net of the volume utilized for underground backfill up until that time.
165	6b	471		As 90% of the backfill is expected to be CRF, an understanding of how this will change groundwater flow long-term will be needed.	Advisory only. Future discussion in development of draft scoping decision document.	Comment is noted. Future discussion item, as necessary, in development of DSDD.
166	6b	473		The EIS will likely require additional information on the areas to be filled with uncemented rock. If known would using cemented backfill everywhere reduce the chances of subsidence even more?	Answer question. Future discussion item where the response can be considered in development of the draft scoping decision document.	Refer to lines 468–470. Future discussion item, as necessary, in development of DSDD.

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167	6b	477		Is there the possibility that if there isn't an adequate air moving system in the portals, could the exhaust air vented through the exhaust stack system near the secondary portal be sucked back into the portal, returning diluted exhaust air back into the mine, reintroducing unwanted gasses and particulates?	Answer question.	Fans will be located at each Portal as well as underground in order to effectuate the mine ventilation airflow pattern, in which air will be drawn into the intake portal, sent down the Intake Decline, directed throughout the mine, sent back up the Exhaust Decline and ultimately exhausted via the Mine Exhaust Stacks. Recirculation of air exhausted from the mine ventilation system is not anticipated to be an issue due to the significant separation distance from the Mine Exhaust Stacks to the Secondary Intake Fan (approximately 250 feet), as shown in Figure 3 of initial Project Description. Also, the vertically-oriented Mine Exhaust Stacks will release the exhaust air at a height several dozen feet above ground level and will direct the air upwards and away from the Portals.
168	6b	477		How will the portals be designed so that one would serve as a fresh-air intake and the other as exhaust?	Answer question.	See Response to Comment #167.
169	6b	477		Like with the Mining Cycle section before, this section says "Prior to release, the exhaust air would undergo a filtration or scrubbing process to reduce the amount of suspended dust and particulates." Why would the ventilation system be reducing and not eliminating the suspended particulates?	Answer question.	See Response to Comment #111.
170	6b	477		Are there any potential impacts from the fact that there will be no frost around the portals in winter?	Answer question.	The Project requests additional explanation and context regarding this question.
171	6b	478		Would booster fans and air doors be required?	Answer question.	Underground booster fans and auxiliary fans would help move the air through the mine. An assortment of underground ventilation controls which may include ducting, air doors, regulators, and ventilation stoppings (walls) would also direct the appropriate amount of airflow to the appropriate areas of the underground mine.
172	6b	491		This section describes a water collection system to gather runoff, which would undergo treatment to comply with relevant water quality standards. If known, how often will the water be tested to ensure the water quality standards are met?	Answer question.	The specific intervals and timing of water sampling and testing at various locations will be determined in conjunction with the RGU during the permitting process after the EIS is complete.
173	6b	491		The backfill plant creating the CRF is essentially a cement plant. The draft scoping decision document will detail how potential impacts would be evaluated.	Advisory only.	Proposer notes that the Cemented Backfill Plant is not analogous to a cement manufacturing plant. Cement would be purchased from an external offsite vendor and delivered to the project site. The Cemented Backfill Plant is, however, analogous to a concrete batch plant. Concrete batching and cement manufacturing have significantly different environmental considerations. Future discussion item, as necessary, in development of DSDD.
174	6b	498		RGU notes that overburden contains organic material as well as mercury. If known are there plans to line the overburden stockpile, including collection of leachate to be treated as contact water, to avoid increases in methylmercury in surrounding surface waters? The EIS would likely require a detailed description of the water quality of leachate from the overburden stockpile. Also, would peat that is excavated from the rail corridor be stored here?	Answer question. Response will inform development of draft scoping decision document, especially in considering potential for mercury or other impacts from stockpiling of these materials.	The Materials Characterization Program is underway and designed to collect a range of data needed to understand the geochemical constituents of overburden materials. The Project will address, as necessary, this issue in the EIS.

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175	6b	498		If known detail should be added that describes how the overburden and topsoil would be screened (prior to placement in outdoor stockpile) as being appropriate for the listed potential uses identified in Lines 499-501.	Consider comment and edit text where anything is known at this time. Future discussion item for treatment of topic in draft scoping decision document.	Overburden (unconsolidated sediments and topsoil) would not be categorized (screened) before they are placed in their respective stockpiles. Overburden and topsoil would be screened before they are removed from the stockpiles to determine if they are suitable for one of the uses described in line 498 – 502.
176	6b	498		EAW should describe how the overburden and topsoil stockpile footprint would be graded and lined to collect and treat leachate.	Consider comment and edit text where anything is known at this time.	Comment is noted. The Project will address, as necessary, this issue in the EIS.
177	6b	498		What is the anticipated height of the overburden pile?	Answer question.	The Overburden Stockpile (temporary) is currently planned to be 40 feet in height.
178	6b	501		The text implies that overburden would be stored long enough to be used in reclamation. Long term soil stabilizations methods would be needed to limit erosion in addition to BMPs for dust generation. Clarification as to whether the proposed overburden storage site is intended for short-term as well as long-term storage.	Consider comment; add detail if available. If not available, then the issue flagged for the draft scoping decision document.	Comment is noted. Future discussion item, as necessary, in development of DSDD.
179	6b	501		RGU notes that if the overburden contains mercury, consideration of the adequacy of dust control BMP's would likely be needed for the EIS. The analysis may determine the possibility that additional dust controls are needed beyond standard BMP's.	Advisory only. Future discussion item for the draft scoping decision document on treatment of issue for EIS.	Comment is noted. The Project will address, as necessary, this issue in the EIS.
180	6b	501		The EIS would likely require further explanation around what would constitute "best management" practices for dust control.	Consider comment; add detail if available. If not available, then the issue flagged for the draft scoping decision document.	Comment is noted. Future discussion item, as necessary, in development of DSDD.
181	6b	503		It known how would the peat and muck deposit be removed or stabilized to prevent settlement from causing distress to the liner and leachate collection system placed for the Cement Rock Fill (CRF) manufacturing area footprint?	Answer question. Modify text as needed.	Nearly the entire extent of this area of the facility is constructed on uplands without the presence of peat. All this area would have appropriate preparations for construction, including an appropriate degree of soil compaction to prevent differential settlement.
182	6b	503		The EIS would likely require a detailed project description, which among other project components address the design of the outside area to be used to manufacture the CRF material. Issues to be considered in the design include, but are not limited to, the following: 1) how the CRF would be separated from the surface environment, 2) how infiltration of water into the CRF and into the liner system would be restricted, 3) how temperature extremes would be addressed including freeze-thaw, 4) how cyclic wetting and drying of the liner system would be addressed, 5) how penetration of roots or burrowing animals through the liner system would be addressed, 6) how total and differential settlement of foundation soils would be addressed, 7) how long term moisture changes of the natural soil or liner system would be addressed, and 8) how the hydraulic barrier liner system and pad would be selected.	Advisory only. Information recommended for consideration in selecting design for CRF. Future discussion item for draft scoping decision document.	Comment is noted. Future discussion item, as necessary, in development of DSDD.

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183	6b	503		Would sulfur be the only proxy used for classification? Preliminary characterization has found that metals, and other parameters, are not well correlated as a function of sulfur within the various waste rock units.	Answer question.	The Materials Characterization Program is underway and designed to collect a range of data needed to understand the rock constituents that control acid rock generation and metal leaching. Sulfur is anticipated to be a primary parameter used to classify development rock; additional parameters would be included if they are determined to be proxies for geochemical behavior.
184	6b	504		The document correctly notes that metal leaching criteria must be established for the project to determine materials that are suitable for construction and materials that must be specially managed for metal leaching. Continue to work with DNR to develop appropriate metal leaching criteria suitable for protecting the environment and meeting regulatory expectations. This would likely include metal leaching and acid mine drainage management objectives and conceptual design that must be developed to help plan for waste management mitigation at the level determined appropriate for the EIS.	Advisory only. Future discussion item for the draft scoping decision document on treatment of issue for EIS.	Comment is noted. A Materials Characterization Program is underway and includes a comprehensive suite of static and kinetic test methods run on all lithological units that compose ore and development rock. The Program is conducted with detailed and regular review by the DNR Lands and Minerals Division staff. Management plans for development rock will be informed by the geochemical characterization data set. Future discussion item, as necessary, in development of DSDD.
185	6b	504		RGU notes that sulfur concentration may not be sufficient to classify different waste rock categories. A comprehensive waste characterization program needs to be completed to accurately define the level of material management required.	Advisory only. Future discussion item for the draft scoping decision document on treatment of issue for EIS.	Comment is noted. A Materials Characterization Program is underway and includes a comprehensive suite of static and kinetic test methods run on all lithological units that compose ore and development rock. The Program is conducted with detailed and regular review by the DNR Lands and Minerals Division staff. Management plans for development rock will be informed by the geochemical characterization data set. Future discussion item, as necessary, in development of DSDD.
186	6b	504		Note, the mine waste material classification and management strategies for EIS requirements may not be detailed enough or sufficient for a permit to mine application.	Advisory only.	Comment is noted. A Materials Characterization Program is underway and includes a comprehensive suite of static and kinetic test methods run on all lithological units that compose ore and development rock. The program is conducted with detailed and regular review by the DNR Lands and Minerals Division staff to ensure the data set is sufficient for both EIS and a permit to mine application.
187	6b	507		More data and discussion relative to analyses and classification method and ranges could be required. Are there enough drill core left for this or will another drilling program be needed?	Answer question. Future discussion item for the draft scoping decision document on treatment of issue for EIS.	The Project has existing drill core that has been sampled for the Materials Characterization Program. The existing core is expected to be sufficient to support the ongoing materials characterization sampling and analyses work. However, the Project has the capacity to drill new core holes if it is determined that additional core is needed for materials characterization.
188	6b	507		How are the different rock categories (2 and 3 specifically) determined during mine operation?	Answer question. Modify text as needed.	During mining operations, a sampling procedure will be in place to collect data from development rock as it is blasted and removed from the mine as new tunnels are dug. This sampling procedure will occur after blasting to provide data for use in classifying development rock into categories. The rock will be removed from the mine and placed in the location designated for each category.

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189	6b	512		How will the class 1,2,3 development rock be analyzed and segregated? When will the sampling size, frequency, plan and QAQC plan be developed for this?	Answer question. Modify text as needed.	See Response to Comment #188.
190	6b	514		Will there be a testing regime to determine sulfur content during development?	Answer question.	See Response to Comment #188.
191	6b	514		The overburden/bedrock mixed material will need to be classified based on waste characterization testing of the two materials. Perhaps it would fall into the undefined Class 2 type, but waste characterization test work will need to be used for determining the correct class type.	Advisory only. Future discussion item for the draft scoping decision document on treatment of issue for EIS.	Comment is noted. The Materials Characterization Program is underway and includes a comprehensive suite of static and kinetic test methods run on all lithological units that compose ore and development rock, including the overburden. Future discussion item, as necessary, in development of DSDD.
192	6b	515		It is not explained why the mixed material of overburden and bedrock would be handled as Class 2 bedrock. Provide a rationale for this and if there are any implications for storing the two together considering any differences in geochemical characterization, etc.	Answer question.	When the TBM is briefly crossing the boundary between the overburden and bedrock, it would generate minor quantities of mixed material. Since a minor portion of this material would consist of bedrock, it is not suited for storing in the Overburden Stockpile (temporary). Therefore it would be treated as bedrock (development rock) and stored on the Backfill Materials Stockpile, which has a higher degree of environmental controls (runoff and leachate collected would be sent to the temporary or permanent Contact Water Treatment Plants). The Materials Characterization Program will evaluate the bedrock lithologies and the overburden to confirm criteria for assigning the classification to bedrock (Class 1, 2 or 3) based on levels of potential reactivity. It will also evaluate the potential reactivity of the overburden. During operations, Class 3 (more-reactive) development rock is handled differently from Class 1 and 2 in that Class 3 will be co-mingled with the ore and shipped to the processing facility. This solution is not viable during the pre-construction period when the TBM will be generating development rock, because the rail facilities and processing facility will not yet be constructed. All development rock generated during this period would instead be held on site. The majority of development rock generated during this period is anticipated to be Class 1 or 2 and blending the relatively small volume of Class 3 rock expected to be generated during this period is not anticipated to exceed criteria for Class 2.
193	6b	518		If known, exactly how much sulfur is found in each of the rock categories?	Answer question.	See Response to Comment #132.
194	6b	520		What is the purpose of blending the high and low-sulfur rock? A different approach would be to treat the high-sulfur rock separately than low-sulfur rock with extra precautions taken, not blended as proposed.	Answer question. Future discussion item for the draft scoping decision document on treatment of issue for EIS.	Comment is noted. See Response to Comment #192.
195	6b	522		To the degree known the document should describe the method of blending Class 1 and 3 development rock, where and when the blending process is to take place (surface or underground) and a testing program to ensure the blended Class 2 rock maintains homogeneity.	Consider comment and edit document if possible. Future discussion item for	Comment is noted. See Response to Comment #192.

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					development of draft scoping decision document.	
196	6b	523		Will monitoring be conducted to measure any release of sulfur to groundwater or surface water from the lined storage area?	Answer question.	The Backfill Materials Stockpile would have an under-drain with a leak detection system beneath the liner. The specific intervals and timing of water sampling and testing at various locations would be determined in conjunction with the RGU during the permitting process after the EIS is complete.
197	6b	524		This talks about a water collection system for runoff - what about groundwater/seepage? Is a subsurface system needed to collect seepage through the liner or control groundwater?	Answer question.	Comment noted. See Response to Comment #196.
198	6b	526		Commercial aggregate would be used to make CRF after development rock is depleted. If the potential source(s) is know, has the candidate aggregate been determined and studied as to the chemical reactivity to air and water?	Answer question. Response will inform development of draft scoping decision document, especially in considering potential long-term impacts to groundwater.	Comment is noted. The Project has not yet decided upon the aggregate supplier and source, pending additional data collection and supplier discussions. CRF made using planned aggregate sources will be studied as part of the Materials Characterization Program conducted under an RGU-approved work plan. Future discussion item, as necessary, in development of DSDD.
199	6b	526		The RGU notes that it remains to be determined how the acquisition, transport, and use of commercial aggregate would be evaluated in the EIS.	Advisory only. Future discussion item for the draft scoping decision document on treatment of issue for EIS.	Comment is noted. Future discussion item, as necessary, in development of DSDD.
200	6b	530		Note, ensuring no net acid production from any of the mine wastes stored underground will be a project requirement. In addition, release of metals or other potentially harmful constituents under neutral to alkaline conditions will also need to be evaluated to ensure protection of natural resources.	Advisory only. Future discussion issue for development of draft scoping decision document.	Comment is noted. Future discussion item, as necessary, in development of DSDD.
201	6b	536		The document notes proposed use of an appropriate amount of alkaline material to "... neutralize any potential acidity that could be generated from the material." Has the type of alkaline material been determined? Is it lime?	Answer question. Response will inform development of draft scoping decision document.	Comment is noted. The exact type of alkaline material has not yet been determined but could include lime, limestone, cement or other materials. Future discussion item, as necessary, in development of DSDD.
202	6b	536		What are the alkaline material's longevity and effectiveness? Have they been analyzed?	Answer question. Response will inform development of draft scoping decision document.	Comment noted. See Response to Comment #201.
203	6b	536		How exactly will these fines be analyzed? Provide specific methods.	Answer question.	Specific analysis methods and procedures for how the fines will be analyzed for sulfur content and reactivity will be defined during the permitting process once criteria are further developed.
204	6b	537		How would the alkaline material be incorporated and tested to determine it won't be acidic?	Answer question.	Comment noted. See Response to Comment #201.

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205	6b	538		Although the fines might only account for 2% of the backfill, this material could still have a potential for significant impact on water quality. Future waste characterization of this material should be considered and discussed.	Advisory only. Future discussion issue for development of draft scoping decision document.	Comment is noted. The Materials Characterization Program includes the 'fines' material. Future discussion item, as necessary, in development of DSDD.
206	6b	541		The document indicates project-related activities would result in combinations of various materials that may or may not be used as backfill components. Analysis of all these combinations of materials, whether used as backfill or not used as backfill, would be needed along with their planned disposal methods and locations for the EIS.	Advisory only. Future discussion issue for development of draft scoping decision document, where the EIS will require detailed information to assess potential impacts.	Comment noted. See Response to Comment #191.
207	6b	541		Information regarding the character and management of water treatment residue is required. This may be important given the preference of using reverse-osmosis or other membrane based water treatment technologies, which generate a liquid brine waste. If known, the document should discuss the volume, character, and management of this stream in some measure of greater detail.	Advisory only. Future discussion issue for development of draft scoping decision document, where the EIS will require detailed information to assess potential impacts.	Comment is noted. Future discussion item, as necessary, in development of DSDD.
208	6b	541		All material movement within the project will need to be evaluated for various types impacts.	Advisory only. Future discussion issue for development of draft scoping decision document, where the EIS will require detailed information to assess potential impacts, especially for air and water resources.	Comment is noted. Future discussion item, as necessary, in development of DSDD.
209	6b	543		Information regarding how the lined stockpile pad at the backfill materials storage area will be constructed (e.g., will it have a geomembrane liner, will it use gravity drains or pumps) should be provided, including hydraulic conductivity estimates for all liner materials.	Respond to request with information as now known. Project description for EIS will require detailed information around all proposed liners. Future discussion issue for development of draft scoping decision document.	Specific details regarding the construction of the liner system at the Backfill Materials Stockpile will be provided as part of the EIS.
210	6b	544		If known the document should identify what liner type is proposed. Based on the selection, the EIS may include further identification and assessment of the risk for short term or long term failure for the following liners: single compacted bentonite amended soil liner (BAL), single compacted clay liner (CCL), single geomembrane (GM), single geosynthetic clay liner (GCL), two component composite line GM/CCL, two component composite liner GM/GCL.	Respond to request with information as now known. Project description for EIS will require detailed information around all	The engineering design for construction of the liner system at the Backfill Materials Stockpile has not yet been completed and will be provided as part of the EIS data submittal.

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				Consideration is likely around the polymer choice and why it was been selected for the GM.	proposed liners, including potential alternatives to the proposed action. Future discussion issue for development of draft scoping decision document.	
211	6b	545		It is likely that dust originating in the backfill materials storage area would be reactive (to some degree). The EIS may consider the efficacy of dust control BMP's to ensure that they are sufficient to prevent contamination from blowing dust.	Advisory only. Future discussion issue for development of draft scoping decision document, where there may be consideration of potential alternatives that reduce handling/dust generation within the backfill storage facility.	Comment is noted. A Fugitive Dust Control Plan will be developed to control fugitive emissions. Future discussion item, as necessary, in development of the DSDD.
212	6b	547		A Fugitive Dust Control Plan is forthcoming in EIS. Recommend review of NIOSH Dust Control Handbook for Industrial Minerals Mining and Processing (NIOSH, 2019) in preparation of the Fugitive Dust Control Plan. Plan for sampling and analysis of types and quantity of fugitive dust has not been presented.	Advisory only. Future discussion issue for development of draft scoping decision document, where the may be consideration of the required sampling and analysis protocols for the types and quantity of fugitive dust generated during operations; this would be needed to assess the predicted efficacy of the measures.	Comment noted. See Response to Comment #211.
213	6b	550		If known, describe the plan to control fugitive dust while backfill materials are stored for 4-5 years temporarily.	Consider comment and edit text as currently understood. This would be detail required for the detailed project description for the EIS.	Comment noted. See Response to Comment #211.

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214	6b	561		If known, describe dust control system that would be included within the crushing facility and how worker respiratory health will be protected in accordance with MSHA.	Consider comment and edit as currently understood. The response will inform the EIS's consideration of potential worker respiratory health issues, especially protection in accordance with MSHA requirements. Future discussion item.	Specifics regarding the dust control system within the Cemented Backfill Plant will be discussed as part of the EIS. All underground mines receive inspections by Mine Safety and Health Administration (MSHA) officials on a minimum quarterly interval (at least four inspections per year). A component of these inspections will include sampling of employees' exposure to respirable crystalline silica, to ensure individual exposure over the length of the shift is below the MSHA health standard. In addition, the Project's Health & Safety Department would conduct significant sampling between the regular MSHA inspections.
215	6b	563		If known, how much cement is anticipated for the CRF? The trucking of cement should be considered with the traffic plan.	Answer question and modify text as known.	All deliveries to the site including cement, shotcrete, maintenance deliveries, backfill rock form off site will be considered in the traffic plan. The Project is conducting a traffic study to inform the EIS data submission.
216	6b	566	Figure 11	Graphic 11 only describes material flows at the mine site. The document would benefit from a similar, additional graphic/table/etc. describing materials flow of supplies to the mine (cement, grout, aggregate, etc..) and from the mine (ore, RO waste solids, garbage, etc..).	Consider comment and edit document to address.	The Project intends to develop this as part of the EIS process when the various types of external & lower-volume material flows will be established in more detail.
217	6b	566	Graphic 11	In describing the TBM generating a small quantities of Class 3 development rock when passing through bedrock intervals containing elevated sulfur, and the plan appears to be to blend Class 3 rocks with Class 1 rock to affectively create a Class 2 rock equivalent. However, this process is not shown in Graphic 11: Flowchart of Material Transfer between Surface and Underground.	Consider the comment and modify text and/or graphic as indicated.	Graphic 11 is intended to display the primary material flows which will occur once construction is complete and production begins. Temporary material flows during construction are excluded from this graphic as well as lower-volume or external material flows as mentioned in Response to Comment #216. The project intends to develop this as part of the EIS process when the various types of temporary material flows during the construction period will be established in more detail.
218	6b	566	Graphic 11	The language found in Graphic 11: Flowchart of Material Transfer between Surface and Underground does not match the language used in the EAW text. Most prominent of these is the use of "Type" instead of "Class" when describing the three categories of development rock.	Consider comment; modify text as needed for body and graphic.	Comment is noted. The graphic text was updated.
219	6b	569		The potential for railcars to be contaminated with dust from the loading of ore with a front end loader is a consideration. This could lead to dust sticking to the railcars that would subsequently leave the site that could be deposited along the rail line between the mine and the Minnesota border (or even the rail line to the processing facility in North Dakota). In this respect, consideration could also be given to treating the railway yard as a contact water area.	Advisory only. Future discussion item in development of the draft scoping decision document, which could include consideration of washing the rail cars before they leave the rail loadout facility. More broadly, the project description will require detail on this project component to assess potential impacts.	Comment is noted. Future discussion item, as necessary, in development of DSDD.

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220	6b	569		The proposer should anticipate the EIS identifying the need for a comprehensive monitoring program for the rail line and the rail switches north of the BNSF rail line determine if reactive dust/material spills are occurring.	Advisory only. Such a monitoring program would be used to minimize potential impacts to wetlands or water resources.	Comment is noted. The Project will address this question, as necessary, in the EIS.
221	6b	569		Estimates around the size and frequency of: 1) the number of rail cars; and 2) number of transports per week, are not consistent. Item 20 at Line 2234 says ore would be shipped "approximately every two days." What accounts for this variability?	Answer question and try to make the text consistent on this estimate.	Rail shipment size and frequency is not yet precisely defined and will depend on additional analysis and coordination with the BNSF (see Response to Comment #222). The line within Section 20 of the document referenced in the Comment has been edited to match the 2- to 7-day train interval mentioned earlier in the document.
222	6b	569		Are there ways to decrease the number of transports per week but have the amount being transported out be consistent in total tonnage?	Answer question.	Reducing the train shipment frequency would require each shipment to be larger, both in terms of ore tonnage and number of cars. This may require an increase in the railcar storage capacity of the railyard and/or an increase in the capacity or size of the Enclosed Ore Storage Building, however this would have the benefit of reduced noise, reduced train traffic, and reduced disruption to road traffic at railway crossings. The precise shipment frequency will also be dependent upon BNSF schedule availability at time of production commencement. Line 587 of the initial Project Description included a range of shipment intervals and sizes which would be further refined as more detail is developed during the EIS process.
223	6b	569		How do these rail transport size and frequency estimates relate to a rate up to 800,000 short ton per year?	Answer question.	Shipping ore at a rate of up to 800,000 short tons per year would require 7,273 carloads per year at a railcar capacity of 110 short tons per carload. With an every-two-day shipping interval, this would require approximately 40 railcars per shipment. With a full train length of approximately 120 railcars, this would require approximately 60 shipments per year (slightly more than one per week).
224	6b	570		If known: 1) what is the capacity of the ore storage and rail loadout facility(?); 2) should there be any delays in transportation of material to North Dakota, how many days can the ore/Class 3 rock be stored in the facility before running out of space(?); and 3) are there other areas of the mine contemplated for contingency storage?	Answer questions.	The capacity of the Enclosed Ore Storage and Rail Loadout Facility as described in the Project Description would provide approximately 4-5 days of storage capacity at full production. Additional ore and Class 3 development rock could be temporarily stored underground in various locations. Underground temporary storage capacity would be very limited at the beginning of the mine life but would be significant once the mine is fully developed. This would enable production operations to continue for an additional period in the event of a temporary rail disruption.

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225	6b	571		Some type of verification would likely be required to verify "enclosed building" is achieved prior to making any assumptions related to air quality assessments.	Advisory only. Future discussion item, potentially component of work plan development.	Comment is noted. When applicable, buildings are being designed to meet EPA method 204 total enclosure. Future discussion item, as necessary, in development of DSDD.
226	6b	577		If known, what kinds of railcars are being used? Can fine sulfide minerals escape out the bottom along the railroad tracks?	Answer question; response will be used in development of draft scoping decision document.	The railcars are expected to be conventional rigid gondolas or side-dump pivoting gondolas. The Project would not utilize bottom-dump railcars. All railcars would have a rigid cover or lid securely attached prior to leaving the Enclosed Rail Loadout Building, which would not be removed until entering the Enclosed Ore Receiving Building at the processing facility. This would provide enclosure of the material in the gondola and enable control of fugitive dust and contact with precipitation.
227	6b	577		The detailed project description should allow understanding of all sources of fugitive dust, including from ore/development rock handling among other cited sources.	Advisory only. Future discussion item for development of draft scoping decision document, especially related to assessment of potential dust-related contributions to contact water and industrial stormwater. This would be in addition to assessing fugitive dust impacts to water quality and associated mitigations generally.	Comment is noted. The Project emission inventory will include all fugitive emissions. Future discussion item, as necessary, in development of DSDD.
228	6b	578		The EIS may require more information around any contingency plans in place for holes, leaks, or malfunctions with covers for railcar transport. Supplying case studies or reference sites describing fugitive dust control measures associated with movement of material with MLARD potential may be needed.	Advisory only. Future discussion topic in development of draft scoping decision document.	Comment is noted. The Project will address, as necessary, this issue in the EIS.
229	6b	585		The detailed project description may require more specificity around ore movement schedules and railcar loading and unloading.	Advisory only. Future discussion topic in development of draft scoping decision document.	Comment is noted. Future discussion item, as necessary, in development of DSDD.
230	6b	586		If known, any measures associated with temporary slow periods or shutdowns should be provided, especially for when the ore/Class 3 rock would sit in the loadout facility for an extended period of time. It is not uncommon for mines to enter into periods of care and maintenance and so the appropriate planning for such periods should begin as early as possible. How materials ready to be shipped would be managed during a temporary closure period would be useful to document.	Consider comment and add detail to the document where appropriate. Detail here may be needed for the project description to support the EIS analyses.	Materials handling procedures for the event of an extended suspension of production is a subject that will be evaluated as part of the EIS process.

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231	6b	587		Source terms for water quality modelling must be developed for all potential waste stored for short and longer periods. Contingency planning and source term development are critical even if waste may be moved off site.	Advisory only. Future discussion item in development of the draft scoping decision document.	Comment is noted. Future discussion item, as necessary, in development of DSDD.
232	6b	589		More detail is needed about construction of the railway spur.	Advisory only. This would be accomplished in the detailed project description. Detail needed to assess potential impacts to wetlands and surrounding areas.	Comment is noted. Future discussion item, as necessary, in development of DSDD.
233	6b	596		Detailed water balance is needed and a range of different alternatives for water management need to be developed.	Advisory only. Future discussion in development of draft scoping decision document.	Comment is noted. Future discussion item, as necessary, in development of DSDD.
234	6b	596		A detailed water balance model should be constructed for the mine to estimate the quantities of water that will be generated for each category of water, and where and in what quantities water will be moved, stored, used, and discharged at the site.	Advisory only. Future discussion item for development of draft scoping decision document.	Comment is noted. Future discussion item, as necessary, in development of DSDD.
235	6b	598		If known provide an estimate of the volume of contact water that will be generated.	Address comment and update EAW as appropriate.	Please reference line 1361 of the initial EAW Project Description for a preliminary estimate of overall contact water, and lines 1344-1363 for additional description and background.
236	6b	606		How will the contact water from the underground mine be processed ?	Answer question.	Please reference line 667-684 of the initial EAW Project Description for management of contact water from the underground mine and 658-663 regarding water treatment. As noted on line 814, details on the water treatment facilities, including anticipated technologies that would be utilized, will be developed and available to support the development of the EIS. Proposer anticipates utilizing a form of reverse-osmosis water treatment technology, in conjunction with other treatment methods.
237	6b	615		Explain how the TBM water is to be permitted. Will it be considered construction dewatering (permitted under the construction stormwater permit) or industrial wastewater (under the industrial wastewater permit)? It is unclear at this time whether the TBM water can be covered under a construction stormwater permit.	Answer question.	Ultimately this will be a decision for the RGU. Proposer's current assumption is that the TBM water would be regulated under the Construction General Stormwater Permit due to the short-term duration of the period when this water would be produced, which would all occur while the mine is under construction, and before production begins.

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238	6b	621		For the non-potable water "used for other purposes," information on reuse locations and water quality will be needed.	Address comment and update EAW as appropriate.	The "Categories of Water" subheading in the project description has been modified to reflect the below. Graphic 12 has also been updated. Non-potable water would include both contact water that has been treated by the Contact water treatment plant, as well as untreated water sourced from the well that would also feed the Potable Water Treatment Plant. This water would be used both underground and on surface, in both the contact area and the industrial stormwater area. -On surface, the water would be utilized for dust control on roadways and stockpiles, washing mobile equipment inside the Maintenance Facility, washing equipment and surfaces inside various buildings, fire suppression sprinkler systems inside various buildings, batching of Cemented Rockfill at the Cemented Backfill Plant, and other minor uses. -Underground, the water would be utilized for cleaning of mobile and fixed equipment, dust suppression during materials handling, dust suppression and drill bit cooling during drilling operations, shotcrete batching, and other minor uses.
239	6b	628	Figure 3; Graphic 12	The graphic shows there will be an industrial stormwater pond/treatment system, yet Figure 3 does not indicate where on site this system will be located. Revise Figure 3 to show this.	Address comment and update EAW as appropriate.	Figure 3 shows the location of the Industrial Stormwater Pond in the northern portion of the site east of the Contact Water Storage Tanks. Both locations are now labelled in Figure 3.
240	6b	629	Graphic 12	More information on the anticipated wastewater quality, quantity, flow rates, and wastewater treatment processes and design will be required for the EIS and permitting	Advisory only. Future discussion in development of draft scoping decision document.	Comment is noted. Future discussion item, as necessary, in development of DSDD.
241	6b	630		The EAW needs to contain what action Talon will take in order to address community's concerns about potential environmental impacts.	Address comment and update EAW as appropriate.	The Project has held numerous informal public meetings on a quarterly cadence to gather community input and feedback, which has been utilized in the design of the facilities and development of the Project Description. The Project looks forward to ongoing informal community input combined with the formal public scoping and comment process.
242	6b	630		Specifically describe the "advanced, affective, and sustainable technology" Talon will be utilizing for the proposed project.	Address comment and update EAW as appropriate.	Talon Metals is a member of the National Alliance for Water Innovation and has been actively working to identify the most appropriate water treatment technology. The specifics of the flowsheet and treatment technologies will be selected prior to the Project's EIS data submission.

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243	6b	630		In the event of an extreme storm event, and the overflow water from the contact water sumps are routed to the lined footprint of the backfill materials storage area to temporarily accept overflow contact water, what happens if the volume is so great that even the backfill materials storage area overflows? Will the lined ditches convey contact water overflow?	Answer question.	<p>The Contact Water Collection Sumps and pumping system are designed to handle the inflows generated by the 200-year storm event frequency criteria.</p> <p>The additional storage within the lined footprint of the Backfill Materials Stockpile is provided to retain water within the site the precipitation from a high intensity, short duration 200-year storm event. The lined ditches would convey the contact water overflow from the relevant sumps to the Backfill Materials Stockpile. From the Backfill Materials Stockpile, the water would then be transferred to the Contact Water Storage Tanks.</p>
244	6b	630		Different sources of contact water described. What is a conservative estimate of contact water volume? This would help with assessment of storage and treatment capacity needs.	Address comment and update EAW as appropriate.	<p>Commented noted.</p> <p>See Response to Comment #235</p>
245	6b	630		The above-ground storage tank facility features a secondary containment area in the event of a tank leakage or failure. What are the design volume capacities for the tanks and for the secondary containment area?	Address comment and update EAW as appropriate.	The six Contact Water Storage Tanks would have a design capacity of one million gallons each. The design volume capacity for the secondary containment area is one million gallons, to fully contain a complete failure of any one of the tanks.
246	6b	630		Are there provisions made for the secondary containment to withstand a 100-year storm event? A 200-year storm event? With climate change impacts, how about a 500-year and 1,000-year storm events?	Answer question.	<p>The secondary containment area surrounding the Contact Water Storage Tanks is designed to contain contact water in the event of a leak or failure of any one of the six Contact Water Storage Tanks. It would have sufficient capacity to contain one million gallons, aligned with a complete failure of any of the six (6) one-million-gallon storage tanks.</p> <p>The secondary containment area is not intended to retain precipitation water during normal operations. Runoff from precipitation falling within this area will be treated as industrial stormwater during normal operations and will be routed to the Industrial Stormwater Pond.</p> <p>In the event of a contact water leak from a tank, the appropriate valves and gates would automatically close, preventing the leaking water from escaping the containment area. It would then be pumped into the other (intact) Contact Water Storage Tanks.</p> <p>In the event of a tank failure occurring during a simultaneous storm event, both the contact water from the tank as well as any precipitation falling within the secondary containment area would be treated as contact water and pumped to the other tanks.</p>
247	6b	630		The impact of non-geochemical sources of contaminants should be discussed in the EAW and incorporated into water quality modeling. Specifically, water soluble blasting residue from ANFO should be included in water quality modeling and discussed in the context of water treatment and discharge planning.	Address comment and update EAW as appropriate.	<p>Comment is noted.</p> <p>See Response to Comment #109.</p>

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248	6b	633		Throughout the EAW, it is reiterated that treated water will meet the "applicable water quality standards", yet the EAW does not specify what these standards are. Provide a table of the water quality standards the treated effluent is anticipated to meet and how the discharge of treated water of this quality reaches/maintains water quality objectives in the receiving environment. This information is required to understand the project and better assess environmental impacts.	Address comment and update EAW as appropriate.	The Project will meet water quality standards as described in Minnesota Rules, chapter 7050.0220 subpart 3a.
249	6b	651		How will the integrity of the lined ditches and water sumps be evaluated and ensured through the life of the project? Are the lined ditches and water sumps designed to address larger-than-expected inflows of water? How would overflow of ditches and/or sumps be monitored/addressed?	Address comment and update EAW as appropriate.	All sumps will include level sensors as well as a remote operation and monitoring system for the associated pumps which move the water from the Contact Water Collection Sumps to the Contact Water Storage Tanks at the Contact Water Treatment Plant. Facilities will be regularly inspected as part of preventative maintenance operations. The Project Description has been updated to note this. Further details regarding design and operation of the surface contact water handling system will be addressed as part of the EIS process.
250	6b	651		Provide more information regarding how the lined ditches and sumps will be constructed, including hydraulic conductivity estimates for all liner materials.	Address comment and update EAW as appropriate.	All sumps will include level sensors as well as a remote operation and monitoring system for the associated pumps which move the water from the Contact Water Collection Sump to the Contact Water Storage Tanks at the Contact Water Treatment Plant. Facilities will be regularly inspected as part of preventative maintenance operations. Further details regarding design and operation of the surface contact water handling system will be addressed as part of the EIS process.
251	6b	653		More discussion is needed regarding using the backfill storage area as a temporary storage area for contact water during extreme storm events. It is unclear how overflow water from the contact water sumps would be routed to the lined footprint of the backfill storage area. It is also unclear how much water the area can hold, whether it is designed to contain standing water, and whether it will have enough storage capacity if there is rock stored in the storage area at the time of a storm event. The maximum amount of water that will need to be stored in the backfill storage area during an extreme storm event must be estimated. The storage volume at the time of maximum rock storage must also be estimated and must be compared to the maximum runoff volume to demonstrate that the backfill storage area will have adequate storage capacity.	Address comment and update EAW as appropriate.	Comment is noted. The Project will address, as necessary, this issue in the EIS.
252	6b	653		Using storage tanks and/or ponds and the secondary containment area to hold all water from an extreme storm event should be evaluated in the EIS in addition to using the backfill storage area to store excess water.	DNR will evaluate available information during the development of the Scoping EAW to determine the treatment in the EIS.	Comment is noted. Future discussion item, as necessary, in development of DSDD.
253	6b	654		What is the definition of an "extreme storm"?	Answer question.	EAW text was edited to provide a description of an extreme event. "In the event of an extreme storm event (high intensity, short duration),..."

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254	6b	654		Explain the implications of storing both backfill materials (Class 1/2 development rock) and overflow water from the contact water sumps within the same storage area. What is the potential for additional contaminant release when these materials are in the same storage area?	Address comment and update EAW as appropriate.	All water from the Backfill Materials Stockpile (Class 1 and 2 rock) and from the rest of the contact area will be treated by the water treatment facility before being discharged. The Backfill Materials Stockpile would be lined to mitigate risk of release to the environment.
255	6b	658		The EIS would likely require evaluation of technologies, whether proposed or technically feasible, that can effectively remove high sulfate concentrations from water. This would apply to all sources of contact water, including rock excavated with the TBM as described at Lines 523-525.	Advisory only. Future discussion issue for development of draft scoping decision document.	Comment is noted. Future discussion item, as necessary, in development of DSDD.
256	6b	660		It is difficult to comment on the types of treatment methods contemplated as information on the quality of influent/contact water, water quality standards, COPCs, effluent quality, etc. are missing from the EAW. Provide this information and clarify whether Talon has conducted/will be conducting assessments to determine the best technology suited for the water at the site.	Address comment and update EAW as appropriate.	Comment is noted. The Project will address, as necessary, this issue in the EIS.
257	6b	662		Provide design plans and data to support the statement, "Talon is resolved to have a water treatment solution that meets or exceeds regulatory standards and safeguards water resources."	Address comment and update EAW as appropriate.	Comment is noted. The Project will address, as necessary, this issue in the EIS.
258	6b	666		The EAW states, "When mining occurs in areas where enhanced permeability zones are expected to be encountered, probe holes would be regularly drilled in front of the advancing mining faces in order to confirm the extent and boundary of the upcoming permeability zone and evaluate the degree of water inflows." Will the degree of water inflows and the volume while mining, as it may be highly variable. How will this be considered with regards to the water treatment plant?	Address comment and update EAW as appropriate.	The Contact Water Treatment Plant's design would consider possible variability with regards to inflow rates from enhanced permeability zones. The range of potential inflows and contingency would be refined and incorporated in the Contact Water Treatment Plant's design. The Project will address, as necessary, this issue in the EIS.
259	6b	668		Provide any mapped bedrock zones with enhanced permeability as part of the quantitative groundwater hydrologic model, including, but not limited to, hydraulic conductivity estimates for all bedrock units. Estimates of unanticipated inflow from enhanced permeability zones should be included in the sensitivity and uncertainty testing of the water balance model to estimate maximum inflow volumes.	Regulatory guidance. Future discussion item.	Comment is noted. Future discussion item, as necessary, in development of DSDD.
260	6b	669		The submittal indicated that zones of enhanced permeability exist but does not indicate the cause or locations of these zones. Are the zones of enhanced permeability mapped? What is the basis of believing these zones to be enhanced permeability?	Answer questions.	Enhanced permeability zones are inherent to fractured bedrock. Expected spacing, distribution, hydraulic conductivity and modeling methodologies will be provided for the EIS.
261	6b	669		Holes will be drilled ahead of mining to probe for areas of high water inflow potential. How far ahead of mining? When will the predetermined rate of inflow limits be established? Through a valve? How will inflows be managed? Needs better explanation. Did any core holes intersect faults or high permeability zones? Is there sufficient drilling or geophysics data to model the faults/fissures, an high permeable zones.	Answer questions.	It is typical in underground mining for probe holes to be drilled in front of the face as part of the mining cycle, this is typically 56 feet in front of the face for every 42 feet of stope. Further details on the probe drilling grouting plan will be provided for the EIS and in plans of operations. The Project has collected additional data in the bedrock, this is in the process of being analyzed and quality controlled and will be provided for the EIS.
262	6b	673		What information is available regarding the location of those potential high permeability zones, the flow rates, and the total quantity of flow? Is it possible that zones are connected to the bedrock/till interface?	Answer question.	See Response to Comment #260.
263	6b	676		How specifically would discrete zones of enhanced permeability be sealed to minimize groundwater inflow and how would potential failures in these attempts be addressed?	Answer question.	There are a wide variety of industry standard methods available to manage flow by grouting in front of the face and after an excavation

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						has been created. The Project will address, as necessary, this issue in the EIS.
264	6b	677		What is the mineralogy and sulfur content of the waste and low grade. Have the core holes been assayed for sulfur in sufficient detail to make a 3D model?	Answer question.	The ongoing Materials Characterization Program is collecting a comprehensive data set to characterize the development rock lithologies, which includes mineralogy, and sulfur data. This data will be available for the EIS. Exploration drill core has been assayed for sulfur content, and this data would be used for an initial determination of the distribution and variability within the mine plan.
265	6b	677		How fast do the sulfides in the stopes oxidize? How much elapsed time from development of a stope to ARD production if water contacts the stope surface and overbreak fractured ground (i.e., can the stopes be backfilled before metal oxides form that can be washed out if there is a water influx)? Can this be managed by the pumping and water treatment facilities?	Answer questions.	The ongoing Materials Characterization Program is collecting a comprehensive data set to be used in groundwater modeling that will be presented during EIS. This includes rates of sulfide oxidation for the development rock. The data set and model will inform the design of water treatment facilities that will be presented during EIS.
266	6b	680		Is the grout mixed on site? Or trucked in?	Answer question.	This is still under consideration by the Project and will be addressed, as necessary, in the EIS.
267	6b	683		What would necessitate diverting water to storage tanks rather than the water treatment plant?	Answer question.	The Contact Water Storage Tanks would be for handling high intensity or long duration storm events where the volume of water in the short term exceeds the design treatment rate of the Contact Water Treatment Plant.
268	6b	685		Talon claims that industrial stormwater would be managed in accordance with the requirements of a future NPDES/SDS permit and an associated Project-specific industrial stormwater pollution prevention plan (SWPPP), but any discharges from the wastewater treatment plant (WWTP) need to be considered with rest of the Project. EIS cannot assume there will be no impacts if NPDES/SDS permit conditions are followed. What will be the estimated discharge rate? One million gallons per day? More? Less?	Answer question.	Comment is noted. The Project will address this question, as necessary, in the EIS.
269	6b	685		How will Industrial Stormwater impact Tamarack River, Prairie River, and ultimately Big Sandy Lake?	Address comment and update EAW as appropriate.	The potential impacts, if any, to flow and water quality to the Tamarack River, Prairie River, and Big Sandy Lake from industrial stormwater would be evaluated as part of the EIS.
270	6b	691		RGU notes that stormwater quality and quantity impacts to wetlands and public waters will likely be analyzed in the DEIS to support any NPDES permitting.	Advisory only; information and analyses necessary to assess impact will be addressed during the development of the Scoping EAW to determine the treatment in the EIS.	Comment is noted. Future discussion item, as necessary, in development of DSDD.
271	6b	691		More information is requested for details regarding the project-specific industrial stormwater pollution prevention plan (SWPPP) and details for best management practices (BMP) that will be in place to prevent contaminants from entering the watershed.	Future discussion item.	Comment is noted.
272	6b	697		How will stormwater be evaluated to ensure it is meeting the appropriate standards? What specific standards will be used?	Answer question.	The Project will meet water quality standards as described in Minnesota Rules, chapter 7050.0220 subpart 3a.

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273	6b	699		This section should also mention the permanent treatment requirements for new impervious surfaces in the construction stormwater permit. Must attempt to infiltrate first where possible on site and can then move to stormwater ponding if that is prohibited under the permit.	Regulatory guidance.	The Project designed the mine site to comply with MN Pollution Control Agency Authorization to Discharge Stormwater Associated with Industrial Activity Under the National Pollutant Discharge Elimination System (NPDES)/State Disposal System (SDS) Program. Infiltration systems were discussed but condition 20.6.b of the above referenced program prohibits the construction of a new infiltration system in "Areas with less than (3) feet separation distance from the bottom of the infiltration system to the elevation of the seasonally saturated soils or the top of bedrock." Depth to water across the site (Figure 16) is near or less than this requirement.
274	6b	706		How will construction stormwater BMPs be evaluated to ensure proper construction and maintenance over the life of the project?	Answer question.	Monitoring and maintenance requirements for stormwater BMPs will be an outcome of the Environmental Review and Permitting process.
275	6b	707		How will the discharge of treated water change wetland and surface water hydrology? This is very flat terrain and the ability of receiving waters to absorb additional hydrology and move it downgradient must be clearly determined. Any changes that additional water causes to wetland function and value must be defined and disclosed.	Address comment and update EAW as appropriate.	Comment is noted. The Project will address, as necessary, this issue in the EIS.
276	6b	707		Will all construction stormwater BMPs be removed at the end of the project?	Answer question.	By the end of the project the construction stormwater BMPs would have been removed.
277	6b	707		How will impacts to nearby wetland and/or ditches from construction stormwater discharge be monitored and assessed? What specific standards will be used?	Answer question.	Comment is noted. The specific intervals and timing of water sampling and testing at various locations will be determined in conjunction with the RGU during the permitting process after the EIS is complete.
278	6b	714		Same comment as in line 707	See GLIFWC-24.	Comment is noted. Is the line number referenced (707) the Comment number?
279	6b	715	Figure 5	On Figure 5, recommend adding a clear label or distinction between the public ditch and the natural stream along the discharge route.	Address comment and update EAW as appropriate.	The discharge route is a public drainage system along its length from the Mine Site to the Tamarack River.
280	6b	715		The capacity of the ditch, as well as the unnamed stream, that will receive treated contact water will need to be determined, as well as the amount of water that will be discharged.	Regulatory guidance. Future discussion item.	Public drainage system and stream capacities studies will be conducted, as necessary for the EIS.
281	6b	717		Additional information on the unnamed stream would be beneficial. For example: Will it have adequate flow capacity all year? What are the seasonal effects? Would excessive vegetation limit flow in the summer or ice in the winter? Who has authority over this stream (e.g., access rights for clearing to ensure proper flow).	Address comment and update EAW as appropriate.	Public drainage system and stream capacity studies will be conducted, as necessary for the EIS.
282	6b	718	Figure 5	On Figure 5, Check whether flow direction arrows on County Ditch 23 are correct.	Address comment and update EAW as appropriate.	Flow direction arrows have been corrected on Figure 5.
283	6b	718		How will potential impacts of non-potable treated water on the unnamed stream/tributary of Tamarack River be monitored and assessed? What specific standards will be used?	Address comment and update EAW as appropriate.	Comment is noted. The Project will meet water quality standards as described in Minnesota Rules, chapter 7050.0220 subpart 3a. The Project will address, as necessary, this issue in the EIS.

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284	6b	719		Impacts to groundwater for all new wells must be analyzed. Cumulative impact analysis of wells along with changes to surficial aquifers from drilling the drifts must be performed.	Advisory only; future discussion item during development of the draft scoping decision document.	All wells are regulated by the Department of Health, the Project will follow MDH guidelines. Future discussion item, as necessary, in development of DSDD.
285	6b	728		Identify plans to work with MDH Drinking Water Protection Section confirming the category of public water supply for this facility and moving forward with compliance with the Safe Drinking Water Act as appropriate for the category of public water supply. This facility will presumably qualify as a noncommunity public water system (PWS). Responsibilities as a PWS should be understood. https://www.health.state.mn.us/communities/environment/water/docs/ncom/noncom.pdf	Regulatory guidance. Future discussion item.	Comment is noted.
286	6b	728		What type of water treatment? Would there be any water treatment residual waste streams?	Address comment and update EAW as appropriate.	The Project is evaluating various water treatment technologies and is also investigating beneficial reuse opportunities for the water treatment residuals that might be produced. The Project will address, as necessary, this issue in the EIS.
287	6b	728		An aquifer pumping test should be completed in wells to obtain estimates of aquifer properties, using additional observation wells where possible.	Future discussion item.	Comment is noted. The Project will address, as necessary, this issue in the EIS.
288	6b	728		How will mining activities impact the capture area of the well and chemistry of the well water? How will the chemistry of the well water be monitored and what specific standards will be used?	Address comment and update EAW as appropriate.	The potable water well will adhere to State of Minnesota Department of Health guidelines and guidance and the federal Safe Drinking Water Act.
289	6b	728		How will the safety of the drinking water be ensured? For example, who will test the water and how frequently, what contaminants will be tested for, and what specific standards will be used?	Answer question.	The potable water well will adhere to State of Minnesota Department of Health guidelines and guidance and the federal Safe Drinking Water Act.
290	6b	728		Construction of an additional potable water supply well should be reviewed by Well Management Section and Drinking Water Protection Section staff from the Minnesota Department of Health. Proper siting of new wells will be required to ensure all potential contaminant setback distances are met and are maintained for the life of the well and/or project. Identify the proposed water-supply well location including reference to separation distance to potential contamination sources and utilities such as electric, propane, other; e.g. mine site map with wastewater systems, buildings, petroleum storage and piping, buried stormwater ponds and piping, propane storage and piping etc..	Regulatory guidance. Future discussion item.	Comment is noted.
291	6b	731		Provide more detailed information on the sanitary water treatment plant and how and to what standards the water would be treated?	Address comment and update EAW as appropriate.	Comment is noted. The Project will address, as necessary, this issue in the EIS.
292	6b	737		How will potential impacts of treated sanitary water to the local watershed be assessed and remediated if there are impacts?	Address comment and update EAW as appropriate.	Comment is noted. The Project will address this question, as necessary, in the EIS and/or permitting.
293	6b	739		Provide the rationale for combining treated waters for discharge rather than discharging separately. There needs to be more information provided on the receiving water bodies, what volumes and quality of water they can accept, any existing impacts to the waters, etc.	Address comment and update EAW as appropriate.	Comment is noted. The Project will address, as necessary, this issue in the EIS.

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294	6b	743		In consideration of the nearby Fond du Lac Indian Reservation and its Federal Class I air-shed designation, will incremental impacts assessment be done to quantify the impacts from the diesel engine sets from their use while awaiting on the substation development, and for emergency use during the Project operations?	Answer question.	The nearby Fond du Lac Indian Reservation is not a Federal Class I area; therefore the Project will be evaluated as a Class II. The Project expects this project to be below the PSD threshold for its own air permit, which would not trigger the need to assess increment.
295	6b	743		How will the various pipelines to be used to move various types of water around the mine site impact the surface and near-surface water flow? Will the potential impacts be assessed in a study or other?	Answer question.	The water pipelines are within the disturbed Project Area and are linear features that would have minimal to no effect on the flow of water at project scale. The Project is not planning to study the potential flow impacts caused by pipelines.
296	6b	743		Will condensate impacts from the outer pipe-walls due to temperature differences between the pipe and the ground be considered?	Future discussion item.	The Project requires clarification of the request.
297	6b	743		How impacts of all project utilities would be assessed will need to be identified for the scoping EAW and draft scoping decision document.	Advisory only. Future discussion item that could include consideration of both specific impacts and potential cumulative impacts.	Comment is noted. Future discussion item, as necessary, in development of DSDD.
298	6b	743		Will an EA or Supplemental EIS be required for the new substation and power distribution system?	Address comment and update EAW as appropriate.	No, the substation and power distribution are part of the Project being proposed.
299	6b	743		The EAW speaks of a new electrical substation that will be built to serve the Project. Will this be a 69-kV service? Or will it be a step-down to 46-kV, 34.5-kV, 23-kV, or 14-kV?	Address comment and update EAW as appropriate.	The service into the Electrical Substation will be 69kV.
300	6b	743		After mine closeout, will the new substation remain in service for the area as a permanent infrastructure, or will it be removed?	Address comment and update EAW as appropriate.	Per Minnesota Rules 6132. 2300, subpart. E(4)(b) the Project is required to “remove or provisions made for continued subsequent use” within 3 years unless delay is approved by the commissioner.
301	6b	743		If the peak load may be 33 megawatts, where will the electricity primarily come from?	Future discussion item. DNR will evaluate available information during the development of the Scoping EAW to determine the treatment in the EIS.	Power will be supplied by Lake County power, produced by Great River Energy.
302	6b	743		What kind of emissions increases are expected from the power generation plants in order to service the Project?	Future discussion item. DNR will evaluate available information during the development of the Scoping EAW to determine the treatment in the EIS.	Comment is noted. The Project will address, as necessary, this issue in the EIS.
303	6b	743		Can there be onsite or near-onsite electrical power generation that isn't diesel or natural gas that can be employed to decrease the total load from the electrical grid system?	Answer question.	The Project has supplied project descriptions that are deemed sufficient for defining the scope of analyses for the EIS.

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304	6b	743		What are the expected emissions from the diesel engines used temporarily until the installation of the new electrical substation?	Address comment and update EAW as appropriate.	Comment is noted. The temporary power generation details are still being considered. The Project will address, as necessary, this issue in the EIS.
305	6b	743		During the Project operations, how will these diesel generators be protected for emergency backup power generation for critical systems in case of significant emergency such as a wildfires or extreme flooding?	Answer question.	Mitigation of force majeure items would inform the Project's design and would be addressed, as necessary, in the EIS.
306	6b	755		More detailed information on the emergency power is necessary. Will an EA or Supplemental EIS be required?	Answer question.	No.
307	6b	757		Fuel tanks will need to be identified and characterized for air quality related impacts.	Address comment and update EAW as appropriate.	Comment is noted. The Project will address, as necessary, this issue in the EIS.
308	6b	766		How will the integrity of pipelines be ensured?	Answer question.	Leak detection and leak mitigation for contact water pipelines will be addressed as part of the EIS. The majority of the length of the contact water pipelines lies within the contact area, any potential leaks from the pipelines within this area would report back to the Contact Water Collection Sumps.
309	6b	766		Will any secondary containment structures be placed around the contact water pipelines to contain potential leaks?	Answer question.	Comment is noted. See Response to Comment #308.
310	6b	771		Support Facilities may include items defined as 'insignificant activities' and will need to be characterized in air quality related impacts.	Regulatory guidance. Future discussion item.	The project understands and agrees, insignificant activities are typically examined as part of the EIS and permitting processes.
311	6b	780		What materials will be handled in the cold storage warehouse?	Answer question.	The Warehouse will handle spare parts for mining equipment, mine consumables such as rock bolts, and critical spares such as spare electric motors.
312	6b	785		Emissions generated from employee parking lots may also be included in the air quality emission calculations.	Regulatory guidance.	MPCA guidance dated July 15, 2021 titled "Interim Paved Road Modeling Practice" states "It is anticipated that lots used exclusively for employee parking may be omitted from the calculations. Emissions from portions of a parking lot used for process-related deliveries will generally need to be calculated."
313	6b	794		Are there other potential beneficial uses of the mine at closure rather than backfilling that could be maximized with front-end design to reduce to reduce potential climate and environmental impacts?	Future discussion item. Alternatives analysis.	The Project looks forward to future discussions on this topic during the EIS alternatives analysis.

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314	6b	794		The EAW states, "The mine access declines and mine development areas excavated outside the orebody would not be backfilled." Please provide additional information. Will Full Closure and Post-Closure Plans and Monitoring Plans be considered in the environmental impact statement (EIS) in terms of both environmental impacts and financial assurance requirements?	Provide more information regarding the proposed abandonment of declines. Treatment of closure and post-closure plans in the EIS will be evaluated during development of the Scoping EAW.	<p>Closure and post-closure plans would be considered as part of the EIS. Financial assurance would be considered as part of the Minnesota Permit to Mine process after the EIS.</p> <p>Large volumes of external aggregates and cement would need to be purchased and transported to site to backfill these areas. At this time there is not a sufficiently defined benefit to such backfilling that would justify the environmental footprint of the production, transport and usage of such large additional quantity of aggregate and cement.</p> <p>When mining is complete, underground engineering controls such as water-tight barriers called bulkheads, or other controls may be constructed at various locations to minimize interaction between the deeper bedrock water and the shallower bedrock water. Other potential mitigation measures, such as increasing the rate of mine flooding would also be evaluated during the EIS.</p> <p>After closure, water from the underground mine would be managed to meet regulatory requirements. At the appropriate time, the mine Portals would be sealed closed with bulkheads as required by Minnesota rules.</p> <p>Reference lines 801-808 in the initial Project Description.</p>
315	6b	794		This section says that the "[w]ater from the underground mine would be managed to meet regulatory requirements." How will this be managed, according to which regulatory requirements?	Address comment and update EAW as appropriate.	<p>Comment is noted.</p> <p>See Response to Comment #324.</p>
316	6b	794		Add a note stating that regrading would be to match existing grades and natural drainage paths (to maintain conditions/drainage to downstream waterbodies). Specify the type of vegetation that would be used to revegetate the site taking climate change impacts into consideration. Matching the existing (native) vegetation may not make sense 10 to 20 years from now. As line 113 states, "Project water balance and estimated discharge quantities" will be provided at a later date.	Future discussion item.	<p>Comment is noted.</p> <p>Future discussion item, as necessary, in development of DSDD.</p>
317	6b	798		Clarify how the stockpiles (overburden, development rock) on site will be dealt with in closure. What steps would need to be taken if the mine closed early following an extended period of care and maintenance, including considerations for management of stockpiles, particularly any Class 3 development rock and/or ore left in the rail loadout storage area, and water management?	Address comment and update EAW as appropriate.	<p>Comment is noted.</p> <p>Future discussion item, as necessary, in development of DSDD.</p>
318	6b	800		Any wells constructed on site will require proper sealing once they are no longer in use.	Regulatory guidance.	The Project will comply with Minnesota Rules Chapters 4725 and 4727 and Minnesota Statutes Chapter 103I regarding well abandonment.
319	6b	800		The locations and design, including permeability estimates, for any engineering controls to limit water movement should be described. In particular, engineering controls to isolate bedrock groundwater from water in the surficial aquifer should be provided and described. These engineering controls should also be included in post-mining modeling scenarios.	Regulatory guidance. Future discussion item.	<p>Comment is noted.</p> <p>Future discussion item, as necessary, in development of DSDD.</p>

Comment No.	EAW Section	Line No.	Table; Figure; Graphic	DNR Comment 9/19/2023	Requested Action By DNR	Talon Response and Treatment in EAW 10/11/2023
320	6b	801		If known, would method of underground mine closure require perpetual maintenance?	Answer question.	The Project's intention is to establish a closure plan which will not require maintenance in perpetuity. This topic will be developed in further detail as part of the EIS pending additional analysis.
321	6b	803		Describe the other mitigation measures that will be evaluated.	Address comment and update EAW as appropriate.	Comment is noted. The Project will address, as necessary, this issue in the EIS.
322	6b	805		Identify the rationale behind why the mine access declines and development areas will not be backfilled at closure? If the amount of back-fill is the issue then indicate how long-term or perpetual maintenance is planned to be carried out to ensure there isn't a collapse or seepage begin discharged from the access portals?	Address comment and update EAW as appropriate.	Comment is noted. See Response to Comment #314.
323	6b	806		Which regulatory requirements and how will water from the underground mine be managed to meet those regulatory requirements? This should be explicitly stated.	Address comment and update EAW as appropriate.	The Project will meet water quality standards as described in Minnesota Rules, chapter 7050.0220 subpart 3a. See the "Categories of Water" section in the EAW for how this water is managed.
324	6b	806		Comprehensive details on underground water management are needed. Groundwater modeling, using locally collected data, should be done for water quality and quantity. Detail on water treatment needs after closure and clear information on how long treatment and maintenance would be required at the site after mining has stopped are needed.	Advisory only. Specifying how this would be accomplished in the document is desirable. Future discussion item in the development of the draft scoping decision document.	The EIS will address groundwater aspects, including baseline data, hydraulic testing, groundwater model development, and aspects of subsurface contaminant transport, as needed. Water treatment needs during closure and post closure will be addressed in the EIS if ongoing impacts are anticipated or assessed.
325	6c	819		Visual impact analysis for a 78 foot structure is needed	Future discussion item in development of the draft scoping decision document.	Future discussion item, as necessary, in development of DSDD.
326	6b	823		The Objective Statement here is written as Problem Statements and Goals, and not as Objective Statement. This section needs to be reworded so that if Problem Statements and Goals are to be stated, they must be clearly stated in their own sections, and then have the Objective Statement focus on the Objectives that result from those Goals that addresses the Problem Statement.	Future discussion item.	Comment is noted.
327	6d	823		Include calculations that would support a statement that speaks to the total carbon footprint of the mining operation. How does this carbon footprint compare to the projected savings in carbon emissions from the materials mined from the site?	Future discussion item.	A life-cycle-analysis (LCA) will be undertaken to determine carbon impacts once mining and processing plans have been further developed in detail for the EIS.
328	6d	823		EAW Item 6d only requires explanation of project purpose. The objective statement provides information somewhat more appropriate to project need, which is not required for private actions; it is also unsupported in present form.	Advisory only. Future RGU decision item.	Comment is noted.
329	6d	834		What is the community engagement plan? How has the project already interacted with local communities and what are plans for engagement moving forward? How has or will the project incorporate community input? This information should be included in EIS and more details of what the community engagement plan will consist of should be included in scoping	DNR will evaluate available information during the development of the Scoping EAW to determine the treatment in the EIS.	The Project has held numerous informal public meetings on a quarterly cadence to gather community input and feedback, which has been utilized in the design of the facilities and development of the Project Description. The Project looks forward to ongoing informal community input combined with the formal public scoping and comment process.

Comment No.	EAW Section	Line No.	Table; Figure; Graphic	DNR Comment 9/19/2023	Requested Action By DNR	Talon Response and Treatment in EAW 10/11/2023
330	6d	838		What are estimates for types of and numbers of jobs needed? What are salary ranges of those jobs? An analysis of the economic impacts to MN/surrounding communities should be included in EIS. More detail on what that analysis will include should be provided in scoping.	DNR will evaluate available information during the development of the Scoping EAW to determine the treatment in the EIS.	Comment is noted. The Project will address this question, as necessary, in the EIS.
331	6b	851		Item 11a notes at Line 1112 "[t]he TIC hosts nickel-copper-cobalt sulfide mineralization with associated platinum, palladium, and gold." Recognizing the EQB's guidance is to limit the Monitor notice to 50 words or less, if platinum, palladium, and gold are anticipated to be extracted as marketed (bi-)products, acknowledging this may be warranted in the Monitor project summary or elsewhere in the document.	Advisory only; future discussion item as part of developing the purpose statement and ensuring an accurate project description.	Comment is noted. Future discussion item, as necessary, in development of DSDD.
332	6b	851		EAW Item 6d only requires explanation of project purpose. The objective statement provides information somewhat more appropriate to project need, which is not required for private actions; it is also unsupported in present form.	Advisory only. Future RGU decision item.	Comment is noted.
333	6b	851		DNR notes that the socioeconomic analysis will likely include projected revenue to the State of Minnesota from the operation.	Advisory only. Future discussion item in development of draft scoping decision document.	Comment is noted. Future discussion item, as necessary, in development of DSDD.
334	6b	851		Regarding the list of beneficiaries, this is not required for private actions.	Advisory only. DNR will determine whether the scoping EAW will contain information regarding project need, including a list of potential beneficiaries.	Comment is noted.
335	6b	851		The Purpose Statement must be framed broadly enough to encompass potential alternatives beyond mere adjustment to the proposed Project. To be useful in the decision-making process, the EIS must be able to evaluate a broad range of alternatives (recycling, sourcing materials from other regions, etc.)	Refinement/modification of Purpose Statement will be considered further by RGU during development of Draft Scoping Decision Document.	Comment is noted. Future discussion item, as necessary, in development of DSDD.
336	6d	855		Sentence states the Cu and Ni concentrate will be shipped outside Minnesota, however iron, as mentioned in line 830, is not included in these concentrates. Clarification needed.	Address comment and update EAW as appropriate.	The iron would be present as a byproduct component within the nickel concentrate. There would be no separate iron concentrate product. Note that the concentrates will not be shipped outside Minnesota as there will be no concentrates produced in Minnesota. The raw ore will be produced in Minnesota and then shipped outside the state to Mercer County, North Dakota for processing into the concentrates.
337	6d	880		RGU notes that statements in bulleted list are not factually supported. Regardless, remains to be determined how project need would be addressed in the scoping EAW. Not required for private actions.	Advisory only. Future RGU decision item.	Comment is noted.
338	6e	890		A significant percentage of the ore body is located outside the proposed project. An analysis of the potential for future mining at this site is needed.	Advisory only. DNR will evaluate available information during the	Comment is noted.

Comment No.	EAW Section	Line No.	Table; Figure; Graphic	DNR Comment 9/19/2023	Requested Action By DNR	Talon Response and Treatment in EAW 10/11/2023
					development of the Scoping EAW to determine the treatment in the EIS.	
339	6e	890		EAW states that “[t]here is ongoing exploration activity in the vicinity of the Project Area...” Does mean other sections of the TIC? Or does this statement refer to the Emily Manganese Project owned by the Nevada Silver Corporation, a subsidiary of North Star Manganese Inc (NSM)?	Answer question.	The “ongoing exploration activity” refers to Talon’s exploration activity within the TIC. The Emily Manganese Project is not in the vicinity of the Project Area (it is approximately 40 miles away) and is not what was being referred to by the quoted language in the document.
340	6e	890		DNR notes that EIS scope will be re-evaluated if the project changes over the course of the EIS. If the project proceeds, DNR as RGU will monitor its progress for any changes requiring supplemental review or other requirements.	Advisory only. DNR will evaluate available information during the development of the Scoping EAW to determine the treatment in the EIS.	Comment is noted.
341	6e	890		Should this box be marked yes? Why is Talon currently doing ongoing exploration in the vicinity of the Project Area if they are not planning on developing on any other property?	DNR will evaluate available information during the development of the Scoping EAW to determine the treatment in the EIS.	Comment is noted. See Response to Comment #338.
342	6e	894		Since this project could be the catalyst for future similar efforts, potential cumulative effects should be discussed to address potential for additional mining activity in the area.	DNR will evaluate available information during the development of the Scoping EAW to determine the treatment in the EIS.	Comment is noted. See Response to Comment #338.
343	7a	901		An exposure assessment to evaluate how climate change impacts may affect the facilities and/or mining operations at all stages of mining should be considered. This will enable the proposer to identify the mitigation and/or adaption strategies needed to address these potential impacts. Consider the overall project timeline: Mine Construction – 2026-2027 Mine Operation (10 years) - 2027-2036 Site Restoration (approx. 5 years) – 2036 – 2040 Consider more than just extreme precipitation. Evaluate the impact(s) of drought conditions, wind, extreme heat, etc.	Advisory only; future discussion item as part of developing the Draft Scoping Decision Document	Comment is noted. Future discussion item, as necessary, in development of DSDD.

Comment No.	EAW Section	Line No.	Table; Figure; Graphic	DNR Comment 9/19/2023	Requested Action By DNR	Talon Response and Treatment in EAW 10/11/2023
344	7a	901		It is incorrect to say "climate change will have minimal impact on the location during this time" since impacts of climate change are currently occurring and the rate of change is expected to increase each year. In 10 years, climate change could impact this Project, especially in terms of wildfire events, prolonged drought conditions, and floods.	Consider comment; edit text as warranted.	Climate change is occurring, but other than increases in extreme rainfall which have already been observed, the short duration of the project minimizes the long-term exposure to the impacts of future climate change on the project. The Project will address this issue, as necessary, in the EIS. The EAW's wording has been updated to more clearly communicate this. The edited text reads: "Project operations are anticipated to last 7- to 10-years and therefore long-term climate change, with the exception of the already observed increase in extreme rainfall events, will have minimal impact on the location."
345	7a	901	Graphic 15	In Climate Trends, once anomalies are removed, it appears the annual precipitation for the Mississippi River – Grand Rapids Watershed is trending – 0.77-inches/decade. Among the climate trends circles, the word is that we are having less precipitation events, but more precipitation per precipitation event—this makes the likelihood of flood events to become greater. Because of this, although an analysis shown in Graphic 15: Number of 100-year Storm Events from 1916 to 2020 for 38 Stations in Northeast Minnesota is insightful, the EIS must also do similar analyses for 200-year, 500-year, and 1,000-year storm events.	Advisory only; future discussion item as part of developing the Draft Scoping Decision Document	There was an error in the database used to calculate the initial graph. The graphic has been replaced and the text rewritten. There has been an increase in intense rainfall events as shown by Graphic 15. Future discussion item, as necessary, in development of DSDD.
346	7a	906		The EAW includes historical and projected climate data. Conducting an exposure assessment requires evaluating more than just annual temperature and precipitation. The applicant should consider the range of information available as well as the range of scenarios that may impact the facilities as well as the mining operations/processes so that adaptation strategies can be identified accordingly.	Advisory; future discussion item as part of developing the Draft Scoping Decision Document	Comment noted. Future discussion item, as necessary, in development of DSDD.
347	7a	910	Graphic 13, 14	P values should be included with all regressions to show significance, as well as confidence intervals and prediction intervals for all regressions.	Consider comment; edit figure and/or text as warranted.	These graphs come directly from the Minnesota Climate explorer and show a trend line calculated by the program. The graphs are only meant to show general trends.
348	7a	919		Explain why the drought period of 1910-1940 was excluded from the data set and why 1990-2022 is specifically called out.	Consider comment; edit figure and/or text as warranted.	The drought period was removed because it skewed the data set. The period 1990-2022 was used to provide an estimate of the most recent time period.
349	7a	919	Graphic 14	Historical annual precipitation data and trendlines for Mississippi River - Grand Rapids watershed do not match output from the Minnesota Climate Explorer Tool. Ensure correct data and trends are presented.	Consider comment; edit figure and/or text as warranted.	The data accessed through the Minnesota Climate Explorer has changed since Graphic 14 was prepared for the initial EAW data submittal. Graphic 14 has been updated with annual precipitation data downloaded in September 2023. The annual total precipitation downloaded are identical through 2014. The September 2023 dataset has annual precipitation values for the later years that are greater than previously accessed.
350	7a	930	Graphic 15	Ensure the proper source is referenced for data presented in Graphic 15. Reference 8 (Minnesota Climate Explorer Tool) does not provide historical data for 100 year storm events.	Review and edit as appropriate.	The reference was removed.

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351	7a	938		The statement that "A more detailed analysis of the future climate will be addressed in the EIS" needs to be supplemented with a more complete exposure assessment in order to evaluate climate adaptation and resilience.	Advisory only; future discussion item as part of developing the Draft Scoping Decision Document	Comment is noted. Future discussion item, as necessary, in development of DSDD.
352	7a	943		Consider impacts to the railroad corridor. Develop an emergency management plan for the material being hauled to North Dakota in the event of an extreme precipitation event or other accident.	Advisory only; future discussion item as part of developing the Draft Scoping Decision Document	Comment is noted. Future discussion item, as necessary, in development of DSDD.
353	7a	957	Graphic 17	Graphic 17 shows comparisons for nine models, while the UMN climate projections provide output for only eight models. Clarify whether "Model 1" represents the "Model Mean" or one of the eight models.	Address Comment and edit as appropriate	Graphic 17 has been redone to clarify that the one model is the mean of the other 8 models. Replace existing graphs and add footnote defining Model Mean as the mean of the other 8 models
354	7a	965	Graphic 18	Graphic 18 shows comparisons for nine models, while the UMN climate projections provide output for only eight models. Clarify whether "Model 1" represents the "Model Mean" or one of the eight models.	Address Comment and edit as appropriate	Graphic 18 has been redone to clarify that the one model is the mean of the other 8 models. Replace existing graphs and add footnote defining Model Mean as the mean of the other 8 models
355	7a	969		The exposure assessment should consider all available information when evaluating impacts related to climate change. In addition to the EPA Climate Resilience Evaluation and Awareness Tool, the assessment should consider locally downscaled climate data from UMN, using NOAA Atlas 14 values for the 100-year, 24-hour storm that are on the 90th percentile and storm transposition as an example of an extreme precipitation event.	Advisory only; future discussion item as part of developing the Draft Scoping Decision Document	Comment is noted. Future discussion item, as necessary, in development of DSDD.
356	7a	969		Text states "The EPA Streamflow Projections Map anticipates an increase in streamflow by a ratio of 1.2 to 1.4 in 2071-2100 (RCP 8.5)...". Clarify what the reported ratio represents (e.g., projected change in annual average or annual high daily streamflow).	Address Comment and edit as appropriate	The EPA Streamflow Projections Map anticipates an increase in annual daily average streamflow by a ratio of > 1.2 to 1.4 in 2071 to 2100 (RCP 8.5) compared to baseline historical flow (1976 to 2005) (reference (13)). Future discussion item, as necessary, in development of DSDD.
357	7a	971		This type of information can be further supplemented by running additional scenarios (based on additional sources of information) to evaluate the range of streamflows that may occur in this area as a result of climate change.	Advisory only; future discussion item as part of developing the Draft Scoping Decision Document	The EPA Streamflow Projections Map anticipates an increase in annual daily average streamflow by a ratio of > 1.2 to 1.4 in 2071 to 2100 (RCP 8.5) compared to baseline historical flow (1976 to 2005) (reference (13)). Future discussion item, as necessary, in development of DSDD.
358	7a	972		Changes in climate have already occurred (e.g. increase in frequency/intensity of storm/flood events), so it is not accurate to say climate change will have minimal impact on the project location during the 10 year project period.	Address Comment and edit as appropriate	Comment is noted. See Response to Comment #344.
359	7a	972		What if the project extends past 10 years? How will mine impacts be minimized after closure of the mine?	Advisory only; future discussion item as part of developing the Draft Scoping Decision Document	Comment is noted. As stated in the EAW data submittal "The Project would have an approximately 7- to 10-year production life."

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360	7a	973		The exposure assessment should consider the full life cycle of the project including design and construction, mining operations, closure and restoration. It should also consider the full extent of the project including facilities and transportation to the Minnesota/N. Dakota border. Consider projections for mid-century for the exposure assessment.	Advisory only; future discussion item as part of developing the Draft Scoping Decision Document	Comment is noted. Future discussion item, as necessary, in development of DSDD.
361	7a	974		Will the frequency of climate related events such as droughts, wildfires, and extreme heat be discussed in the more detailed analysis of climate change impacts during the projects life?	Answer Question. Future Discussion Item as part of developing the Draft Scoping Decision Document	Comment is noted. Future discussion item, as necessary, in development of DSDD.
362	7b	976	Table 4	What evidence is there to conclude that there won't be climate impacts? In addition to project duration, project magnitude has an effect on climate impacts. Please provide supporting information.	Consider comment; edit text as warranted.	Comment is noted. See Response to Comment #344.
363	7b	979	Table 4	There is insufficient consideration to how long-term climate trends will impact the Project and potential adaptations in project design to reduce impacts and increase project area resilience. Table is incomplete.	Consider comment; edit text as warranted.	Comment is noted. See Response to Comment #344.
364	7b	979		This statement does not account for impacts that may occur at the project site after closure.	Consider comment; edit text as warranted.	Comment is noted. See Response to Comment #344.
365	7b	979	Table 4	More discussion is needed regarding future storm intensities and the design storm size that will be used in the storm water model, and will be used to size storm water and water treatment infrastructure. Also, provide information to explain why a 200-year, 24-hour storm was proposed as the design storm size that will be used to design the storm water management plan and how it was determined to be adequate. Table 4 lacks key details on Project Information and Adaptations.	Advisory only; future discussion item as part of developing the Draft Scoping Decision Document	Comment is noted. Future discussion item, as necessary, in development of DSDD.
366	7b	979		Details of how the recent historic increase in intense rainfalls are incorporated into project design should be provided in the EAW, including assumptions of rainfall depth, distribution and frequency, and how the design accounts for these rainfalls.	Consider comment; edit text as warranted.	Comment is noted. Future discussion item, as necessary, in development of DSDD.
367	7b	983	Table 4	Increases in precipitation intensity in the Great Lakes region due to climate change are statistically significant. The region has experienced several 500 and 1000 year events over the past 10-15 years. Does the design of the mine at a minimum accommodate a 500 year precipitation event? Also, does the design account for the probable maximum flood for the area?	Address comment and edit as appropriate. These are factors likely to be considered in project-related impact assessment modeling. Future discussion item in the development of the draft scoping decision document.	The Project has supplied project descriptions that are deemed sufficient for defining the scope of analyses for the EIS. Future discussion item, as necessary, in development of DSDD. Future discussion item, as necessary, in development of DSDD.
368	7b	983	Table 4	Explain how water resources will be unaffected if wetlands will be lost and flooding could occur.	Consider comment; edit text as warranted.	Stormwater will be managed onsite either in the Industrial Stormwater Pond or in the Contact Water Storage Tanks which will minimize impacts on water resources. The Project will evaluate this issue, as necessary, in the EIS

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369	7b	984	Table 4	Consider all phases of the project including construction phase, operational phase, post-mining/restoration phase. The content in Table 4 appears to consider impacts to the facilities after they have been constructed. It will be important to evaluate impacts (e.g., extreme precipitation event) during construction in order to assess impacts to the stormwater management and erosion and sediment control plan. Similarly, it would be important to evaluate impacts/conditions post-project and assess impacts to the restoration plans (e.g., seasonal temperature and precipitation changes, minimum and maximum extremes, impacts to vegetation establishment and viability). An assessment of how an extreme precipitation event could impact mining operations would be important. An emergency response plan to address these impacts should also be established.	Consider comment; edit text as warranted.	Comment is noted. The Project will address this issue, as necessary, in the EIS.
370	7b	984	Table 4	Consider additional adaptation strategies like planting native vegetation that also improve biodiversity and wildlife habitat.	Consider comment; edit text as warranted.	Additional buffer strips and vegetation would be planted where feasible. Native species would be used to improve biodiversity and wildlife habitat where feasible.
371	7b	985		This conclusion cannot be made based on the lack of relevant information presented in the EAW. Please provide the rationale and supporting data (i.e. animated effluent water quality, studies assessing potential impacts of discharge on fish/wildlife/plant ecosystems in receiving water bodies, etc..) to substantiate this claim.	Consider comment; edit text as warranted.	Comment is noted.
372	7b	985		Evaluating impacts related to climate change and adaptation is a requirement of the EAW and needs to be conducted regardless of the size of the project. By completing an exposure assessment of the facilities as well as the processes, the Proposer and the State of Minnesota can more accurately evaluate the need to incorporate adaptation strategies to protect the facilities as well as the surrounding environment and communities. This assessment should consider data beyond annual averages in precipitation and temperature as the facilities and processes will likely be more vulnerable to seasonal and/or monthly variations as well as daily variation (e.g., higher nighttime lows). The proposer should consider all climate-related impacts including more frequent extreme precipitation events, drought conditions, temperature (i.e., warmer winters and nights, increased summer heat).	Consider comment; edit text as warranted.	Comment is noted. The Project will address this issue, as necessary, in the EIS.
373	8	988	Table 5	In Table 5, Please provide clarification on where the wetland cover type change is occurring.	Consider comment; edit text as warranted.	Clarification is needed to answer this question. Table 5 shows the reduction in wetlands due to project activities. What information is being requested that the table does not provide?

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374	8	988	Table 6	Were possible future green infrastructure and incorporation into project design considered when developing Table 6?	Answer question.	<p>The Project has supplied project descriptions that are deemed sufficient for defining the scope of analyses for the EIS. It is anticipated that these descriptions will undergo revisions throughout the EIS development to adequately meet the requirements of the EIS scope.</p> <p>The Project designed the mine site to minimize the loss of wetlands and to comply with MN Pollution Control Agency Authorization to Discharge Stormwater Associated with Industrial Activity Under the National Pollutant Discharge Elimination System (NPDES)/State Disposal System (SDS) Program. Infiltration systems were discussed but condition 20.6.b of the above referenced program prohibits the construction of a new infiltration system in "Areas with less than (3) feet separation distance from the bottom of the infiltration system to the elevation of the seasonally saturated soils or the top of bedrock." Depth to water across the site (Figure 16) is near or less than this requirement.</p>
375	8	990	Table 5	Google Earth suggests that there are potential ditches or water conveyances that should be considered. This is mentioned within the document but isn't identified within Table 5. Are these included within the wetlands/shallow lakes category?	Address comment and update EAW as appropriate.	<p>Ditches were included in the wetlands and shallow lakes category in Table 5. Hydric ditches are classified as linear basins or depressional areas that meet all three wetland criteria but are confined to the bed and bank of a ditch.</p> <p>Modified Table 5 in EAW to say "Wetlands, shallow lakes (<2 meters deep) and ditches "for row 1.</p>
376	8	991	Table 5, 6, 7	Tables 5, 6, and 7 appear to be incomplete or incorrect. Given that impacts related to climate change have not been evaluated, and the stormwater management plan and restoration plans have not been completed, it is extremely difficult to assess proposed cover types, proposed green infrastructure, and proposed tree coverage.	Consider comment; edit text as warranted.	The Project has supplied project descriptions that are deemed sufficient for defining the scope of analyses for the EIS. It is anticipated that these descriptions will undergo revisions throughout the EIS development to adequately meet the requirements of the EIS scope.
377	8	994	Table 5	Describe changes in carbon sequestration due to changes in cover type. (983, Table 4)	Address comment; modify text as warranted.	<p>Comment is noted.</p> <p>Please see Table 4, Project Design row, Project Information column.</p>
378	8	994	Table 5	The table indicates that brush/grassland will increase as a result of the project. Is this due to the loss or conversion of wetlands?	Answer question. Edit text as necessary	There are 4 cover types being converted to impervious surfaces as shown in Table 5. These include wetlands/shallow lakes/ditches, wooded/forest, brush/grassland and livestock range/pasture land. At closure, cover types that were converted during construction will be regraded, stabilized/revegetated and allowed to naturally return to native grasses and wildflowers, thus increasing the amount of native grassland and decreasing the amount of other cover types in Table 5. For more information, please see the Reclamation and Closure section in the Project Description of the EAW.
379	8	994	Table 5	Mitigation strategies are discussed in lines 1448-1464.	Do not forward to proposer	Not intended to be sent to the proposer.
380	8	994	Table 5	How will the impervious area decrease? Will impervious areas be removed after the mine is closed? How will that be done? What restoration for the land is planned after mine closure?	Answer Questions; Future discussion item for development of the Draft Scoping Decision Document	As indicated in Table 5, during operations, there is an increase in impervious surfaces. As discussed in Response to Comment #378, these surfaces will be reclaimed and revegetated, decreasing the acreage of impervious surfaces.

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381	8	996	Table 6	It is noted that no green infrastructure is proposed. Permeable pavement and infiltration systems to mitigate for increase in impervious surfaces/wetland loss should be considered.	Consider comment; edit figure and/or text as warranted.	<p>The Project has supplied project descriptions that are deemed sufficient for defining the scope of analyses for the EIS. It is anticipated that these descriptions will undergo revisions throughout the EIS development to adequately meet the requirements of the EIS scope.</p> <p>The Project designed the mine site to minimize the loss of wetlands and to comply with MN Pollution Control Agency Authorization to Discharge Stormwater Associated with Industrial Activity Under the National Pollutant Discharge Elimination System (NPDES)/State Disposal System (SDS) Program. Infiltration systems were discussed but condition 20.6.b of the above referenced program prohibits the construction of a new infiltration system in "Areas with less than (3) feet separation distance from the bottom of the infiltration system to the elevation of the seasonally saturated soils or the top of bedrock." Depth to water across the site (Figure 16) is near or less than this requirement.</p>
382	8	999	Table 7	The potential noise reduction associated with vegetated strips of land are oversimplified in Reference 50 and incorrectly summarized in the text. An ISO9613-based propagation model can evaluate that potential noise reduction but only if spectral noise emissions data is entered for the noise sources. Vegetation alone provides more noise reduction in high frequencies and much less reduction to lower frequencies.	Address comment; modify text as warranted.	<p>Comment is noted.</p> <p>Future discussion item, as necessary, in development of DSDD.</p>
383	9	1001	Table 8	An Underground Injection Control (UIC) Permit is identified as needed from the US EPA. The EAW and accompanying documentation do not include information about why a UIC permit is necessary. If there will be a UIC permit, there should be a discussion in the project description (item 6b) on what activity or activities would require this.	Address comment; modify text as warranted.	<p>Comment is noted.</p> <p>Currently, the need for a UIC permit is undetermined.</p>
384	9	1008	Table 8	Include the Office of the State Archaeologist (OSA) License. This will be require for archaeologists working on non-federal state and public Lands.	Advisory	Comment is noted.
385	9	1008	Table 8	The document identifies the need for a MnDOT approval for a Railroad Warning Signal Operator License. Are there any other federal, state, or local permits or approvals required for ore to be shipped by rail on the existing BNSF line from Tamarack MN to the processing facility in North Dakota?	Answer question.	The Project has identified potential permits that the project could require for in Table 8. If the RGU identifies other applicable permits, please advise.
386	9	1008	Table 8	If known, what federal, state, or local permits and approvals are needed for the North Dakota project components?	Answer question.	Talon will be scoping the permitting process for North Dakota in conjunction with the North Dakota Department of Environmental Quality (DEQ) and applicable federal agencies. The North Dakota project is also undergoing a federal NEPA environmental review process in line with requirements associated with the Department of Energy grant for development of the facility.
387	10ai	1017		There should be a discussion regarding safeguardn of Tribal treaty resources in this section.	Address comment; modify text as warranted.	The Project would appreciate guidance and discussion from the RGU on how to address this Comment. The Project sees this as a future topic of discussion in the development of the DSDD.
388	10ai	1017		This section describes snowmobile trails in the Project area, but neglects to mention that portions of Savanna State Forest are there, and if flooding happens, how the project may impact Grayling Marsh Wildlife Management Area (WMA).	Consider comment; edit text as warranted.	The Project has supplied project descriptions that are deemed sufficient for defining the scope of analyses for the EIS. It is anticipated that these descriptions will undergo revisions throughout

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						the EIS development to adequately meet the requirements of the EIS scope.
389	10ai	1017		Perhaps a further discussion in Question 15: Historic Properties would be warranted, but in this section there should be a short acknowledgement that in the past Native American Tribes have used the wetland complex as burial grounds.	Consider comment; edit text as warranted. Future discussion topic in development of Draft Scoping Decision Document	Comment is noted. Future discussion item, as necessary, in development of DSDD.
390	10ai	1019		The land use description is limited to a very small area near the Project area. Given that the description of water discharges in two HUC-12 watersheds that the Project lies within, it would be appropriate to also list WMAs and State Parks that lie downstream of project area.	Consider comment; edit text as warranted.	The Project has supplied project descriptions that are deemed sufficient for defining the scope of analyses for the EIS. It is anticipated that these descriptions will undergo revisions throughout the EIS development to adequately meet the requirements of the EIS scope.
391	10ai	1019		DNR notes the state water quality standard for sulfate in wild rice waters is 10mg/L. The EIS scope will likely require identification of wild rice waters and subsequent assessment for project-related discharges to adversely impact these resources (if present) due to project-related sulfate contributions.	Advisory only; modify text if needed	Comment is noted. The Project will address this question, as necessary, in the EIS.
392	10ai	1021		Typo: mission punctuation after 'infrastructure'	Edit EAW	Comment is noted. EAW has been updated.
393	10ai	1021		Sentence is stated twice. Remove duplicate.	Edit EAW	Comment is noted. EAW has been updated.
394	10ai	1028		The project could potentially result in the loss of public hunting land. This issue will need to be considered in the development of the Draft Scoping Decision document.	Advisory only; future discussion item as part of developing the Draft Scoping Decision Document	Comment is noted. Future discussion item, as necessary, in development of DSDD.
395	10aai	1042		The text indicates that the Project would result in further conversion of land use from open to industrial, but does not describe how the Aitkin County Comprehensive Land Use Management Plan assessed such conversion. Additional detail should be provided.	Consider comment; edit text as warranted.	Comment is noted.
396	10aiii	1051	Figure 6	There is no figure that clearly illustrates public vs private land. That could be on this figure or a separate figure.	Consider comment; edit text as warranted.	The Project added state/private land designation to Figure 6.
397	10aiii	1058		The text provides reference to the Aitkin County Mining and Reclamation Ordinance, but provides no detail regarding the contents of the ordinance. Additional detail should be provided.	Consider comment; edit text as warranted.	Comment is noted. For further details concerning the contents of the Ordinance, please see Reference 17 of the EAW.

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398	10aiv	1066		FEMA is updating their floodplain mapping. What data was used to make this determination?	Answer Question; edit text as needed	The reference is located on Figure 13. FEMA Flood Insurance Rate Map (FIRM) 2706280210B eff date 3/15/1982 2706280220B eff date 3/15/1982 2706280300B eff date 3/15/1982
399	10aiv	1066		Even if the areas are not "identified as at risk for localized flooding" the EIS needs to evaluate the potential for localized flooding during extreme weather events.	Advisory; future discussion item as part of developing the Draft Scoping Decision Document	Comment is noted. Future discussion item, as necessary, in development of DSDD.
400	10b	1067		These areas have yet to be identified. FEMA floodplain mapping is outdated. Hydrologic and hydraulic modeling is needed to identify flood extents and areas at risk for localized flooding.	Advisory; future discussion item as part of developing the Draft Scoping Decision Document	Comment is noted. Future discussion item, as necessary, in development of DSDD. The Project will keep monitoring FEMA floodplain mapping for updates as the project progresses through the environmental review process.
401	10b	1070		The text states that conversion of land use from open to industrial would occur, but makes no statement regarding the land zoned as city. The conversion or non-conversion of city-zoned land should be described and its compatibility with zoning should be discussed.	Consider comment; edit text as warranted.	As described in the Land Use section of the EAW lines 1038 and 1039, "The City of Tamarack is currently in the process of developing a comprehensive land use plan." Land is zoned by Aitkin County. Compatibility will be assessed as the City completes their land use plan.
402	11a	1078		The RGU offers the following notes: 1. The document should provide a high-level summary of what is known on the geochemical characterization of the overburden or any rock types. Furthermore, mineralogy and geological information should be used to develop the geochemical rock types for the project based on expert geochemists and geologists site knowledge. 2. Once the geochemical rock types are understood, the project geochemists should assess the potential for acid rock drainage and metal leaching. NPR criteria for the project should be developed and proposed for review to support treatment of the issue in the EIS. 3. If known, the document should discuss the expected quantities of each rock type and a high level schedule of year over year extraction of different rock types. More precise estimates would likely be required for the EIS.	Consider comment and edit text where anything is known at this time. Future discussion item for treatment of topic in draft scoping decision document.	A Materials Characterization Program is underway and includes a full suite of static and kinetic test methods. The Program is conducted with detailed and regular review by the DNR Lands and Minerals Division staff. A comprehensive data set is being collected from representative samples of development rock to understand mineralogy and how it relates to ARD and metal leaching. Geochemical characterization of development rock will be available for the EIS and mine permitting.
403	11a	1084	Figure 6, 7	A more detailed description of the surficial and bedrock geology at the project site is needed. The description could be constructed from drill logs and other sources of site specific geologic information and include descriptions of all major surficial and bedrock units at the project site. The geologic description should describe all faults, fractures and aquifers in the area and identify any other susceptible geologic features. Maps and cross-sectional drawings showing the locations and thicknesses of the different surficial and bedrock units,	Consider comment; edit text as warranted.	Detailed descriptions of the surficial and bedrock geology will be provided in the EIS.

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				locations of faults and fractures and other susceptible features and horizontal extents of the of the different surficial and bedrock units should also be described and mapped.		
404	11a	1100		There needs to be a discussion of structure and hydrogeology somewhere in this section	Consider comment; edit text as warranted.	Structural geology and further detailed hydrogeology (groundwater) of the Project will be provided in the EIS.
405	All EAW	General		<p>1) New Comment for Line 1100: The EAW should identify that mineralogical characterization would include acid-base accounting and dynamic testing, including the supporting technical data/information required to conduct the analyses.</p> <p>2) New Comment for Lines 1307-1311: The EAW should identify that hydrogeologic modeling is necessary, including the supporting technical data/information required to conduct the analyses.</p> <p>3) New Comment for Lines 468-470: The EAW should identify that rock dynamics/subsidence modeling is necessary, the supporting technical data/information required to conduct the analyses.</p> <p>4) New Comment for Line 172-177: General comment. The Project Description and other relevant items should provide supply consumption estimates as appropriate.</p>	Address comment; modify text if warranted.	<p>1) A Materials Characterization Program is underway and includes a comprehensive suite of static and kinetic test methods run on all lithological units that compose ore and development rock. The Program is conducted with detailed and regular review by the DNR Lands and Minerals Division staff. The planned use of conceptual and mathematical models to support the EIS is discussed on lines 1307-1311.</p> <p>2) The planned use of conceptual and mathematical models to support the EIS is discussed on lines 1307-1311.</p> <p>3) Comment is noted. Revised EAW text to include ""Additional subsidence analysis and supporting data will be incorporated into the EIS data submission.""</p> <p>4) The Project will address, as necessary, this issue in the EIS.</p>
406	11a	1101		Note, some of the geology terminology is unclear or incorrect. For example, it is stated the Thomson Formation (incorrectly spelled as Thompson) consists of "metamorphosed sediments". Note, sediments are not a rock type. Classically the Thomson Formation is described as consisting of intercalated slate, siltstone, and graywacke. Also, "hornfels grade" is not technically accurate. Hornfels is a metamorphic facies not a metamorphic grade. The hornfels facies metamorphic grade increases from Albite-Epidote => Hornblende => Pyroxene. Lastly, the major metamorphic event history for the Thomson Formation is regional metamorphism during the Penokean Orogeny followed by thermal metamorphism during the Mid-Continent Rift event.	Consider comment; edit text as warranted.	<p>Comment is noted. Text updated.</p> <p>EAW Text Update – “Bedrock in the Project Area consists of ultramafic to mafic igneous rock of the Tamarack Intrusive Complex (TIC) related to the early evolutions of the 1.1 billion years ago (Ga) Mid-Continent Rift which intruded into slates and graywackes of the Thomson Formation (Figure 8) (references (19); (20)). The Thomson Formation is part of the of the Paleoproterozoic Animikie Group which consists of metasedimentary rocks that were deposited in a deep-water basin that formed adjacent to a newly forming mountain belt to the south during the Penokean Orogeny (approximately 1.8 Ga) and subsequently were regionally metamorphosed. In the Project Area the Thomson Formation has been further contact metamorphosed by the intrusion of the TIC in a zone approximately 100-300 feet thick along the TIC contact (reference (20)). The Thomson Formation strata are folded by nearly upright, open regional folds with single, subvertical axial-planar slaty cleavage (reference (20)). Sedimentary rock of the Cretaceous Coleraine Formation is regionally present overlying the Thomson formation though it is not mapped in the Project Area.”</p>

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407	11a	1112		The document lacks any information of the geochemical characterization of the Class 1, 2, and 3 development rock (bedrock). If known the document would benefit from some explanation. Regardless, the project should conduct ABA testing for materials (static) and humidity cells (kinetic) for waste materials based on the expected proportion of Geochem rock types in the waste materials to inform the EIS analysis. The testing should be representative and meet the expected guidance documents. The humidity cell tests should run for sufficient time such that a stable release rate is achieved. Following the assessment static and kinetic data by geochemical rock type, affective NPR (critical NPR) for the project should be established with the assessment of the time to onset of acidity.	Consider comment and edit text as needed. Future discussion item in development of the draft scoping decision document.	A Materials Characterization Program is underway and includes a full suite of static and kinetic test methods. The Program is conducted with detailed and regular review by the DNR Lands and Minerals Division staff. A comprehensive data set is being collected from representative samples of development rock. Geochemical characterization of development rock will be available for the EIS. Text has been updated in Section 6 Overburden, Development Rock, and Backfill Materials Management.
408	11a	1112		The EIS would likely require description of the geologic components of the bedrock to be excavated during development of the mine. Example: units including serpentinite rock often contain Federally hazardous levels of Nickel and Chromium. It is likely a plan for sampling, analysis, waste disposal of overburden and ore would be needed for the EIS. Additional considerations may include provisions for worker protection.	Advisory only. Future discussion item for the draft scoping decision document on treatment of issue for EIS.	Comment is noted. The Project will address this question, as necessary, in the EIS.
409	11a	1112		RGU notes that mafic and ultramafic rock types often contain elongate minerals, including asbestiform amphiboles and chrysotile. Background data needs for the EIS would likely include sampling and analysis results for elongate minerals. In terms of regulatory requirements if elongate minerals are present, OSHA and MSHA require worker protection and mitigations to prevent inhalation & ingestion, transport of dusts on soiled clothing, and aerial transport of dust off-Site (beyond project fence line).	Advisory only. Future discussion item for the draft scoping decision document on treatment of issue for EIS.	Comment is noted. The Project will address this question, as necessary, in the EIS.
410	11a	1112		The EIS would likely require a thorough analysis of source rock for the purposes of assessment, characterization and quantification of elongate mineral particles. Analysis of potential impacts would require the results and original laboratory data including elemental composition, crystal structure, and growth habit.	Advisory only. Future discussion item for the draft scoping decision document on treatment of issue for EIS.	Comment is noted. The Project will address this question, as necessary, in the EIS.
411	11a	1112		This indicates sulfide is mixed with the nickel-copper-cobalt. It should be addressed how the sulfide would be handled when these minerals are removed.	Consider comment; edit text as warranted. Future discussion topic in development of Draft Scoping Decision Document	Nickel-copper-cobalt will be separated from sulfur in the Talon Battery Materials Processing Project in North Dakota. Talon will be scoping the permitting process for North Dakota in conjunction with the North Dakota Department of Environmental Quality (DEQ) and applicable federal agencies. The North Dakota project is also undergoing a federal NEPA environmental review process in line with requirements associated with the Department of Energy grant for development of the facility
412	11a	1112		If the cobalt, platinum, palladium, and gold will be extracted from the ore that needs to be indicated in the project description.	Consider comment; edit text as warranted.	Please see Response to Comment #35.
413	11a	1118		What is the proportion of each of the three basic types of mineralization in the TIC?	Answer question. Edit text as necessary	Is this question intended to be for the TIC or for the Tamarack Mining Project? The TIC is a large body that contains many geological occurrences of mineralization across a large area. Only the mineralization within the Tamarack Mining Project has been evaluated to a level where proportions of ore types can be estimated.

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414	11a	1121		Because of the mercury impairments at Big Sandy Lake it is important to know how the peat removed from the surface of the project area will be managed to prevent additional mercury from entering the watershed particularly because there is a peat harvesting operation nearby.	Advisory only; future discussion item as part of developing the Draft Scoping Decision Document	Comment is noted. Future discussion item, as necessary, in development of DSDD.
415	11a	1123		The submittal does not identify the location of fractures, joints, fissures, and faults. This detailed information will be needed to assess impacts in the EIS	Advisory only; future discussion item as part of developing the Draft Scoping Decision Document	Comment is noted. Future discussion item, as necessary, in development of DSDD.
416	11b	1140		The section indicates over 50% of the project is peat or muck soils. Information regarding the depth of organic soils is absent and should be provided	Consider comment; edit text as warranted.	Studies are planned or are underway to understand depths of organic soils in the Project Area. The Project will address this question, as necessary, in the EIS.
417	11b	1140	Figure 10	Recommend using a different color for the Soil Unit as the green blends with the background.	Review for accessibility; modify figure if needed	Soil unit colors have been updated on Figure 10 Soils.
418	11b	1143		What is the volume and acreage of peat and much that would be removed for building the site?	Answer question. Edit text as necessary	Studies are planned or underway to determine the amount of peat that would be removed for construction of the surface facilities. The Project will address this question, as necessary, in the EIS.
419	11b	1145		It would be helpful to indicate the percent of peatlands in the project area	Address comment; modify text as warranted.	Studies are planned or underway to determine the percentage of peatland in the Project Area. The Project will address this question, as necessary, in the EIS.
420	11b	1149		Please indicate the percentage of peatlands in the project area. (Note that this question also addresses part of 571 and 572)	Consider comment; edit text as warranted.	Studies are planned or underway to determine the percentage of peatland in the Project Area. The Project will address this question, as necessary, in the EIS.
421	11b	1150		The description of impacts to hydric soils, particularly due to the railroad spur construction, is insufficient.	Consider comment; edit text as warranted.	Comment is noted. The Project will address this question, as necessary, in the EIS.
422	11b	1150		Underground mining techniques are stated to minimize impacts to soils. However, no explanation is provided as to how or to what extent impacts would be minimized. The use of the word "minimize" rather than "avoid" also suggests that there would still be impacts. Peat accumulating wetlands are extremely sensitive to hydrologic changes and topographic changes (i.e. subsidence). Detailed explanation of how impacts would be avoided or minimized is justified.	Advisory; future discussion item as part of developing the Draft Scoping Decision Document	Additional text has been added to "Orebody Access" in Section 6 on strategies to minimize impact to soils and overburden by proposing a TBM for the Decline development. Also see Response to Comment #87 and Line 466 – 470 regarding ground settlement and crown pillar deflection.
423	11b	1159	Table 10	These numbers do not indicate if potential remediation of peat soils would require additional excavation. This potential should be considered in excavation estimates.	Advisory; future discussion item as part of developing the Draft Scoping Decision Document	Comment is noted. Future discussion item, as necessary, in development of DSDD.
424	12ai	1170		The potential impacts resulting from changes to surface water flows should be evaluated in the EIS.	DNR will evaluate available information during the development of the Scoping EAW to determine the treatment in the EIS.	Comment is noted.

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425	12ai	1170		Will there be in-field delineations of floodplains in addition to the FEMA-delineated floodplains?	Answer question.	The need for additional floodplain delineation will be considered when developing the technical approach that will support the Project's EIS data submission.
426	12ai	1180		Provide additional detail and clarification with regard to general surface water from the project area in particular as it pertains to the Tamarack River and Mud Lake watersheds.	Answer question and update EAW as appropriate.	Text updated in the EAW.
427	12ai	1183		Instead of stating that there are no public waters basins located within one mile of the project area, provide the distances from the project for the Tamarack River, Minnewawa Creek, Sandy River, Tamarack Lake and Big Sandy Lake.	Answer question and update EAW as appropriate.	Distances from the Project Area to Tamarack River, Minnewawa Creek, Sandy River, Tamarack Lake and Big Sandy Lake are illustrated on Figure 11.
428	12ai	1183		It is not clear if "public water basins" indicates mapped basins of the Public Waters Inventory, or mapped basins plus potential public waters that meet the definition of Minnesota Statute 103G.005, Subdivision 15a but may be unmapped. This distinction should be clarified.	Answer question and update EAW as appropriate.	The "public water basins" referenced in the text, tables, and figures indicate mapped basins of the Public Waters Inventory and do not include potential public waters that meet the definition of Minnesota Statute 103G.005 but are unmapped. Link to statute: https://www.revisor.mn.gov/statutes/cite/103G.005
429	12ai	1187		Only public waters with wild rice are listed. Have field surveys been completed to determine additional wild rice habitat downstream of project area (and therefore receiving project discharge)?	Future discussion item.	Comment is noted. The Project will address, as necessary, this issue in the EIS.
430	12ai	1187		How will the protection of the wild rice waters be ensured & are relevant tribal governments or stakeholders being consulted for their input?	Answer question.	Comment is noted. Tribal Governments have been, and will continue to be, consulted regarding wild rice.
431	12ai	1188		These lakes are also now listed at the MPCA as waters used for the production of wild rice and the 10 mg/L sulfate standard would apply to the lakes.	Regulatory guidance. Future discussion item.	Comment is noted. The Project will meet water quality standards as described in Minnesota Rules, chapter 7050.0220 subpart 3a. Future discussion item, as necessary, in development of DSDD.
432	12ai	1196	Table 11	Round Lake (WID = 01-0023-00) should also be listed as a water used for the production of wild rice	Address comment and update EAW as appropriate.	Comment is noted. Round Lake (WID = 01-0023-00) is not listed in Minnesota's Wild Rice Waters inventory as compiled by the DNR as part of the 2008 report "Natural Wild Rice" submitted to the Legislator. The Project used publicly available data for this EAW data submittal. https://files.dnr.state.mn.us/fish_wildlife/wildlife/wildrice/statewide-inventory-wild-rice-waters.pdf
433	12ai	1196	Table 11	State shoreline classifications and standards are the minimum that must be followed; the LGU can adopt stricter standards and classes. LGU standards for lakeshore classifications and standards must be determined and met. Recommend providing those in the document.	Address comment and update EAW as appropriate.	Aitkin County Shoreland Ordinance (amended 2017) was acknowledged and the EAW updated.
434	12ai	1221		What reference was used to determine public waters?	Address comment and update EAW as appropriate.	Reference updated in the EAW from Reference #25 to Reference #21: Minnesota Department of Natural Resources. Public Waters Inventory (PWI) Maps. https://www.dnr.state.mn.us/waters/watermgmt_section/pwi/maps.html .

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435	12ai	1250		A hydrologic and hydraulic model that incorporates updated precipitation information (e.g., Atlas-14) should be used to evaluate where the floodplain would be. Impacts of the proposed project should be evaluated relative to these simulated floodplain elevations.	Future discussion item.	Comment is noted. The Project will consider using both site specific and publicly available climate data for floodplain evaluations. The Project will address, as necessary, this issue in the EIS.
436	12ai	1255		Back in Item 6b, Line 519, the TBM is expected to cross from the overburden to bedrock containing elevated sulfur. The potential release of elevated sulfur from the bedrock to surrounding waters (including those supporting wild rice) is a concern. It is also a concern if any aspect of the project results in releases of sulfur dioxide (SO2) that could also adversely affect wild rice resources. The EIS would likely require the conceptual model to be capable of addressing this potential flowpath and assess potential water quality impacts to surface waters.	Advisory only. Future discussion item for the draft scoping decision document on treatment of issue for EIS.	Comment is noted. All water produced by the TBM will be collected and treated prior to discharge. Specifically, sulfur dioxide (SO2) is not anticipated to be released as part of the TBM tunneling process as it is a combustion gas. The TBM relies on mechanical means of breaking break rock (not blasting), thus the means of generating sulfur dioxide during this process is not anticipated. Future discussion item, as necessary, in development of DSDD.
437	12ai	1255		Provide more complete description of surface water flow and surface water quality monitoring efforts. Currently, the information is insufficient to determine whether current efforts will adequately inform EIS.	Address comment and update EAW as appropriate.	Comment is noted. Future discussion item, as necessary, in development of DSDD.
438	12ai	1255		How would potential negative impacts to surface water quality or quantity be assessed and remediated if they occurred?	Answer question.	Comment is noted. The Project will address, as necessary, this issue in the EIS.
439	12ai	1255		The stormwater management plan for the project should be based on a hydrologic and hydraulic model that allows for simulations of both design events (i.e., 100-year, 24-hour rainfall event) and continuous simulations in order to assess the potential impacts to downstream waterbodies under existing and future conditions. This information should be provided in order to assess impacts to surface water and natural resources.	Future discussion item.	Comment is noted. The Project will address, as necessary, this issue in the EIS.
440	12ai	1255		How often is monitoring occurring and at what locations? What parameters are being monitored?	Answer question.	Comment is noted. For this data submittal the Project is only making use of publicly available data, which the Project feels this is sufficient for scoping. The Project will address, as necessary, this issue in the EIS.
441	12ai	1255		Will monitoring of surface water flow and quality be of the same, or similar, frequency during mine operation?	Answer question.	Comment is noted. Required monitoring during operations will be determined as part of the Environmental Review and/or Permitting stages of the project.
442	12ai	1255		Provide the locations of all surface water monitoring sites and flow measurements collected at the sites as well as manual flow measurements, logger data and rating curves for the purpose of reviewing flow measurements. Additional stream flow monitoring locations may be recommended if it is determined that more measurements are needed to adequately characterize baseline surface water flows.	Address comment and update EAW as appropriate.	See Response to Comment #440.
443	12ai	1255		It is recommended that the conceptual surface water flow model be discussed with the DNR prior to constructing the quantitative models that will be used to estimate the effects of the project on water resources. Changes may need to be made to the conceptual model depending on the outcome of the discussion(s).	Regulatory guidance. Consult DNR Lands and Minerals regarding potential groundwater models.	Comment is noted. Future discussion item, as necessary, in development of DSDD.

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444	12ai	1255		Provide figures showing surface water baseline conditions. It would be helpful to display variations in streamflow over time using time series plots (hydrographs), as well as graphs displaying surface water quality in ditches, streams, and lakes.	Future discussion item.	Comment is noted. Surface water baseline conditions, including streamflow variations at multiple station, hydrographs and water quality will be provided, as necessary, as part of the EIS data submission.
445	12ai	1255		Does Talon propose to include a quantitative water model to simulate contact water management, industrial stormwater management, and construction stormwater? If yes, the SEAW should identify the type of simulation software and what conditions would be modeled.	Answer question.	Comment is noted. Modeling objectives, scenarios, and applicable software will be determined as part of the EIS process.
446	12ai	1255		For quantitative surface water hydrology modeling, what software program would be used to simulate runoff (if necessary)? The modeling should specify exactly where and how precipitation falling on the project features may be released back into natural systems, including during the reclamation and closure phases.	Answer question.	Comment is noted. Modeling objectives, scenarios, and applicable software will be determined as part of the EIS process.
447	12ai	1255		Does Talon propose to tailor the water model to address different potential operating conditions (full operation; partial shutdown; temporary idle; or similar)?	Answer question.	Comment is noted. Modeling objectives, scenarios, and applicable software will be determined as part of the EIS process.
448	12ai	1255		Does Talon propose to specify the potential pathways for how industrial stormwater, contact water, or leakage from other project features that could be released to surface waters and quantified?	Answer question.	Comment is noted. The Project will address, as necessary, this issue in the EIS.
449	12ai	1255		Does Talon propose to develop a water mass balance model for the project?	Answer question.	Comment noted. Modeling objectives, scenarios, and applicable software will be determined as part of the EIS process.
450	12ai	1255		Does Talon propose to develop a LiDAR assessment of current topology to describe current conditions, with an elevation model of the final topography after reclamation, to support analysis of potential hydrological change?	Answer question.	Comment is noted. The Project will address, as necessary, this issue in the EIS.
451	12ai	1259		The document notes that evaluations will be conducted...to estimate potential effects...on water resources. Does Talon propose the waterbodies listed in Tables 11 and 12 as constituting the complete list of waterbodies to be evaluated? Any other waters to be evaluated?	Answer question.	Comment is noted. The project did not reference Table 11 or Table 12 in line 1259 or its paragraph. Water bodies that would need to be evaluated will be determined during the DSDD.
452	12ai	1257		Provide more details on the surface water flow conceptual model in the next data submittal. The EAW currently lacks any discussion of conceptual modelling, for example listing sources, pathways and receptors so as to ground numerical modeling. A review of the water management strategies on site cannot be completed without this critical information.	Address comment and update EAW as appropriate. Future discussion necessary.	Comment is noted. The Project has supplied project descriptions that are deemed sufficient for defining the scope of analyses for the EIS. A review of the water management strategies will be part of the EIS process.
453	12ai	1258		Water quality modelling is also required for contingency planning for MLARD source terms and mitigation planning. This must trace sources, treatment options, source control strategies and discharges to the receiving environment. Water quality modeling should include base case as well as upper case source terms for MLARD planning purposes.	Address comment and update EAW as appropriate.	Comment is noted. Modeling objectives, scenarios, and applicable software will be determined as part of the EIS process.

Comment No.	EAW Section	Line No.	Table; Figure; Graphic	DNR Comment 9/19/2023	Requested Action By DNR	Talon Response and Treatment in EAW 10/11/2023
454	12ai	1261		The type of wetland delineation (Level 1 or Level 2) is not specified. This information is needed to determine level of detail and if finer resolution is warranted.	Address comment and update EAW as appropriate.	A Level 3 Wetland delineation was submitted to the agencies in 2023. Level 3 "intensive site assessment and uses intensive research-derived, multi-metric indices such as the Hydrogeomorphic Approach or Biological Assessments. They are meant to give detailed information regarding how well a wetland is functioning." The EAW was updated to reflect this.
455	12ai	1261		There is inconsistent use of project acreage and project acreage impacts. Here the EA states there are approximately 302 acres of wetland present within the Project Area, earlier the project area was considered either 224.9 or 263.3 acres, of which not all was considered wetlands?	Address comment and update EAW as appropriate.	As explained in the EAW data submittal and Table 3: Summary of Acreage Types within Project Area (added during the amending): "The project area is defined by the surface boundary and the underground boundary areas, as shown on Figure 2, and together comprise 447.0 acres." "The underground boundary area is the area in which mining would occur below the surface and encompasses approximately 224.9 acres and overlaps with the surface boundary area by approximately 41.2 acres." "The surface boundary area encompasses approximately 263.3 acres and includes the following:" The 302.2 acres of "Wetlands and shallow lakes" is within the Project Area of 447.0 acres.
456	12ai	1261		Information must be provided on methods and considerations for determining the Project Area. Additional wetland delineation may be necessary to determine the potential for indirect wetland impacts.	Address comment and update EAW as appropriate.	How the Project Area is defined is described in the EAW data submittal lines 191 and 192. The potential area of indirect wetland impact will be determined, as necessary, in the EIs.
457	12ai	1263	Figure 14	The wetland delineation was conducted in growing season 2022 but no submission date to the agencies is provided. Agency review timelines should be adequate to provide boundary and type review within this timeframe. Given the large quantity of wetlands present on site, an approved Level 2 wetland delineation is critical to assessing potential wetland impacts. Figure 14 appears to illustrate NWI wetland boundaries but it is not clear if they are NWI or delineation boundaries.	Answer question regarding wetland boundaries in Figure 14.	The EAW data submittal was updated with the date that the wetland delineation was submitted to the agencies. Figure 14 shows the Level 3 Wetland Delineation conducted by GEI during the 2022 growing season as well as the NWI wetland boundaries that are outside of the Level 3 delineated area. Figure 14 will be updated to reflect this more clearly.
458	12ai	1264		Text indicates that wetland delineations are considered preliminary until TEP review. Wetland delineations are preliminary until DNR, as the WCA approving authority, makes a decision on a wetland delineation.	Advisory. Regulatory guidance. Future discussion item.	Comment is noted. The Project will participate in future discussions on this subject as part of the DSDD process.
459	12ai	1266		Wetland categories found in project area are listed, but water quality and discharge volume impacts cannot be assessed without knowing more about water sources for different wetlands. Basic water quality data such as pH and conductivity would be useful for initial review of subsequent wetland impacts subsection in item 12.	Future discussion item.	Comment is noted. Data collected in the wetlands and the associated analyses will be provided in the EIS data submittal.
460	12ai	1266	Figure 14	The color chosen to represent the "National Wetlands Inventory" (NWI) is very faint. Choose a color that is more visible.	Address comment and update Figure 14 as appropriate.	Figure 14 has been updated to improve color contrast for the NWI.

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461	12ai	1269		Ditching in wetlands is a past impact that is now reflected in the current hydrologic behavior of the ditched wetland system. This will need to be accounted for in the assessment of project-specific impacts to these previously-impacted systems.	DNR will evaluate available information during the development of the Scoping EAW to determine the treatment in the EIS.	Comment is noted.
462	12ai	1272		RGU notes it will be necessary to describe potential groundwater flow impacts resulting from peat excavation.	Consider comment; provide additional detail on what is currently known. The issue will have to be addressed in the draft scoping decision document.	Comment is noted. Future discussion item, as necessary, in development of DSDD.
463	12ai	1272		More information needed on monitoring and additional information on the types of models that will be used	Note comment.	Comment is noted.
464	12ai	1272		Provide more complete description of wetland water level and water quality monitoring efforts. Insufficient information to determine whether current efforts will adequately inform EIS.	Address comment and update EAW as appropriate.	Comment is noted. Future discussion item, as necessary, in development of DSDD.
465	12ai	1272		Further detail of wetland water level and water quality monitoring methods is warranted. No details are provided other than that data is being collected. Some knowledge of methods is needed to assess potential scoping needs. Further, floristic quality monitoring should be considered given the potential of large peatland complexes and adjacent wetlands to harbor high quality plant communities and rare species. Hydrogeomorphic classification and corresponding functions should also be considered to further assess potential impacts.	Future discussion item.	Comment is noted. The Project will address, as necessary, this issue in the EIS.
466	12ai	1272		Will monitoring of wetlands be of the same, increased, or similar frequency during mine operation?	Answer question.	Comment is noted. Required monitoring during operations will be determined in due process as part of the Environmental Review and Permitting stages of the project.
467	12ai	1272		How would potential negative impacts to the wetlands be assessed and remediated if they occurred?	Answer question.	Comment is noted. The Project will address, as necessary, this issue in the EIS.
468	12ai	1272		Provide a summary of the wetlands water quality data collected to date, along with a map identifying the locations of the monitoring stations. It is unclear from the EIS into which wetland(s) the mine plans to discharge effluent into. Providing baseline water quality/water flow and seasonal variation of each will assist in appropriate discharge planning and identify any potential effects to surface water as a result of wastewater discharges.	Address comment and update EAW as appropriate.	Comment is noted. For the EAW data submittal and for this specific topic the Project is only making use of publicly available data, which the Project believes is sufficient for scoping. The project will address, as necessary, this issue in the EIS. This Comment also refers to the EIS. The Project has not submitted an EIS data submittal, but an EAW data submittal for scoping the EIS. Refer to Figure 5 and Lines 7-5 - 718 in the EAW for details regarding proposed discharge location.

Comment No.	EAW Section	Line No.	Table; Figure; Graphic	DNR Comment 9/19/2023	Requested Action By DNR	Talon Response and Treatment in EAW 10/11/2023
469	12ai	1272		Provide the locations of all wetland monitoring wells and baseline wetland monitoring data. Additional wetland monitoring wells may be recommended if it is determined that more wells are needed to adequately characterize wetland hydrology.	Address comment and update EAW as appropriate.	Comment is noted. For the EAW data submittal and for this specific topic the Project is only making use of publicly available data, which the Project believes is sufficient for scoping. The project will address, as necessary, this issue in the EIS.
470	12ai	1272		It is recommended that the conceptual wetland hydrology model be discussed with the DNR prior to constructing the quantitative models that will be use to estimate the effects of the project on water resources. Changes may need to be made to the conceptual model depending on the outcome of the discussion(s).	Future discussion item.	Comment is noted. Future discussion item, as necessary, in development of DSDD.
471	12ai	1272		It is recommended that the quantitative wetland hydrology models that will be used to estimate the effects of the project on wetlands be discussed with the DNR prior to the start of modeling.	Future discussion item.	Comment is noted. Future discussion item, as necessary, in development of DSDD.
472	12ai	1272	Figure 15	Wetland hydrology monitoring should include measurement of vertical gradients between the wetland and underlying aquifers to evaluate hydrologic connections between the wetlands and aquifers to be affected by mining. Are the monitoring wells referred to in this paragraph shown on Figure 15?	Future discussion item. Answer question concerning monitoring well locations.	Figure 15 only shows wells and borings that are listed in the Minnesota Well Index. Figure 15 including the legend was updated to reflect this. Figure 15 also differentiates between Project and non-Project owned installations registered with the MDH. Comment is noted. The Project will address, as necessary this issue in the EIS.
473	12aai	1282		The EAW states, "One well is completed in a Quaternary undifferentiated aquifer and no information is available for three wells." Will the EIS evaluate potential interference with water supply wells?	No action necessary. Comment refers to existing MWI wells.	Comment is noted.
474	12aai	1282	Figure 15	The EAW states, "Monitoring wells have been installed in and around the Project Area (Figure 15) to characterize baseline groundwater conditions (groundwater levels and groundwater quality)." How were the location of these monitoring wells determined?	Provide additional information on monitoring well network as it relates to baseline conditions and conceptual models that will be presented in the EIS.	The design of the monitoring network considered but was not limited to the proposed mine plan, geology, structural geology and hydrogeology, groundwater flow directions, surface water bodies and spatial distribution (both lateral and vertical). The Project will address this question, as necessary, in the EIS.
475	12aai	1282		Although there are no mapped springs near the project area, the possibility exists for artesian springs to be present across this wetland-dominated landscape. Does the proposed hydrologic characterization program account for this possibility, and if yes, how is this proposed to be done? If not, conducting surveys for springs may be needed as part of the hydrologic characterization to address this potential concern.	Answer the question; edit document as needed. Possibly a future discussion item to specify what additional field surveys for springs may need to be conducted as part of the baseline hydrological characterization.	Comment is noted. The Project will address, as necessary, this issue in the EIS.
476	12aai	1282		"Johnson's Beaver Pond", identified within the MN Spring Inventory, may be within 20 miles.	Note comment.	Comment is noted. Johnson's Beaver Pond will be examined for proximity with respect to this statement. A preliminary examination of Johnson's Beaver Pond indicates that it is outside the 20-mile radius from the geometric centroid of the site surface facilities.

Comment No.	EAW Section	Line No.	Table; Figure; Graphic	DNR Comment 9/19/2023	Requested Action By DNR	Talon Response and Treatment in EAW 10/11/2023
477	12aai	1290		Assessment of potential impacts to drinking water wells should include the TBM.	Consider comment; edit text as needed.	Comment is noted. The Project will address, as necessary, this issue in the EIS.
478	12aai	1290	Figure 15	Plans to monitor surrounding water supply wells during mine dewatering should be discussed.	DNR will evaluate available information during the development of the Scoping EAW to determine the treatment in the EIS.	Comment is noted.
479	12aai	1290	Figure 15	Are piezometers part of the monitoring well network?	Answer question and update EAW as appropriate.	The Piezometers were erroneously included in Figure 15 as they are less than 15 ft in depth and not registered in the Minnesota Well Index. Figure 15 illustrates wells and borings registered in the Minnesota Well Index only, this includes wells > 15 ft in depth, vibrating wire piezometer installations and exploration borings.
480	12aai	1290		Modeling of the impact of mine dewatering and appropriations on the artesian sand and gravel aquifers used by water supply wells near the project area should be submitted. The same is true for impacts to wetland hydrology.	Future discussion item.	Comment is noted. The Project will address, as necessary, this issue in the EIS.
481	12aai	1305	Figure 15	Only one quaternary monitoring well (22TKW059) is near the underground workings and south of the minor watershed boundary. The next nearest well south of the minor watershed boundary is approximately a mile south (22TKW060). There are no shallow bedrock monitoring wells south of the minor watershed boundary. While a minor watershed boundary may not significantly affect groundwater flow, there is reason to need evaluation of whether there is a groundwater divide. This is important for understanding groundwater flow direction. The nearest multi-level upgradient wells (08TKW005, 21TKW0022, etc.) are ~4,000 feet away from the next downgradient locations (i.e., the "Inset 3" and "Inset 2" wells) in the approximate surface projection of underground workings. Groundwater flow is believed to be generally west, so the nearest multi-interval and upgradient wells (08TKW005, 21TKW0022, etc.) might not even be true upgradient wells; a flow line from those wells could conceivably bypass the surface projection of underground workings area, especially when there is a distance of thousands of feet between well locations. As noted in EAW Figure 15, and starting on Line 1290, there are water supply wells near and downgradient of the underground workings.	Regulatory guidance. Future discussion item.	Comment is noted. Not all Project wells are shown on Figure 15 because either 1) they are less than 15 feet in total depth and not required to be registered with the MDH, or 2) are outside of the 1 mile radius. Future discussion item, as necessary, in development of DSDD.
482	12aai	1305		To evaluate the adequacy of the monitoring well network, boring logs, monitoring well construction reports (including surveyed elevations), data collected (parameters and monitoring period) for each monitoring well should be included.	Future discussion item.	Comment is noted. Future discussion item, as necessary, in development of DSDD.
483	12aai	1305		It will be important for well locations to be representative of the area of potential affect and the scope not to be too narrowly focused on just the project site. Will the current distribution of monitoring wells proposed be able to determine impacts outside the Mississippi watershed if it were to occur?	Answer question and update EAW as appropriate.	Comment is noted. Please provide more detail on this Comment.
484	12aai	1305		Are existing monitoring wells completed in the same aquifer(s) as nearby water wells?	Answer question.	Comment is noted. For this data submittal and for this specific topic the Project is only making use of publicly available data, which the Project believes is sufficient for scoping.

Comment No.	EAW Section	Line No.	Table; Figure; Graphic	DNR Comment 9/19/2023	Requested Action By DNR	Talon Response and Treatment in EAW 10/11/2023
485	12aai	1305		Identify plans for sealing any existing water-supply/monitoring wells and exploratory borings located within the footprint of the mine project by a licensed well contractor. MDH Well Management Section can be contacted for questions.	Regulatory guidance. Provide discussion of well and boring abandonment procedures in EAW as appropriate.	All applicable wells and borings will be sealed in accordance with Minnesota Rules Chapters 4725 and 4727 and Minnesota Statutes Chapter 103I.
486	12aai	1305		Well construction logs, stratigraphy reports, monitoring details and monitoring data for all monitoring wells installed in and around the project site should be provided. Additional monitoring wells may be recommended if it is determined that the current monitoring well network does not adequately characterize the hydrologic conditions at the mine site.	Future discussion item.	Comment is noted. The Project will address, as necessary, this issue in the EIS.
487	12aai	1305		To better understand existing conditions, the following figures would be helpful: horizontal and vertical hydraulic gradients in the surficial and bedrock aquifers using cross sections and/or potentiometric surface maps; groundwater level variations over time displayed using time series plots (hydrographs); graphs displaying groundwater quality in both bedrock and surficial aquifers.	Provide requested figures.	Comment is noted. For this data submittal and for this specific topic the Project is only making use of publicly available data, which the Project believes is sufficient for scoping. The Project will address, as necessary, this issue in the EIS.
488	12aai	1305		When available, provide information from all pumping tests, slug tests, or any other tests performed to evaluate aquifer properties. Additional testing may be recommended if it is determined more information is needed to adequately characterize the hydrologic conditions at the mine site.	Future discussion item.	Comment is noted. The Project will provide hydraulic testing results as part of the EIS.
489	12aai	1305	Figure 15	A separate figure showing the locations of the monitoring wells and bore holes that are currently being used to monitor groundwater levels should be provided. The monitoring wells should be separated into bedrock and surficial wells in the figure or be provided in separate figures. Wells in the figure(s) should be labeled so they can be correlated with groundwater monitoring data.	Provide requested figures.	Comment is noted. For this data submittal and for this specific topic the Project is only making use of publicly available data, which the Project believes is sufficient for scoping. The Project will address, as necessary, this issue in the EIS.
490	12aai	1305	Figure 15	The number and locations of the existing monitoring wells may not be adequate to formulate a comprehensive site conceptual model. Wells seem to be concentrated in the northern half within the project area. There are only 5 monitoring wells outside the project area boundary. There are no monitoring wells south of the project area. Information to be obtained from monitoring wells is not stated.	Provide additional information on monitoring well network as it relates to baseline conditions and conceptual models that will be presented in the EIS.	Comment is noted. For this data submittal and for this specific topic the Project is only making use of publicly available data, which the Project believes is sufficient for scoping. The Project will address, as necessary, this issue in the EIS.
491	12aai	1305		Does Talon propose development of two conceptual models to assess impacts to groundwater? One conceptual model could be used to model current conditions while the second could be used to model future conditions, including into reclamation and closure.	Answer question.	Comment is noted. Future discussion item, as necessary, in development of DSDD.
492	12aai	1305		Does Talon propose to rely on a finite-difference numerical groundwater flow model to assess impacts? Would this model be coupled with other analytical or analog models to answer specific questions for the project area?	Answer question.	Comment is noted. Future discussion item, as necessary, in development of DSDD.
493	12aai	1305		Does Talon propose for the numerical models to be capable of assessing changes to the groundwater systems predicted from initial mine construction,	Answer question.	Comment is noted. Future discussion item, as necessary, in development of DSDD.

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				underground mine operations, or other project elements that could affect aquifer recharge?		
494	12aai	1305		Does Talon propose to configure the groundwater impact models so that the results can be used in the surface water and wetland impact assessments?	Answer question.	Comment is noted. Future discussion item, as necessary, in development of DSDD.
495	12aai	1305		Does Talon propose for groundwater modeling to assess project-related groundwater depressurization effects during operations?	Answer question.	Comment is noted. Future discussion item, as necessary, in development of DSDD.
496	12aai	1305		Has Talon identified potential pathways for how contact water or industrial groundwater could be released to groundwater?	Answer question.	Comment is noted. The Project assumes the phrase "industrial groundwater" to be industrial stormwater as defined in Line 610 - 612, please confirm. The Project will address, as necessary, this issue in the EIS.
497	12aai	1305		Does Talon propose to model potential changes to deeper bedrock groundwater quality as the project transitions from underground operations to reclamation and closure? Potential issues could be flow from the flooded underground mine workings in closure or groundwater interaction with the cemented rock backfill.	Answer question.	Comment is noted. Future discussion item, as necessary, in development of DSDD.
498	12aai	1305		Does Talon propose to assign a pathway for any potential precipitation to infiltrate roadways and any subsequent impacts to groundwater quality?	Answer question.	Comment is noted. The Project will address, as necessary, this issue in the EIS.
499	12aai	1307		The DNR requests the opportunity to review and discuss the conceptual groundwater model prior to constructing the quantitative groundwater models that will be used to estimate the effects of the project on water resources. Changes may need to be made to the conceptual model depending on the outcome of the discussion(s). The DNR also requests the opportunity to discuss the quantitative groundwater models that will be used to estimate the effects of the project on water resources. This will help ensure that the DNR agrees they will adequately predict all impacts to water resources from the project.	Regulatory guidance. Consult DNR Lands and Minerals regarding potential groundwater models.	Comment noted.
500	12aai	1308		As stated, quantitative modeling will include groundwater and particle tracking (Line 2064). As additional information relating to aquifer and bedrock hydraulic properties will gradually become available as the mining drifts and stopes advance, A plan should be in place to: (i) perform bounding analysis for the EIS and (ii) update the model during the mine operation to confirm the bounding analysis and to guide mining operations, if necessary. If the infiltrating water includes potential contaminants, the modeling plan should include the development of a transport model to assess the mixing between the infiltrating water and ambient groundwater.	Future discussion item.	Comment is noted. The Project will address, as necessary, this issue in the EIS.
501	12aai	1309		What type of quantitative groundwater flow models will be constructed and will they be sufficient enough to model changes in groundwater flow direction and/or contaminant transport, as well as potential impacts to nearby surface waters & wetlands, as a result of mining activities? Will all models, modeling software and data, and inputs to the model be available for MDH staff so it can be verified and replicated?	Answer question and update EAW as appropriate.	As part of the EIS data submittal the applicable models, modeling software and data, and inputs to the water resources models will be made available.
502	12aai	1312		Depth to groundwater should be mapped in a figure with the proposed project features overlain for clarity.	Provide requested figure.	Figure 16 has been updated to include the proposed project features.

Comment No.	EAW Section	Line No.	Table; Figure; Graphic	DNR Comment 9/19/2023	Requested Action By DNR	Talon Response and Treatment in EAW 10/11/2023
503	12aii	1312	Figure 16	Site specific monitoring well data should be used to characterize the depth to water in the project area rather than general NRCS soils information.	Update EAW with depth to groundwater information from monitoring well network.	Comment is noted. For this data submittal and for this specific topic the Project is only making use of publicly available data, which the Project believes is sufficient for scoping. The Project will address, as necessary, this issue in the EIS.
504	12bi	1333		The EAW states that "Significant additional hydrological data has been collected since 2020." Will additional modeling be completed to determine inflow? A new model is needed.	Answer question with additional detail if known. Future discussion item in development of draft scoping decision document.	Additional modeling will be performed to include all relevant data collected since 2020 to support and inform the EIS data submission.
505	12bi	1333		RGU notes the summary regarding discharges from the water treatment plant and sanitary water treatment plant is not at the level of detail required to assess potential impacts to aquatic species. The EIS will require detailed information for these project components.	DNR will evaluate available information during the development of the Scoping EAW to determine the treatment in the EIS.	Comment is noted.
506	12bi	1333		The EAW states, "Generally, a stream can adapt to an increase in flow that is up to 20% above its channel forming flow (defined as the 1.5-year recurrence flood flow)." Was there any analysis completed for the ditch system, Tamarack River, and Prairie River that will be receiving the treated waters? What happens if the flow increases naturally due to flooding due to climate change?	Answer questions and update EAW as appropriate.	Further evaluation of the public drainage system and the river system would be conducted for the EIS data submittal and would include consideration of climate change.
507	12bi	1333		The EAW states, "Therefore, this preliminary assessment indicates that potential impacts due to increased flow from the Project discharge could be controlled by permit conditions of a future NPDES/SDS permit and water appropriations permit." What were the preliminary assessment figures? What were the estimated discharge volume per day?	Answer questions and update EAW as appropriate.	Refer to lines 1373-1378 for preliminary results of the ditch capacity work completed and to lines 1352-1367 contains initial high-level estimates for expected discharge volumes. The Project discharge consists of discharges from the Contact Water Treatment Plant and the Sanitary Water Treatment Plant. Preliminary estimates of discharge rates for the Contact Water Treatment Plant are 840-1640 gpm (EAW data submittal line 1361), and for the Sanitary Water Treatment Plant are 7 gpm on average with a peak of 100 gpm (EAW data submittal lines 1365-1366). In total, these combined flows total 1.2 to 2.5 million gallons per day (MGD). These preliminary estimates will be updated with additional data and modeling and provided a with the EIS data submittal.
508	12bi	1333		The EAW states, "Current Minnesota climate trends and anticipated climate change in the general location of the Project are not expected to influence how a discharge of treated water would affect water resources." Provide modeling/data to support this conclusion.	Future discussion item.	Comment is noted. Future discussion item, as necessary, in development of DSDD.
509	12bi	1333		The EAW states, "The EIS will provide additional information on the potential influence of current climate trends and anticipated climate change on potential Project effects on water resources." The EIS should evaluate how the project will exacerbate existing climate changed induced stressors.	DNR will evaluate available information during the development of the Scoping EAW to determine the treatment in the EIS.	Comment is noted. Future discussion item, as necessary, in development of DSDD.

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510	12bi	1333		Talon says, "Additional evaluation of potential effects associated with the flow increase from the water treatment plant discharge and sanitary water treatment plant discharge will be addressed in the EIS." In the EAW, they should describe impacts on all native species in the stream and on those that use the stream for any purpose.	Comment noted. This Section of EAW specifically requests information on impacts to surface and groundwater, not fish and wildlife.	Comment is noted. As note in the 'Requested Action by RGU' comment, "This Section of EAW specifically requests information on impacts to surface and groundwater, not fish and wildlife." Furthermore, impacts evaluation, such as what is requested here, are not within the domain of the EAW.
511	12bi	1335		EAW item 12.b.i.3 requests information on effects to surface or groundwater from wastewater discharges; however, the response provided defers any discussion of potential effects to the EIS. Provide information to address the item, such as effects of increased flow above baseline levels, contact/stormwater discharge, and including mitigation to the impacts.	Update the EAW with the requested information.	The Project believes the project description provided in section 12.b.i.3 of the EAW is sufficient to scope the EIS. The project description will be updated during EIS development to satisfy the EIS scope. Effects, impacts and mitigations will form part of the EIS.
512	12bi	1344		The EAW included an estimation of mine inflow as one number – peak life of mine inflow. Would it be more useful to know the inflow in stages? What is this number based on? Is the inflow expected to be spatially variant (getting back to enhanced permeability)?	Answer questions and update EAW as appropriate.	The inflow estimate is based on the frequency of conductive zones identified by preliminary groundwater characterization completed prior to 2020, multiplied by the mine development linear meters using screening level analytical equations including some conservatism to develop a range for scoping. The Project has since collected additional data that would be used to develop, with consultation on input parameters, conceptual model and modeling approaches, for the EIS to update the project description. The Project believes that the provided estimate is sufficient for scoping the EIS.
513	12bi	1344		Provide more information to show how the inflow rates were calculated. Relying on data only up to 2020 may be inadequate when "Significant additional hydrogeological data has been collected since 2020". Current data should be used to calculate inflow rates, and include or reference all data and analysis.	Provide additional information on the inflow rate data.	The inflow estimate is based on the frequency of conductive zones identified by preliminary groundwater characterization completed prior to 2020, multiplied by the mine development linear meters using screening level analytical equations including some conservatism to develop a range for scoping. This preliminary estimate informed a more intensive data collection program starting in 2020. The data that has been collected since 2020 is in the process of being validated, checked, analyzed and updated. This expanded dataset will support a rigorous and comprehensive modeling approach for the EIS conceptual and numerical groundwater model.
514	12bi	1344		The methods and data used to estimate the mine inflow rate should be provided in sufficient detail to allow reviewing the calculations. In particular, how flow along lithologic contacts and faults was quantified needs to be described, including methods for hydraulic conductivity testing of fractured bedrock (such as packer testing and core description).	Future discussion item.	Comment is noted. See Response to Comment #513.
515	12bi	1344		A reference is needed for "a peak life-of-mine inflow of 800-1,600 gpm".	Provide reference material requested.	The inflow estimate is based on the frequency of conductive zones identified by preliminary groundwater characterization completed prior to 2020, multiplied by the mine development linear meters using screening level analytical equations including some conservatism to develop a range for scoping.

Comment No.	EAW Section	Line No.	Table; Figure; Graphic	DNR Comment 9/19/2023	Requested Action By DNR	Talon Response and Treatment in EAW 10/11/2023
516	12bi	1352		The amount of contact water generated on the surface should not be evaluated solely based on the maximum average of approximately 40 gpm. This evaluation should also consider the flow rate that would be routed to the wastewater treatment facility under an extreme precipitation event.	Address comment and update EAW as appropriate.	This statement in the EAW does not indicate that the design of the water treatment and storage facility will be dictated by the average precipitation, but rather shows that the contact water treatment and handling system will be driven by the underground mine inflow volumes. In addition to this, the contract water drainage, storage, and treatment system is proposed to be designed as described in lines 1439 - 1440. Line 1358 was updated and the word "maximum" was removed to avoid confusion.
517	12bi	1352		It should be specified whether areas outside of the 1,148,000 square foot "contact water area" could generate runoff that flows through that area, increasing the volume of contact stormwater that would need to be treated.	Address comment and update EAW as appropriate.	The facility would be designed so that no additional water would enter the contact water area for the design storm event. Relevant text added to the EAW data submittal to provide additional context.
518	12bi	1356		Runoff during individual storm events can exceed 40 gpm, and will likely exceed underground mine inflow rates. Therefore, it is not agreed that 40 gpm is a conservative estimate of the maximum amount of runoff from the contact water area that may need to be treated because it assumes the precipitation rate is constant over the entire year. Runoff from individual storm events should be evaluated to estimate the maximum amount of water that will need to be stored and treated. More discussion is needed to regarding the maximum storm size that will need to be evaluated.	Future discussion item.	The Project has supplied project descriptions that are deemed sufficient for defining the scope of analyses for the EIS. It is anticipated that these descriptions will undergo revisions throughout the EIS development to adequately meet the requirements of the EIS scope.
519	12bi	1357		Converting rainfall to an average flow of 40gpm spread out over a whole year is not necessarily a helpful conversion due to the sporadic and seasonal nature of precipitation. Depending on how the system is designed and the amount of equalization capacity, discharge is likely to be significantly higher during spring/runoff and discharge may be negligible for winter months.	Address comment and update EAW as appropriate.	Comment is noted. See Response to Comment #516.
520	12bi	1358		DNR notes that stormwater generation with the project is likely to receive detailed analysis in the EIS. Whether the proposed estimated maximum average of 40 gpm that would be routed for treatment constitutes a "conservative estimate" remains to be determined. Also, whether the "maximum average" is the most insightful measure remains to be seen, for example when accounting for extreme precipitation events in the impact assessment.	Address comment and update EAW as appropriate. Future discussion item in development of draft scoping decision document.	Comment is noted. See Response to Comment #516.
521	12bi	1364		Information on treatment plant design and the data used will need to be provided.	Future discussion item.	Comment is noted. The Project will address, as necessary, this issue in the EIS.
522	12bi	1368		Detailed stream flow modeling should be performed using HEC-RAS or another stream flow modeling program to demonstrate that the north ditch network has the capacity to handle discharges from the water treatment plant and the sanitary treatment plant without causing adverse impacts to the downstream receiving waters and infrastructure. StreamStats is not a sufficiently accurate tool for this application. Results from StreamStats must always be field verified. Modeling should be supported by and calibrated to site specific monitoring data.	Future discussion item.	Comment is noted. The Project will address, as necessary, this issue in the EIS.
523	12bi	1368		Potential effects of increased flow on hydrology, wetlands, and shallow and deep groundwater flow systems should be included in the bounding analysis based on the quantitative groundwater flow model. (See comment for Line 1308.)	Future discussion item.	Comment is noted. The Project will address, as necessary, this issue in the EIS.

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524	12bi	1371		Use of stream guidelines for ditch conditions may be inappropriate. Peatland ditches may not respond to changes in flow in the same way as streams. Provide references that describe ditched peatland hydrology for basis of preliminary evaluation of discharge capacity in ditches.	Address comment and update EAW as appropriate.	Multiple stream flows were analyzed and compared for the capacity evaluation, including flow monitoring. Additional flow monitoring is ongoing. Data and analysis of the wetland/channel interaction would be included in the EIS data submittal to evaluate potential impacts on the channel for various flow and climate scenarios.
525	12bi	1371		Further explain the logic behind the initial evaluation of ditch capacity to handle the proposed discharge of treated water. The concept of channel forming discharge applies to periodic high flow events for an alluvial channel, not a persistent discharge in a ditch. The extended duration of increased flows for pumped discharge may cause greater sediment transport than a short-term runoff event of similar discharge. Provide a reference for the stream adaptation statement on lines 1373-1374 and clarify what "adaptation" means in this context. What physical changes are expected (e.g., increased bank erosion and downstream sediment transport)? An alternative method to evaluate impacts to the surface drainage network should be provided.	Address comments and update EAW as appropriate. Future discussion necessary regarding alternative methods.	<p>This statement is based on the guidance provided by the MNDNR during a working meeting discussion and the provided document Report to the Minnesota State Legislature: Definitions and Thresholds for Negative Impacts to Surface Waters from January 2016. This document has been referenced and used in similar analysis and projects to set the allowable discharge rate to 20% of the channel forming flow.</p> <p>Adaptation in this context means that the channel characteristics are typically able to respond to this change in flow rate without significant changes to the channel characteristics.</p> <p>The channel may have some geomorphic changes that could result in some additional sediment transport downstream as the banks and channel bottom are shaped by the increased flow rate. Some areas of the channel downstream could see sediment accumulation in areas from this additional sediment transport. This is only conceptual and requires additional characterization, data collection, and evaluation. A detailed analysis and further evaluation of the potential impacts to the surface drainage network will be conducted for the EIS data submittal.</p>
526	12bi	1373		These assumptions about the ditch that would be used for discharge must be fully supported by data and analysis. Extreme precipitation events must be factored into the analysis	Address comment and update EAW as appropriate.	Additional data collection is underway and further analysis of the discharge and potential channel impacts is planned in future phases of project design, EIS development, and permitting. This analysis will include design storm event analysis with the discharge as well as typical values.
527	12bi	1379		Does Talon propose to obtain supplemental information regarding stream channel morphology and watershed characteristics to allow modeling of in-channel impacts from the project to the receiving water/ditch? Would this include the mean, maximum, and minimum monthly flows, while seasonal timing data could be used to address pre-project, operations, and post-closure instream flows to support assessment of impacts to instream aquatic resources?	Answer question.	<p>Comment is noted.</p> <p>The Project will address, as necessary, this issue in the EIS.</p>
528	12bi	1379		Does Talon propose to use detailed reporting from the PART and any other analyses regarding assessment of baseflow?	Answer question.	Modeling and analysis methods for baseflow separation determination will be used to develop conceptual models informed by data collected in relevant streams and ditches.
529	12bi	1384		Impacts related to discharges from the water treatment plant and the sanitary water treatment plant should consider the wetland bounce and inundation to downstream wetlands, thermal impacts, and water quality standards specific to wild rice.	DNR will evaluate available information during the development of the Scoping EAW to determine the treatment in the EIS.	<p>Comment is noted.</p> <p>Future discussion item, as necessary, in development of DSDD.</p>

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530	12bi	1387		Impacts related to climate change should evaluate all sources of information; for example, in addition, to taking historical trends and climate change projections into account, evaluation should also consider the extreme events in the historical data set by utilizing the NOAA Atlas 14 values on the 90% confidence intervals and by simulating local extreme precipitation events by completing storm transposition (e.g., the impacts of simulating the extreme precipitation event that hit the City of Duluth which is 50 miles from the project site).	Provide information regarding the sources of information	Comment is noted. The methodology and sources for future climate change projections used in the various assessments will be detailed for the EIS data submittal.
531	12bi	1387		Uncertainty and predicted ranges of modeled changes should be considered instead of simply using long term trends (e.g., in lines 960-964 proposer describes changes in annual average precipitation projections as an average of +1% from baseline average. But the estimates range from -14% to +29% and represent very different conditions under which to consider impacts to discharge and water quality).	Provide information regarding the sources of information	Comment is noted. Models will be subjected to a sensitivity analysis to consider the range from the climate models for relevant climate parameters.
532	12bi	1387		Were conclusions about stormwater runoff, groundwater recharge, and other aspects of site hydrology informed by data other than NOAA Atlas 14; for example, using current estimates of rainfall depth-duration-frequency? Did conclusions account for climate change that has already occurred but is not represented in standard hydrologic references?	Address comment and update EAW as appropriate.	The project descriptions presented in the EAW regarding climate parameters were based on EAW reference 8 and 9 for historic data and EAW reference 10 for anticipated future climate projections. The Project believes this level of detail is sufficient for EIS scoping. A more detailed analysis of the predicted effects of climate change on the Project will be provided as part of the EIS data submittal.
533	12bi	1387		It was stated in lines 968-969 that the EPA Climate Resilience Evaluation and Awareness Tool anticipates an increase in the 100-year storm intensity of 13.5% in 2030 and 26.3% in 2060 indicating storm intensity will increase during the project lifetime. More discussion is needed regarding what size storm event will be used to evaluate impacts from discharges on receiving waters.	Address comment and update EAW as appropriate.	Comment is noted. The methodology and sources for future climate change projections used in the various assessments will be detailed in the EIS data submittal.
534	12bi	1390		DNR notes that water modeling will need to account for local climate trends around variability and trends as applied to this part of Minnesota. The project area is already wetter and warmer than past conditions, with precipitation extremes increasing all seasons (that is expected to continue).	Advisory only. Future discussion item for development of draft scoping decision document.	Comment is noted. The Project will address, as necessary, this issue in the EIS.
535	12bii	1399		The EAW states that, "The current stormwater management plan is designed to manage up to the 200-year, 24-hour storm event until such contact water can be routed to the water treatment plant for treatment." Why was a 200-year storm event chosen? Should longer durations be evaluated?	Address comment. Future discussion item.	Comment is noted. Future discussion item, as necessary, in development of DSDD.
536	12bii	1399		What modeling/data/references support the following statement in the EAW: "Current Minnesota climate trends and anticipated changes in rainfall frequency, intensity, and amount are not expected to significantly influence the environmental effects from stormwater discharges on receiving waters"?	Address comment and update EAW as appropriate.	The assessed effects of climate change used for the EAW data submittal are summarized in Graphic 18 and on line 960 to 964 of the EAW text. The projections of climate change effects on the Project will be discussed in greater detail in the EIS data submittal.
537	12bii	1434		What information or data support the following statement in the EAW: "environmental effects from industrial stormwater discharges on receiving waters are anticipated to be minor"?	Address comment and update EAW as appropriate.	Comment is noted. See Response to Comment #536.
538	12bii	1436		Extreme rainfall events must be considered in the design of the stormwater treatment system.	DNR will evaluate available information during the development of the Scoping EAW to determine the treatment in the EIS.	Comment is noted. Future discussion item, as necessary, in development of DSDD.

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539	12bii	1439		State where the precipitation #'s are coming from (i.e. Atlas 14?) Also provide the rainfall amount.	Address comment and update EAW as appropriate.	The Comment in question refers to Reference 9 of the EAW. Reference 9 of the EAW refers to NOAA, Atlas 14, which is a 24-hour, 200-year event at 6.98 inches for the Project Area.
540	12bii	1441		More details are requested in the next data submittal, specifically a map indicating the proposed discharge locations.	Provide additional information on discharge locations, including a figure as requested	Figure 5 shows the proposed discharge location and route via the public drainage system. This will be further evaluated during in the EIS.
541	All EAW	General	Figure 3	Looking at the site picture (Figure 3), the hydrology looks like there is some runoff discharging north at the end of the rail line. When the rail cars are stored on site, what is the possibility of any contaminants being drained into the nearby unnamed channel if it were to rain on the site?	Answer question; modify text if warranted.	The Project will address this question, as necessary, in the EIS.
542	12bii	1444		All discharge routes and receiving waters for all discharges should be clearly shown. It is unclear if ditches will need to be constructed if water is discharged to wetlands and not to existing ditches. If ditches will need to be constructed through wetlands, the impacts from the ditching should be fully evaluated.	Provide additional information on overall discharge plans and update EAW as appropriate.	Figure 5 shows the proposed discharge location and route. This will be further evaluated during the EIS process. The Project will address, as necessary, the public drainage system in the EIS.
543	12bii	1450		Disagree that the effect of adding impervious surface is "minimized" or "mitigated" by collection, treatment and discharge of contact water. Added impervious surfaces results in the discharge of water directly to surface waters instead of allowing it to infiltrate into the ground, resulting in a slower discharge to nearby surface waters.	Address comment.	All contact water would be collected for water treatment. Impervious surfaces in the contact water collection area would be designed to direct water to a Contact Water Collection Sump and then transferred to the Contact Water Treatment Plant.
544	12bii	1453		Clarify meaning. How will discharge of treated water mitigate altered surface hydrology in the immediate vicinity of the project area?	Address comment.	The losses to the water budget from the capture of runoff in the contact area would be partially offset by discharge of water from the treatment plants. The Project will address, as necessary, these effects in the EIS.
545	12bii	1459		See comment about Item number 7.a., Line number 901-975. (Future climate projections and additional information about past climate can be found at www.heat.gov and www.heat.gov/pages/climate-explorer)	Note comment.	Comment noted and reference received.
546	12bii	1461		Were closure and reclamation periods considered in addition to the operation periods?	Answer question and update EAW as appropriate.	The EIS will consider climate projections for all phases of the Project. The Project will address, as necessary, this issue in the EIS.
547	12bii	1461		Text states that the water balance in the area (precipitation and evapotranspiration) is expected to remain in the current range over Project lifetime. Evapotranspiration trends are not addressed or described elsewhere in the submittal. Additional information is needed to support the statement.	Address comment and update EAW as appropriate.	Item addressed in the EAW data submittal by deleting "(precipitation and evapotranspiration)". More detailed climate projections will be considered, as necessary, and incorporated in the EIs.
548	12bii	1464		The proposer should identify the requirements that are going to be the most restrictive to discharge and/or other impacts from the site. Water quality standards to address impacts to wild rice may be the driver for stormwater management and wastewater treatment. The standards noted by the proposer in this section are likely not the over-riding drivers for treatment.	Future discussion item.	Comment is noted. The Project will meet water quality standards as described in Minnesota Rules, chapter 7050.0220 subpart 3a.
549	12biii	1470		The EAW states, "The potential maximum daily withdrawal from this well for potable water use could be up to approximately 13,200 gpd (4.8 million gallons per year)." Even if the impact during mine operation is expected to be minimal, the EIS should evaluate the impact of the operation on the quality and quantity of the aquifer such that it would be more susceptible to risk factors in the years following the mining operation.	DNR will evaluate available information during the development of the Scoping EAW to determine the treatment in the EIS.	Comment is noted.

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550	12biii	1470		Is there modeling to support the statement in the EAW: "The Project's water use of potable water would be resilient with respect to climate trends...."? What other uses of groundwater are expected/anticipated during the operational timeframe?	Address comment and update EAW as appropriate.	The Project believes the potable water supply is resilient due to the presence of thick, saturated Quaternary sediments. The relevant data collected would be provided to inform the EIS analyses and validate that the aquifer can support potable water requirements to the Project without significant environmental impacts. This specific paragraph only discusses potable water requirements, non-potable water requirements are described in lines 1507-1516.
551	12biii	1470		What is the current expected need of non-potable water?	Address comment.	Non-potable water requirements are described in lines 1507-1516. With the current level of engineering design and preliminary assumptions it is estimated that the operational mine would require approximately 200 gpm +/- 100 gpm, this may change as the engineering design progresses and a more accurate number would be provided for the EIS data submittal.
552	12biii	1484		More information about the groundwater appropriation for temporary construction dewatering, potable use, non-potable use, and pumping of groundwater inflow to the underground mine will be needed. DNR will need to evaluate potential impacts from the proposed appropriations.	Address comment and update EAW as appropriate.	Comment is noted. The details for water appropriation and impacts will be evaluated in the EIS.
553	12biii	1488		How would the removal of groundwater be temporary? Would water be pumped back into the ground?	Address comment and update EAW as appropriate.	During construction, it might be required to remove groundwater from certain areas temporarily to allow construction. Once this construction is complete, the pumping for this purpose would be terminated, and groundwater levels would be allowed to recover, thus temporary.
554	12biii	1488		Identify how or if dewatering for mine infrastructure or mine workings (construction and ongoing during mine operations) will or potentially will affect nearby water supply wells.	Comment noted. Addressed in other comments. EAW indicates that conceptual and quantitative groundwater flow models will be developed.	Comment is noted. The Project will address, as necessary, this issue in the EIS.
555	12biii	1488		Provide descriptions of any temporary dewatering that may be needed for the construction of the surface facilities and box cuts, including estimated dewatering amounts so that potential impacts to ground and surface waters from the temporary dewatering can be evaluated. A plan for monitoring ground and surface water impacts during construction should be developed.	Address comment and update EAW as appropriate.	The current level of design is not yet sufficiently developed to provide this level of detail. This information would be available and provided for the EIS data submittal to assess potential impacts due to temporary water removal for construction activities.
556	12biii	1489		Indicate on a map where the upland areas are and describe what is considered "upland" at this project site and please overlay the project features for clarity.	Address comment and provide requested figure.	Upland areas for the project are defined in the EAW on lines 1758 to 1759. Graphic 19 was added to the EAW data submittal and text updated.
557	12biii	1493		The EIS will require detailed information to develop a clear estimate of where from and how much water would be generated during the construction-related activities cited in the text. If known, this section would benefit from stating the depth from the surface the groundwater must be to begin construction along with an estimate of the volume of water expected. In other words how much water will have to be pumped to drop the surface levels to a depth that	Address the questions in the comment and update EAW as appropriate. Respond to questions as known. Future discussion item in the development of	The exact depth of foundation and box cut excavations as well as the lining design of the mine Declines are not yet finalized. This level of detail is being developed and would be available for the EIS data submittal. Standard construction water removal methods are expected to be implemented. Maximum preliminary volumes expected are stated in lines 1493-1495 and would be further refined for the EIS data submittal.

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				construction can commence at the site? In addition, will the mine access portals have seepage through the watertight barrier?	the draft scoping decision document.	
558	12biii	1493		The methods and data used to estimate groundwater pumping rates for temporary construction dewatering should be provided.	Future discussion item.	This would be refined, updated and more detail would be provided for the EIS data submittal when the engineering design is sufficiently developed.
559	12biii	1494		Total water usage estimated at 50 million gpy. Does this include potable water (see line 1501)?	Address comment and update EAW as appropriate.	Potable water usage is stated in line 1500 - 1501. Line 1494 states "preliminary estimates are that the total amount of water would be less than 50 million gallons per year, which is the 1494 threshold for coverage under Temporary Projects General Permit No. 1997-0005." This does not refer to any other requirements for the construction or operational phase of the proposed Project.
560	12biii	1494		How will the volume of water be monitored/determined?	Address comment.	Comment is noted. See Response to Comment #557.
561	12biii	1494		DNR will need to determine if construction dewatering will be covered under General Permit 1997-0005 or an individual water appropriation permit.	Regulatory guidance. Future discussion item.	Comment is noted. Future discussion item, as necessary, in development of DSDD.
562	12biii	1494		A reference is needed for the total amount of water to be withdrawn of "50 million gallons per day".	Provide reference material requested.	This estimate is the upper limit for a temporary construction permit (line 1495). The construction dewatering amounts are expected to be less than this limit due to site conditions and preliminary design. The expected withdrawn volumes would be evaluated as part of the final design and provided in the EIS data submittal.
563	12biii	1500		References are needed for the estimated amount of potable water to be withdrawn (3.6 (average) and 4.8 (maximum) million gallons per year).	Provide reference material requested.	A more detailed estimate of potable water requirements would be provided in the EIS data submittal, which would be based on final facility design. These estimates were generated by considering the anticipated workforce, discussed on lines 2224-2226 of the EAW.
564	12biii	1505		What plans are in place should the potable water not actually be resilient to future climate trends?	Address comment.	Comment is noted. The Project will address, as necessary, this issue in the EIS.
565	12biii	1507		The EAW states that "the Project would primarily rely on the recycling of treated contact water." Water quality and water treatment system will need to be evaluated to determine the suitability for reuse and/or discharge	Regulatory guidance. Future discussion item.	Comment is noted. The Project will address, as necessary, this issue in the EIS.
566	12biii	1509		Any new non-potable well that will be used to supply water for the TBM and early stages of mine operations should be included in the EIS as well as the proposed appropriation amount so that potential impacts from the appropriation can be evaluated.	Regulatory guidance. Future discussion item.	Non-potable water requirements for the TBM and early stages of the mine operations would be refined with further engineering and would be provided for the EIS data submittal.
567	12biii	1511		How will this change in water level of the groundwater affect the surrounding hydrology of the area?	Answer question.	Comment is noted. The Project will address, as necessary, this issue in the EIS.

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568	12biii	1518		It may be incorrect to assume that the inflow water comes from deep TIC only. Information to support this assumption is not presented. It is likely that groundwater inflow would include water from above 400-foot depth as well as surficial deposits. Surficial water bodies and wetlands may be impacted.	Address comment.	Comment is noted. The Project will address, as necessary, this issue in the EIS.
569	12biii	1523		It will be necessary to understand what impacts to groundwater the water-tight liner would have, since it will be inserted into "saturated unconsolidated sediments (quaternary deposits)", and displacing the groundwater.	Consider comment and edit text where anything is known at this time. Future discussion item for treatment of topic in draft scoping decision document.	The tunnel and liner are linear features and will not affect the bulk permeability, hydraulic gradients, or flow direction at project scale. The Project will address, as necessary, this issue in the EIS.
570	12biii	1523		Withdrawing ground water would most likely have an impact on surface water and wetland features especially if wetlands are primarily groundwater fed. The impact of changes in water level on water quality should also be considered including mercury, DOC, and sulfate & sulfide concentrations.	Address comment and update EAW as appropriate.	Comment is noted. Future discussion item, as necessary, in development of DSDD.
571	12biii	1523		The hydrogeochemical evaluation should include assessment of the risk of Acid Mine Drainage and other mechanisms of contaminant mobilization.	Future discussion item.	Comment is noted. Future discussion item, as necessary, in development of DSDD.
572	12biii	1526		All groundwater appropriations are required to be sustainable under MN Statute 103G.287, Subd. 5. Groundwater appropriations could be affected if it is determined that they are harming ecosystems, degrading water, or reducing water levels beyond the reach of public water supply and private domestic wells.	Regulatory guidance. Future discussion item.	Comment is noted. Future discussion item, as necessary, in development of DSDD.
573	12biv	1528		As stated in the EAW, "... an estimated 21.7 acres of wetland including flooded borrow pits would be permanently impacted." How many acres of wild rice would be impacted or potentially impacted?	Address comment and update EAW as appropriate.	Comment is noted. The Project will address this question, as necessary, in the EIS.
574	12biv	1528		The EIS should evaluate potential permanent and temporary impacts to wetlands using an ecosystem-based approach.	Future discussion item.	Comment is noted. Future discussion item, as necessary, in development of DSDD.
575	12biv	1528		Describe the surface, groundwater and wetland studies that are proposed to be performed during EIS preparation. Will there be a study on potential impacts to wild rice?	Address comment and update EAW as appropriate.	Comment is noted. The Project will address this question, as necessary, in the EIS.
576	12biv	1528		What areas are being considered for mitigation when they say, "Unavoidable wetland impacts would be mitigated through compensatory wetland mitigation such as purchasing wetland bank credits from approved wetland banks from the appropriate service area"?	Address comment and update EAW as appropriate.	Comment is noted.
577	12biv	1529		There will be direct wetland impacts as a result of proposed discharges from the water treatment plants into wetlands north of the Project Area. This is not discussed in response to 12.b.4.a. Provide a discussion of potential environmental impacts to wetlands, measures to mitigate environmental impacts, and rationale supporting the efficacy of these mitigation measures in the next submission.	Address comment and update EAW as appropriate.	Potential impacts and mitigations to wetlands related to the discharge from the water treatment plants would be evaluated, as necessary, in the EIS data submittal.
578	12biv	1532		Impacts to the watershed and consideration of climate change are not included in the impact assessment. These appear to be headwater wetlands and consideration of watershed impacts is warranted. Consideration of climate	Address comment and update EAW as appropriate.	The assessment of impacts to relevant watersheds would consider climate change and would be discussed in the EIS data submittal.

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				change impacts may also be warranted given the potential for peatland impacts, which are carbon sinks.		
579	12biv	1539		Peat accumulating wetlands are extremely sensitive to hydrologic changes and topographic changes (i.e., subsidence). Detailed explanation of how impacts will be avoided or minimized is justified.	Address comment and update EAW as appropriate.	The assessment of impacts and mitigations to wetlands will be discussed, as necessary, in the EIS and permitting processes.
580	12biv	1539		Wetland sequencing and thorough alternatives analysis should be provided for all unavoidable impacts.	Future discussion item. The comment is appropriate for the alternatives process. Issue deferred to development of the draft scoping decision document.	Comment is noted. Future discussion item, as necessary, in development of DSDD.
581	12biv	1539		Insufficient discussion of reasonably foreseeable physical, biological, hydrological, and geochemical wetland impacts that will require significant further study in EIS. More than half of project area is comprised of hydric soils and wetlands.	Comment noted. See EOR-61 or 747	Comment is noted. The Project will address, as necessary, this issue in the EIS.
582	12biv	1542		Further describe methods to remediate peat solid.	Address comment and update EAW as appropriate.	The Project requires further clarification of this Comment.
583	12biv	1542		It is not clear if impact estimates are based on NWI or delineated wetland acreages. The data source should be specified and consistently identified. It is not clear the types of wetlands that are proposed for impact. A table would be helpful.	Address comment and update EAW as appropriate, including requested table.	The estimated impacted wetland areas discussed on line 1544 were based on a Level 3 delineation. The requested level of detail regarding wetland types in the impacted area would be provided in the EIS data submittal.
584	12biv	1542		Information regarding the flooded borrow pits including, but not limited to, what the borrow material will be used for, where they will be constructed, their size, and whether water will be appropriated from them should be provided.	Address comment and update EAW as appropriate.	The referenced borrow pits discussed on Line 1544 of the EAW refer to existing features within the Project Area.
585	12biv	1543		More detail is needed about construction of the railway spur and the impact(s) to wetlands/surrounding area.	Address comment and update EAW as appropriate.	Comment is noted. The Project will address, as necessary, this issue in the EIS.
586	12biv	1543		Will the railway spur be a permanent feature or will that be removed once the mine is closed? How will the construction of the railway spur affect waterflow in the peatlands?	Address the questions in the comment and update EAW as appropriate.	The detailed design of the railway spur and its permanence as well as the potential effects of the railway spur on wetlands (such as hydrology and water quality) would be discussed in the EIS data submittal.
587	12biv	1545		Provide additional detail on the scale and method of temporary impacts to wetlands. Are peatlands included in the accounting, as impacts to peatlands could result in permanent change?	Address comment and update EAW as appropriate.	The potential impacts to wetlands will be addressed in the EIS. Wetlands in the Project Area were delineated to a Level 3 standard. Level 3 is "intensive site assessment and uses intensive research-derived, multi-metric indices such as the Hydrogeomorphic Approach or Biological Assessments. They are meant to give detailed information regarding how well a wetland is functioning."
588	12biv	1545		How might the removal/alteration/impact of area wetlands impact surface- and groundwater quantity and quality, and what efforts will be made to mitigate those impacts? How will this be monitored and what specific standards will be used?	Address comment and update EAW as appropriate.	The impacts to surface water and groundwater quality and quantity from the removal / alteration / impact to area wetlands would be discussed in the EIS data submittal.

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589	12biv	1548		Describe potential indirect impact in more detail. For example, what activities might cause fragmentation or hydrologic changes (e.g., groundwater appropriation, subsidence from underground mining). Better define indirect impacts (e.g., complete loss due to drainage or wetland type change to altered hydrology).	Address comment and update EAW as appropriate.	Comment is noted. The Project will address, as necessary, this issue in the EIS.
590	12biv	1550		Describe how potential indirect impacts would be assessed.	Address comment and update EAW as appropriate.	Comment is noted. The Project will address, as necessary, this issue in the EIS.
591	12biv	1552		Were wetland impacts not strictly defined by Clean Water Act and the Wetland Conservation Act considered, such as excavation in Type 1/2/6/7/8 non-jurisdictional wetlands or impacts to floristic quality?	Address comment and update EAW as appropriate.	Comment is noted. Please clarify the question being asked.
592	12biv	1556		Are wetland bank credits the only mitigation method being considered for impacts to wetlands?	Comment noted. The EIS will examine other appropriate mitigations as necessary.	Comment is noted.
593	12b	1576	Table 8	Documentation needed on legal status of on-site ditches. Legal abandonment proceedings through the Public Drainage Authority is needed for any Public Ditches. If so, a ditch abandonment process should be identified in Table 8 (line 1008).	Address comment and update EAW as appropriate.	Comment is noted. Abandonment of ditches is not proposed as part of the EAW.
594	12biv	1578		There is no discussion of measures to mitigate impacts to downstream water as a result of treated water discharge (i.e., changes to water quality, water flow, temperature). Provide this information.	Provide the information requested and update the EAW as appropriate.	Potential downstream impacts from water treatment discharge would be addressed in the EIS data submittal.
595	12biv	1581		Define typical watercraft.	Provide definition.	The EAW data submittal was edited by deleting: "Surface waters within and 1-mile downstream of the Project Area are not navigable by typical watercraft, so this use would not be affected." and adding: "The Project does not anticipate impacting the number or type of watercraft usage within or downstream of the Project Area."
596	13a	1583		A list of all mine activities that would use PFAS/PFOS compounds is needed. Listings of all solvents and chemicals used in the mine are needed. Detail on the volumes of waste, including waste from water treatment operations and their ultimate disposal locations should be provided.	Advisory; future discussion item as part of developing the Draft Scoping Decision Document	Comment is noted. The Project will participate in future discussions on this subject.
597	13a	1593	Figure 17	In reference to Figure 16, what's the shallowest point for the stormwater pond location and is it possible for infiltration to be used?	Answer question.	The Project requires clarification on the use of the term 'shallowest' in reference to the ground surface. See Response to Comment #381.
598	13a	1618		Considerations should be made with respect to existing and future groundwater flow fields, drinking water wells, and location of any septic systems or leach fields.	Consider comment; edit figure and/or text as warranted.	Comment is noted. Future discussion item, as necessary, in development of DSDD.

Comment No.	EAW Section	Line No.	Table; Figure; Graphic	DNR Comment 9/19/2023	Requested Action By DNR	Talon Response and Treatment in EAW 10/11/2023
599	13b	1625		Which solid waste types are expected to be recycled and what volume is expected? If there isn't a recycler in the area that would take the recyclables, would recycling be taken elsewhere to a recycler not in the area? If so, which recyclables would make sense to recycle locally, which recyclables would make sense to take elsewhere, and which recyclables would make no economic sense and would go to a landfill?	Consider comment; edit text as warranted.	Comment is noted. Future discussion item, as necessary, in development of DSDD.
600	13b	1625		The EIS should evaluate options to maximize recycling of all waste generated by the Project.	Advisory only; future discussion item as part of developing the Draft Scoping Decision Document	Comment is noted. Future discussion item, as necessary, in development of DSDD.
601	13b	1630		With the overburden pile for mined material, where is the water flowing to? Is this going to the stormwater ponds or discharged into the nearby wetlands?	Answer question.	Overburden is not a mined material. Please clarify which stockpile or activity is being referred to in this Comment.
602	13c	1664		These measures mentioned in the text, in addition to being identified, should be supported with data about what and how much could be reduced/recycled.	Consider comment; edit text as warranted.	Comment is noted. Future discussion item, as necessary, in development of DSDD.
603	13c	1703		ANFO comes in a prill (pellet) form and as an emulsion. At a highly level what are the clean-up procedures if either of the ANFO forms spill?	Answer question. The response can be considered in development of the draft scoping decision document.	The Project will comply with all local, state and federal regulations regarding management/storage and clean-up of explosive materials.
604	13c	1715		Recognizing more detail to come in EIS, be sure to consider placement of materials with respect to any wells installed on site and groundwater flow directions/well capture areas. Remediation and potential water treatment needs should be addressed.	Advisory only; future discussion item as part of developing the Draft Scoping Decision Document	Comment is noted. The Project will address this question, as necessary, in the EIS.
605	14a	1751	Figure 11	The text and Figure 11 do not identify that many streams in the Big Sandy Lake Outlet and Headwaters and Big Sandy Lake watersheds have wild rice.	Consider comment; edit figure and/or text as warranted.	The shaded waterbodies in Figure 11 show lakes and streams listed in Minnesota's Wild Rice Waters inventory as compiled by the DNR as part of the 2008 report "Natural Wild Rice" submitted to the Legislature. The Project used publicly available data for the EAW data submittal.
606	14a	1751		The EIS should analyze any potential impacts to wild rice, not just in lakes and streams downstream of the Project, but also to wild rice upstream of the Project and in adjacent watershed due to the area being prone to flooding.	Advisory; Future Discussion Item in Developing the Draft Scoping Decision Document	Comment is noted. The Project will address this question, as necessary, in the EIS.
607	14a	1751		Natural Resources field surveys should include impacted areas outside of the Project perimeter as well.	Advisory; Future Discussion Item in Developing the Draft Scoping Decision Document	Comment is noted. Future discussion item, as necessary, in development of DSDD.
608	14a	1751		Natural resources field survey information gathered for the EIS will need to be an ecosystem-based evaluation of potential impacts.	Advisory; Future Discussion Item in Developing the Draft Scoping Decision Document	Comment is noted. Future discussion item, as necessary, in development of DSDD.

Comment No.	EAW Section	Line No.	Table; Figure; Graphic	DNR Comment 9/19/2023	Requested Action By DNR	Talon Response and Treatment in EAW 10/11/2023
609	14a	1751		There isn't much of an elevation difference between the two watersheds identified and the watersheds surrounding them. In flood years, this whole area has the potential to become one large lake. Any contaminants from the Project during flood times have the ability to spread upstream of the Project. EIS needs to evaluate this flood scenario and how the Project can affect fish and wildlife resources as well as habitats and vegetation in those other areas.	Advisory; Future Discussion Item in Developing the Draft Scoping Decision Document	Comment is noted. Future discussion item, as necessary, in development of DSDD.
610	14a	1759		Though it may be correct that the only watercourses in the Project Area are county ditches, these ditches could have suitable habitat and also drain to public waters (natural streams and lakes) that have suitable habitat and could be impacted by discharge or other Project activities. This needs to be addressed.	Consider comment; edit text as warranted.	Comment is noted. The Project intends to conduct aquatic surveys in the summer of 2024 along the discharge route. Results of this survey will be included in the EIS data submittal.
611	14a	1761		type and quality of habitats for fish, reptiles, amphibians should be provided and surveys for these beings should be part of the data gathering process. GLIFWC field observations of the ditch that is proposed to receive mine effluent confirmed the presence of turtles and insects.	Future Discussion Item in Developing the Draft Scoping Decision Document	Comment is noted. Future discussion item, as necessary, in development of DSDD.
612	14a	1762		Are mitigation measures being considered to protect nearby wild rice lakes? If so, what are they? If not, why not?	Answer question. Discussion item for development of draft scoping decision document	Comment is noted. Future discussion item, as necessary, in development of DSDD.
613	14a	1762		Include the specific number of wild rice lakes (4 total)	Address comment; modify text as warranted.	The Project using data from the MN DNR has identified 3 wild rice lakes (table 11). The shaded waterbodies in Figure 11 show lakes and streams listed in Minnesota's Wild Rice Waters inventory as compiled by the DNR as part of the 2008 report "Natural Wild Rice" submitted to the Legislature. The Project used publicly available data for the EAW data submittal.
614	14a	1766		Common wildlife is stated as present but no discussion of Species in Greatest Conservation Need or Wildlife Action Plan critical habitat is provided. Additional detail should be provided regarding potential important habitat within the project area. A more focused habitat decryption of direct surface development impacts could be provided beyond regional generalities. Ensure Minnesota Conservation Explorer is queried for potentially affected resources.	Address comment; modify text as warranted.	The Project has supplied project descriptions that are deemed sufficient for defining the scope of analyses for the EIS. It is anticipated that these descriptions will undergo revisions throughout the EIS development to adequately meet the requirements of the EIS scope.
615	14a	1769		Further detail of natural resources monitoring methods is warranted. No details are provided other than that data is being collected. Some knowledge of methods is needed to assess potential scoping needs.	Address comment; modify text as warranted.	Comment is noted. Future discussion item, as necessary, in development of DSDD.
616	14b	1771		IPaC did not identify the rusty patched bumble bee as a species potentially occurring in the Project area, but Minnesota DNR has (see: https://www.dnr.state.mn.us/rsg/profile.html?action=elementDetail&selectedElement=IIHYM24020). Surveys should be conducted to verify this, and state and federal guidelines should also be reviewed to make further determinations.	Address potential concerns about the rusty patch bumblebee in the EAW.	Comment is noted. Future discussion item, as necessary, in development of DSDD.
617	14b	1777		This is a very cursory review of State-listed T&E species. All species from the state list (link below) with the potential to exist on site should be evaluated. https://files.dnr.state.mn.us/natural_resources/ets/endlist.pdf	Consider comment; edit text as warranted.	Comment is noted. The Project would appreciate guidance from the State of Minnesota on how to address this concern. Future discussion item, as necessary, in development of DSDD.

Comment No.	EAW Section	Line No.	Table; Figure; Graphic	DNR Comment 9/19/2023	Requested Action By DNR	Talon Response and Treatment in EAW 10/11/2023
618	14b	1810		The MN DNR has launched the Minnesota Conservation Explorer to provide consultation on potential impacts to NHIS data. The environmental review process should consider at what stage of review the project should be submitted to MCE for review.	Consider comment; edit text as warranted.	The Project has supplied project descriptions that are deemed sufficient for defining the scope of analyses for the EIS. It is anticipated that these descriptions will undergo revisions throughout the EIS development to adequately meet the requirements of the EIS scope. Please clarify the statement regarding "...to be submitted to MCE for review."
619	14b	1810		The Minnesota Conservation Explorer should be queried to assess the potential for the project to impact state-listed rare species and natural communities. The results of this query should be reported in the data submittal and the correspondence provided to the RGU.	Address comment and update EAW as appropriate.	The Minnesota Conservation Explorer is an instrument designed to improve the distribution of Minnesota's Natural Heritage Information and streamline the Natural Heritage Review procedure. A summary of the results was provided as part of the EAW data submittal (lines 1810-1815).
620	14b	1821		The EAW indicates that no wild rice is present with the project area due to lack of lake habitat. Wild rice may be found in any shallow open water under suitable conditions. Given the large area of wetland within the Project Area, it is feasible that suitable wild rice habitat may be present.	Identify potential wild rice areas within the Project Area	Comment is noted. See Response to Comment #632.
621	14b	1821		It should be noted here (or elsewhere) that the state water quality standard for sulfate in wild rice waters is 10mg/L and that this project must comply with the standard in wild rice waters that have been identified in close proximity to the project.	Address comment. Modify text if needed	Comment is noted. Monitoring would be completed as needed per Minnesota Rules, chapter 7050.0220 subpart.3a.
622	14b	1823		Will baseline data collection be included in the EIS? It would be beneficial to include pre-mine wild rice status.	Edit EAW, Include analysis in EIS	Comment is noted. Data and analyses collected and conducted in support of the Project would be included with the EIS data submittal.
623	14b	1823		Wild rice may also be present in non-public waters. Requires thorough survey potential habitats downstream of project.	Advisory only; future discussion item as part of developing the Draft Scoping Decision Document	Comment is noted. Future discussion item, as necessary, in development of DSDD.
624	14b	1830		Bulk treatment of plant communities. Peatlands can often have unique and sensitive plant species. The EIS will need additional information about types of peatlands present to assess potential project impacts on peatland plant communities.	Advisory, Future discussion item in development of Draft Scoping Decision Document	Comment is noted. Future discussion item, as necessary, in development of DSDD.
625	14c	1845		It should be noted that not all biota are mobile and have the ability to move from the project area in response to construction. Further consideration needs to be given to non or less mobile biota such as plants and invertebrates, as well as species vulnerable based on phenology or life stage such as nesting birds or overwintering amphibians. More detail should be included.	Include information on these types of biota and how they will be impacted by the Project.	Comment is noted. Further studies on aquatic biota, both sessile and non-sessile are in the planning stages. Data from these studies would be included in the EIS data submittal.
626	14c	1845		Project area lies between several public lands (e.g. WMAs, State Park, and State Forests) and could be considered to be along a wildlife corridor	Discussion topic	Comment is noted. Future discussion item, as necessary, in development of DSDD.
627	14c	1852		Discussion of future climate trends on project impacts does not adequately address uncertainty of climate predictions.	Advisory, Future discussion item in development of Draft	Comment is noted. Future discussion item, as necessary, in development of DSDD.

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628	14c	1864		If federal laws are followed impacts to species can still occur. The DEIS should analyze and disclose impacts to species whether those impacts meet a legal criteria or not.	Advisory, Future discussion item in development of Draft Scoping Decision Document	Comment is noted. Future discussion item, as necessary, in development of DSDD.
629	14c	1865		Risk assessment is a useful tool for evaluating other sources of contamination, hazardous materials and hazardous wastes. Applying risk assessment methods will provide a sound technical basis for drawing conclusions about the potential impacts of other contamination sources.	Advisory only; future discussion item as part of developing the Draft Scoping Decision Document	Comment is noted. Future discussion item, as necessary, in development of DSDD.
630	14c	1867		The date of last RPBB observation is used as justification that RPBB is not likely present within the Project Area. It is not appropriate to disregard a rare feature record based on date alone. Additional information demonstrating negative resurveys should be provided under this rationale, otherwise RPBB should be considered potentially present within the area.	Advisory only; future discussion item as part of developing the Draft Scoping Decision Document	Comment is noted. Future discussion item, as necessary, in development of DSDD.
631	14c	1873		The impacts to the SBS appear to be disregarded based on lack of rare species records. However, the SBS is of moderate significance indicating that occurrences of rare species, moderately disturbed native plant communities, and/or landscapes that have strong potential for recovery of native plant communities are present within the Project Area and may be impacted. Lack of impact cannot be disregarded without provision of additional information that demonstrates more specifically why the area is mapped as an SBS and subsequent thorough assessment of potential impacts. For example, the SBS may have been flagged as an area likely to provide habitat for rare species, but may have never been ground surveyed.	Advisory only; future discussion item as part of developing the Draft Scoping Decision Document	Comment is noted. Future discussion item, as necessary, in development of DSDD.
632	14c	1876		The text indicates that no wild rice is present within the Project Area. While it appears likely no extensive populations exist, it should be clearly demonstrated that no wild rice habitat is present rather than assumed wild rice is restricted to exclusively lakes.	Consider comment; edit figure and/or text as warranted.	Comment is noted. The EAW was written using publicly available data. As of the date of submittal, there have been no DNR surveys for wild rice in ditches surrounding the Project Area. Large Figure 11 has been updated to include stream reaches that are included in the DNR's Wild Rice Inventory dated February 2008. As stated in the EAW data submittal: "While impacts to wild rice lakes are not anticipated from the Project, a baseline wild rice habitat delineation is being conducted for the Project in downstream waterbodies."
633	14c	1876		Groundwater drawdown and surface water inundation from the project pumping activities would be expected to negatively impact nearby wild rice waters including Big Sandy and Tamarack lakes and Tamarack and Minewawa rivers. If there is data that suggests nearby wild rice waters will not be impacted by the project, please provide the data to support that hypothesis.	Address comment; modify text as warranted.	Comment is noted. Mathematical models will be developed for the EIS that will be used to assess changes to levels and flows (surface water and groundwater) from the proposed mine activities.

Comment No.	EAW Section	Line No.	Table; Figure; Graphic	DNR Comment 9/19/2023	Requested Action By DNR	Talon Response and Treatment in EAW 10/11/2023
634	14c	1880		Colonization of an area by invasive species can also be encouraged by changes in hydrology and water chemistry resulting from mining discharge. Peatlands are susceptible to cattail invasion following changes in hydrology and geochemistry.	Address comment; modify text as warranted.	Comment is noted.
635	14d	1890		Very little detail is provided regarding potential impacts to aquatic biota. More detail should be provided about potential impacts from discharge based on water quality standards and how those standards will be met.	Address comment. Modify text as needed	Comment is noted. See Response to Comment #625.
636	14d	1890		This sentence does not align with what has been previously noted in section 12 of the EAW. The responses to prompts in section 12 acknowledge potential for direct/indirect impacts to downstream waters as a result of the release of treated waters. If downstream impacts could be anticipated, it is likely there is potential for impacts to aquatic biota. Please provide data to support the statement in line 1890.	Address comment. Modify text as needed	Comment is noted. Future discussion item, as necessary, in development of DSDD.
637	14d	1890		Discharge is not the only potential impact to aquatic resources. Impacts to wetlands are proposed and likely include indirect impacts also. Groundwater withdrawals are also proposed. Broader consideration of potential impacts to aquatic resources should be considered.	Address comment. Modify text as needed	Comment is noted. Future discussion item, as necessary, in development of DSDD.
638	14d	1890		It is stated that "direct impacts to aquatic biota are not anticipated because Project discharge would meet all applicable water quality standards". However, changes to water quantity (flow) can impact aquatic biota as well as changes to water quality. This needs to be addressed.	Address comment. Modify text as needed	Comment is noted. Future discussion item, as necessary, in development of DSDD.
639	14d	1893		Underground mining techniques are stated to reduce impacts to wildlife habitat. However, no explanation is provided as to how or to what extent impacts are minimized. No consideration of impacts to plant communities is provided. Peatland plant communities are sensitive to even minor changes in hydrology. Many rare peatland plants rely on fine scale microtopography. Detailed explanation of how impacts will be avoided or minimized is justified.	Address comment. Modify text as needed	Comment is noted. Future discussion item, as necessary, in development of DSDD.
640	14d	1894		The extent of the fenced area is not specifically described. Depending on the extent of the fenced area, fragmentation impacts could be larger than expected. For example, this could preclude use of suitable habitat by federally listed lynx and gray wolves for the duration of the fencing. The extent of the fenced area and type of habitat within should be further specified.	Address comment. Modify text as needed	Comment is noted. See Response to Comment #626.
641	15	1899		The distance and visibility from Big Sandy Lake should be evaluated. Big Sandy lake is the site of the annual Ojibwe Sandy Lake Ceremony. Assessment of noise, vibration, and traffic changes is needed.	Advisory. Future Discussion topic for development of Draft Scoping Decision Document	Comment is noted. Future discussion item, as necessary, in development of DSDD.
642	15	1900		The Assiniboine, Gros Ventre (Atsina), Cree, and Tionontati, are other Indigenous groups that have called the Project area home before being relocated westward and northward. They should be included in this section.	Address comment. Modify text as needed. Future discussion topic for Draft Scoping Decision Document	Comment is noted. Future discussion item, as necessary, in development of DSDD.
643	15	1900		The Minnesota Office of the State Archaeologist (OSA) Portal for archaeological sites was reviewed on May 16, 2022. But there also needs to be a review of Dakota and Ojibwe toponymy of the area because area features, area resources, area habitat, etc., are encoded in those toponymies. They tell us information on land uses and functions.	Address comment. Modify text as needed.	Comment is noted. The Project is interested in reviewing the inclusion of toponymies in the EIS data submittal when discussing the development of the DSDD, based on current proximate tribal nations.

Comment No.	EAW Section	Line No.	Table; Figure; Graphic	DNR Comment 9/19/2023	Requested Action By DNR	Talon Response and Treatment in EAW 10/11/2023
644	15	1900		In addition to viewing state historic preservation office record, the area's tribal historic preservation office should be engaged to conduct a detailed survey from an Indigenous perspective.	Advisory. Future Discussion topic for development of Draft Scoping Decision Document	Comment is noted. Future discussion item, as necessary, in development of DSDD.
645	15	1900		The sentence "The Project is located on the traditional, ancestral, and contemporary lands of the Očhéthi Šakówiŋ (Dakota/Lakota), Mdewakanton (Dakota/Sioux), and the Anishinaabe (Ojibwe) peoples." is strangely worded. The Dakota description provided is akin to saying like saying "the Anishinaabeg and the Ojibweg", where Anishinaabe may or may not be Ojibwe, but Ojibwe are Anishinaabe. So, why this particular wording?	Address comment. Modify text as needed	According to our understanding, the Project is located on the Očhéthi Šakówiŋ and the Anishinaabe original territories. The Project is open to suggestions for preferred language.
646	15	1900		Grayling Marsh and the Tamarack River are connections between the Mississippi River and the Kettle River systems. There may be many undocumented cultural properties in the area, so a detailed archeological survey is needed. Additionally, the wetland complex of the area had been known for use as burial sites, to the possibility of inadvertent discovery is high. EIS needs to further evaluate this.	Future Discussion and EIS topic	Comment is noted. Future discussion item, as necessary, in development of DSDD.
647	15	1910		The assessment for Item 15 should include existing buildings on the property for evaluation of any potential historical significance (if that has not already been completed) for inclusion in the EIS.	Advisory only; edit text if warranted.	Comment is noted.
648	15	1910		A risk assessment is a useful tool for evaluating project-related generation/storage of solid wastes, project-related use/storage of hazardous materials, and project-related generation/storage of hazardous wastes. Mentioning these applications of risk assessment would assure the reader that a sound technical approach will be implemented to address solid waste, hazardous materials, and hazardous wastes.	Advisory only; future discussion item as part of developing the Draft Scoping Decision Document	Comment is noted. Future discussion item, as necessary, in development of DSDD.
649	15	1911		For consistent terminology, a definition of archaeological site should be included. An archaeological sites is "a location that contains the physical evidence of past human behavior that allows for its interpretation." (Advisory Council on Historic Preservation) Any location that is 50 year or older are to be documented.	Address comment. Modify text as needed	Comment is noted. Future discussion item, as necessary, in development of DSDD.
650	15	1923		This section should include a statement that the previously recorded architectural resources will be revisited and re-evaluated during the cultural resources inventory and that all buildings within the indirect APE as defined by the USACE will be noted and evaluated as needed.	Address comment. Modify text as needed	Comment is noted.
651	15	1924		Assessment of potential impacts to archeological resources could benefit from MnDOT's "MN Model", which is a a set of mapping tools that help the contractors and agencies assess potential impacts on archaeological resources throughout Minnesota. Model data shows that the area in and around the proposed project area has not been covered through previous inventories. The applicability of this model remains to be determined.	Advisory only; future discussion item as part of developing the Draft Scoping Decision Document	Comment is noted. Future discussion item, as necessary, in development of DSDD.
652	15	1929		This section should include text saying the planned cultural resources inventory would be conducted and directed by a Secretary of Interior-qualified archaeologist and architectural historian and would meet Minnesota State Historic Preservation Office and Minnesota State Archaeologist standards. If there are plans for the survey team to include cultural resource specialists from regional tribes who will assist with the identification and evaluation of archaeological resources, that should be included.	Consider comment; edit figure text as warranted.	This issue is addressed in lines 1930-1938 in the original EAW and the Project will comply with all applicable legal requirements in conducting a cultural resources inventory.

Comment No.	EAW Section	Line No.	Table; Figure; Graphic	DNR Comment 9/19/2023	Requested Action By DNR	Talon Response and Treatment in EAW 10/11/2023
653	15	1929		The EIS could require identification of other types of archeological and cultural resource investigations, for example an Ethnographic Overview and Inventory report of potential Traditional Cultural Properties and cultural landscapes if required by the Corps of Engineers	Advisory only; future discussion item as part of developing the Draft Scoping Decision Document	Comment is noted. Future discussion item, as necessary, in development of DSDD.
654	15	1930		As the project area involves state land, any archaeological investigation will also need a field investigation permit from MnOSA and the Minnesota Indian Affairs Commission under Minnesota Field Archaeology Act (MS 138.31-138.42). The review of the project and its associated cultural and archaeological resource studies will be reviewed by the Minnesota Office of the State Archaeologist and will be conducted concurrently with the Section 106 review. A map of state vs. private lands would be helpful.	Consider comment; edit figure and/or text as warranted.	Comment is noted. Figure 6 was updated to include land ownership.
655	15	1935		The document correctly identifies the need for cultural resources investigations, including tribal cultural resources. These investigations should recognize the tribes have a very distinct role in assessment of potential impacts, including waters supporting wild rice stands. Also, there are treaty obligations concerning wild rice stands and usufructuary rights.	Advisory only; future discussion item as part of developing the Draft Scoping Decision Document	Comment is noted. Future discussion item, as necessary, in development of DSDD.
656	15	1938		Should Section 106 of the National Historic Preservation Act be required, evaluation of indirect impacts may likely include discharge into area waters and the effect on wild rice stands; a potential Traditional Cultural Property/Ethnographic Landscape. With the possibility of a 70+ foot structure on the plant, indirect APE may be defined as extending up to 1 mile from the project site. The inventory may include all areas associated with the proposed operation, including ground above the below-surface area of the mine and the railroad spur, including impacts to potentially sensitive areas supporting wild rice stands.	Advisory only.	Comment is noted.
657	15	1938		Should note that the Section 106 consultation process will involve the MnSHPO, any and all interested Tribal Historic Preservation Offices, MnOSA, local and state officials (including the Minnesota Indian Affairs Commission), any local interested party or parties, USACE, and any other agency that has an interest in the project. At a minimum, the following tribes and nations will be invited to participate in the Section 106 consultation -- Apache Tribe of Oklahoma, Bad River Band of the Lake Superior Tribe of the Chippewa Tribe, Cheyenne and Arapaho Tribe of Oklahoma, Fond du Lac Band of the Minnesota Chippewa Tribe, Fort Belknap Indian Community of the Fort Belknap Reservation on Montana, Grand Portage Band of the Minnesota Chippewa Tribe, Keweenaw Bay Indian Community, Michigan, Lac Vieux Desert Band of the Lake Superior Chippewa Indians of Michigan, Lac du Flambeau Tribe, Lac du Flambeau Band of Lake Superior Chippewa Indians, and the Leech Lake Band of the Minnesota Chippewa Tribe. Other interested organizations and tribes would also be encouraged to participate the consultation process.	Answer question. Edit text as necessary	Comment is noted. See Response to Comment #652.
658	16	1946		A figure/map showing surrounding cover types and locations of residences/other mentioned sites would be useful	Consider comment; edit figure and/or text as warranted.	Comment is noted and will be taken under consideration.

Comment No.	EAW Section	Line No.	Table; Figure; Graphic	DNR Comment 9/19/2023	Requested Action By DNR	Talon Response and Treatment in EAW 10/11/2023
659	16	1963		Why are nighttime operations required? I would expect most of the light and noise pollution to be an issue at night and impacts would be minimized if those hours were avoided	Answer question. Edit text as necessary	Various mitigation measures will be taken to address nighttime noise and light impacts, which will be further evaluated as part of the EIS. Nighttime operations are necessary because producing ore at the planned annual rate while operating only during daytime hours would require twice as much equipment operating simultaneously, much larger surface infrastructure to accommodate the much higher hourly throughput, a larger physical site footprint, greater traffic congestion, and ultimately higher overall environmental impacts.
660	16	1998		The viewshed analysis should be performed for a "with trees" and "without trees" scenarios. The EAW state that the tallest building is 78 feet. If temporary features (e.g. construction cranes) are taller than 78 feet, then the height of the tallest feature should be used in the analysis.	Advisory only; future discussion item as part of developing the Draft Scoping Decision Document	Comment is noted. Future discussion item, as necessary, in development of DSDD.
661	17a	1999		Back at Item 6b at Line 528, the project description notes that an estimated up to 450KCY tons per year could be sourced aggregate, which translates to approximately 35 trucks per day with a 35 tons per truckload. Once this traffic enters the property, potential emissions could be considered in the: risk assessment; Class I modeling; Class II modeling. This traffic could be assessed as part of tailpipe on/offsite for GHG.	Consider comment and edit document as current information allows. Future discussion item for development of draft scoping decision document.	Comment is noted. Future discussion item, as necessary, in development of DSDD.
662	17a	1999		Regarding the treatment of off-site aggregate in Item 6b at Line 526, bringing it on-site would need to be characterized within plan for air quality impacts. This would include, but be not limited, to haul road traffic, unloading, reloading, air emission estimates from dust and tailpipe emissions, and operating hours.	Advisory only. Future discussion issue for development of draft scoping decision document.	Comment is noted. Future discussion item, as necessary, in development of DSDD.
663	17a	1999		Other point sources a and non-point sources/mobile sources should be included in this section, such as locomotive, Operational Trucks, Mobile Equipment, Maintenance Activities, and emissions from water treatment facilities.	Address comment and update EAW as appropriate.	An inventory of point and mobile sources will be developed, as necessary, as part of the EIS data submittal and air permitting.
664	17a	1999		Underground mobile equipment emissions may be required to be categorized as point or stationary sources by MNR for Air Permitting purposes.	Regulatory guidance. Future discussion item.	Comment is noted. Future discussion item, as necessary, in development of DSDD.
665	17a	2000		The EIS will do a detailed assessment of the air emissions profile. Potential pollutants of interest could include TSP, HCN, NH3, H2S, SVOC, and NMOC, as appropriate.	Advisory only; future discussion item as part of developing the Draft Scoping Decision Document	Comment is noted. Future discussion item, as necessary, in development of DSDD.
666	17a	2000		Does the definition of VOC in this document include SVOC and/or NMOC?	Answer Question; future discussion topic for development of Draft Scoping Decision Document	A mutually agreed upon definition of VOC will need to be developed during the EIS. Future discussion item, as necessary, in development of DSDD.

Comment No.	EAW Section	Line No.	Table; Figure; Graphic	DNR Comment 9/19/2023	Requested Action By DNR	Talon Response and Treatment in EAW 10/11/2023
667	17a	2000		Clarify what is meant by Carbon Dioxide Equivalent (CO2e) for this section. A comprehensive list of all pollutants included in CO2e would provide clarity.	Address comment; modify text as warranted.	Carbon dioxide equivalent or CO2e means the number of metric tons of CO2 emissions with the same global warming potential as one metric ton of another greenhouse gas and is calculated using Equation A-1 in 40 CFR Part 98. The Project will develop a comprehensive list of all pollutants for the EIS and air permitting.
668	17a	2000		In addition to NOX, EIS should also be evaluating for hydrogen cyanide (HCN), ammonium (NH3), and hydrogen sulfide (H2S), as these are typical emissions from explosives.	Advisory only; future discussion item as part of developing the Draft Scoping Decision Document	Comment is noted. Future discussion item, as necessary, in development of DSDD.
669	17a	2007		Will the portals be located far enough apart that the intake air will not be recirculating the mine exhaust? Provide data to support this.	Answer Question; future discussion topic for development of Draft Scoping Decision Document	See Response to Comment #167.
670	17a	2007		Will there be any baseline monitoring for ambient air prior to construction?	Answer Question; future discussion topic for development of Draft Scoping Decision Document	Currently, the Project considers existing State of Minnesota ambient air monitoring data to be sufficient for the project. The Project is not proposing to do any additional ambient air monitoring. The Project is planning on using MPCA/EPA baseline data.
671	17a	2007		Will Mercury from the rock formation and peat add mercury to the air in addition to the impact on local waters?	Answer Question; future discussion topic for development of Draft Scoping Decision Document	Results from the materials characterization program, operating under a work plan approved by the RGU, will be used to conduct this analysis which will also provide inputs to air and multi-media deposition modelling. The results of these programs will be incorporated into the EIS.
672	17a	2007		Would be good to lay out the key elements of a human health risk assessment and the approach (pursuant to specific guidance) to developing each element (i.e., preparation of a conceptual site model, identification of chemicals of concern, exposure assessment (including identification of sensitive and other receptor groups), toxicity assessment, and risk characterization). Also identify and at least briefly discuss the MPCA applicable requirements. This way the reader will know that we know what we are talking about.	Advisory only; future discussion item as part of developing the Draft Scoping Decision Document	Comment is noted. Future discussion item, as necessary, in development of DSDD.
673	17a	2017		Elongated mineral particle review will need a thorough evaluation using approved MDH methodologies for air and water analyses.	Advisory only; future discussion item as part of developing the Draft Scoping Decision Document	Comment is noted. Future discussion item, as necessary, in development of DSDD.
674	17a	2019		Will potential silica release be addressed?	Answer Question; future discussion topic for development of Draft Scoping Decision Document	The Project is currently collecting material characterization data and will conduct air emissions modelling that will be used to inform the design of facilities to protect human health in accordance with guidelines from the Minnesota Department of Health. Also see Response to Comment #115
675	17a	2020		As indicated, this document provides a high level review of projected emissions. Complete review of proposed project within the scope of the air regulatory requirements will occur when more information is provided by proposer.	Advisory only; future discussion item as part of developing the Draft Scoping Decision Document	Comment is noted. Future discussion item, as necessary, in development of DSDD.

Comment No.	EAW Section	Line No.	Table; Figure; Graphic	DNR Comment 9/19/2023	Requested Action By DNR	Talon Response and Treatment in EAW 10/11/2023
676	17a	2021		Elongate Mineral Particle assessment results were not included. NIOSH defines EMP as any mineral particle with a minimum aspect ratio of 3:1 and length > 0.5 um (NIOSH Bulletin 62, 2011). Describe method for sampling and analysis for the presence of EMPs.	Address comment on EMP. Methodology is a future discussion item considered in development of draft scoping decision document.	A material characterization program is under way, The Project will have a complete EMP data set to inform the EIS.
677	17a	2022		Back in Item 6b, Line 345 describes activities, such as generator sets, that appear to be construction activities, but are they not also operations? Will there be multiple air dispersion modeling scenarios to account for activities that are occurring at different phases of the mine's operations?	Answer question; modify text as needed. Future discussion item in development of draft scoping decision document.	The Project considers certain activities which only occur during the construction phase, before the mine enters production, to be "construction". Construction operation are typically not modeled. The Project looks forward to future discussions regarding scope of air dispersion modelling.
678	17a	2022		Relating back to the discussion of ventilation in Item 6b (Lines 376-379), it will be important to consider the capture efficiency and control efficiency of any control system that is installed. These efficiencies will have a direct correlation to the emission rates that will need to be used in an air dispersion modeling from the portals. While this specific comment pertains to the mentioned CO and NO2 emissions from blasting, it is also pertinent to any other foreseeable pollutant that may be emitted and controlled at the portals. (This comment assumes that the "mine exhaust circuit" ultimately vents to atmosphere through the portals).	Advisory only. Future discussion in development of draft scoping decision document.	Comment is noted. Future discussion item, as necessary, in development of DSDD.
679	17a	2022		Relating to Item 6b at Line 484, it is likely important to identify what pollutants will be present in this exhaust air stream, how capture (and its related efficiency) will be achieved, and the proposed control strategies to assess impacts for the EUS. These will be needed for any proposed control efficiency credit in the air dispersion modeling.	Advisory only. Future discussion in development of draft scoping decision document.	Comment is noted. Future discussion item, as necessary, in development of DSDD.
680	17a	2022		Relating back to the discussion of blasting in Item 6b (Lines 372-375), the randomness of a blasting schedule may pose issues for the air dispersion modeling. In an effort to not overestimate the occurrences of blasting and its associated air emissions, will this be addressed by using a schedule or simulated schedule in the air dispersion modeling?	Answer question. Future discussion item where the response can be considered in development of the draft scoping decision document.	The Project will address this question, as necessary, in the EIS.
681	17a	2022		The document indicates that emissions produced from both surface and underground activities would undergo a "filtration or scrubbing process to reduce the amount of suspended dust and particulates." Activities of interest would include (but not be limited to): site development; blasting; ore extraction; and transport. Would the planned mitigations be designed to avoid and/or control release of elongate mineral particles during these activities?	Consider comment; modify text to address the issue.	Air pollution control equipment will be designed to control release of particulate and other pollutants into the environment. Control of particulates would also include control of elongate mineral particles.
682	17a	2022		Relating to Item 6b at Line 483, the EIS analyses will likely require a detailed description of the filtration method for reduction of suspended dust and particulates. It is also likely that target goal be established for release into outside air (PM 10, PM 2.5, something else?). How levels will be monitored over time and mitigation methods in the event that the filtration method fails could also be required.	Advisory only. Future discussion in development of draft scoping decision document.	Comment is noted. Future discussion item, as necessary, in development of DSDD.

Comment No.	EAW Section	Line No.	Table; Figure; Graphic	DNR Comment 9/19/2023	Requested Action By DNR	Talon Response and Treatment in EAW 10/11/2023
683	17a	2022		Relating to Item 6b at Line 483, exhaust air will need full characterization of pollutants as well as final design on a filtration or scrubber system.	Advisory only. Future discussion in development of draft scoping decision document.	Comment is noted. Future discussion item, as necessary, in development of DSDD.
684	17a	2022		Will there be additional air emission treatments during or after explosions? How will these differ from other operations ventilation?	Answer question.	The mine exhaust particulate capture equipment would be utilized during both regular shift operations as well as during blasting. The Project will further address this question, as necessary, in the EIS.
685	17a	2022		What kind of filtration or scrubbing process would exhaust air undergo before release?	Answer Question. Future Discussion Item as part of developing the Draft Scoping Decision Document	The Project will address this question, as necessary, in the EIS.
686	17a	2022		Explosive emissions should be monitored for HCN, NH3, and H2S in addition to pollutants already listed.	Advisory only; future discussion item as part of developing the Draft Scoping Decision Document	The Project will address this question, as necessary, in the EIS. Also see Response to Comment #121.
687	17a	2022		There should be both a source of oxygen from the ventilation and an oxygen level monitor, so that there aren't pockets of low oxygen, especially if combustion sources are used in the mine.	Advisory only; future discussion item as part of developing the Draft Scoping Decision Document	Comment is noted. Future discussion item, as necessary, in development of DSDD.
688	17a	2022		What about Personal Protection Equipment when personnel are in the exhaust stack source? Will all people be evacuated from the mine at each blast cycle?	Answer question. Future topic of discussion for Health Impact Assessment.	Levels of relevant gases in the mine ventilation exhaust circuit will be monitored in real-time, and particulate levels will be regularly sampled in alignment with health and safety requirements. Personnel will wear personal protective equipment (PPE) whenever they may be exposed to levels of gases or particulates beyond Mine Safety and Health Administration (MSHA) standards During and after blasting, personnel will not be allowed in the exhaust stream until gas levels are within MSHA standards for health and safety. During operations, all personnel will be evacuated from the mine prior to blasting.
689	17a	2022		This section says underground emissions will exhaust through a stack. Is this in addition to the 2 portals? Line 269 in Orebody Access says no additional openings to the surface are anticipated.	Answer question.	The two Portals are the only two locations at which the mine excavations cross to surface. The mine exhaust air will be vented out of the Mine Exhaust Stacks which are connected to the liner of the Exhaust Decline above surface grade prior to the Portal opening. The exhaust air will be diverted via above-grade ductwork through the liner to the Mine Exhaust Filtration Building and then to the Mine Exhaust Stacks. For layout diagram, reference Graphic 2 and Large Figure 3 from the initial Project Description. Also see Response to Comment #167.
690	17a	2031		How will storage pile dust be controlled?	Answer question. Edit text as necessary	Additional details regarding dust control will be included in the EIS. Additionally, a fugitive dust control plan will be developed as a part of the air permitting process. The fugitive dust control plan will address all fugitive emissions and discuss administrative controls.

Comment No.	EAW Section	Line No.	Table; Figure; Graphic	DNR Comment 9/19/2023	Requested Action By DNR	Talon Response and Treatment in EAW 10/11/2023
691	17a	2038		Explain why PSD construction permit requirements likely would not be triggered.	address comment. Edit text as necessary	The Project made this determination based on the Tamarack Mining Project scope and scale being very similar to the Eagle Mine in Michigan, which did not trigger PSD review.
692	17a	2038		"MPCA Mercury Risk Estimation Method" should say "MPCA Mercury Risk Estimation Method".	address comment. Edit text as necessary	Comment is noted. The Project will correct the typo "MPCA Mercury Risk Estimation Method" should say "MPCA Mercury Risk Estimation Method"
693	17a	2056		Will there be controls for other constituent in minerals such as cadmium, lead, chromium, etc., in addition to mercury?	Answer question.	Controls for particulate matter will also control other metals.
694	17a	2056		Describe type and quantity of HAP expected. Provide sampling method and analysis data used to determine this.	Answer question.	The Project is planning on using EPA factors for internal combustion engine emissions, and data from the material characterization program (conducted under an agency-approved work plan) for the ore and backfill materials.
695	17a	2058		Is there a contingency plan if mercury is found to be contained in the ore and emitted?	Answer Question. Future Discussion Item as part of developing the Draft Scoping Decision Document	The Materials Characterization Program is in progress and conducted under an agency-approved work plan. It will identify constituents of concern including mercury. Control equipment for particulate matter will be designed with the data from the Materials Characterization Program and will provide capability to control mercury-containing minerals if needed. At this time, the Project does not expect an issue with mercury-containing minerals within the ore or development rock based on available data.
696	17a	2063		It isn't just the Boundary Waters, Voyageurs, and Isle Royale that are Class I but also Rainbow Lake and Fond du Lac Indian Reservation.	Consider comment; edit figure and/or text as warranted.	Comment is noted. To support EIS development, the Project would conduct a modeling analysis for the federally approved Class I areas near the Project Area that may include an initial screening, a significant impact analysis, and particle transport modeling analysis.
697	17a	2063		Although Mille Lacs Air is a Federal Class II, 11 MLBS §119 requires treatment of Mille Lacs Air "Pursuant to Class I".	Consider comment; edit figure and/or text as warranted.	The Mille Lacs Reservation is not federally recognized by the EPA as a Class 1 area.
698	17a	2063		"MPCA Risk Assessment Screening Spreadsheet" should be fully identified as "MPCA Air emissions risk analysis (AERA) Risk Assessment Screening Spreadsheet (RASS)(aq9-22)"	address comment. Edit text as necessary	Thank you for your guidance.
699	17	2068		The railway spur will need to be evaluated against the ambient air boundary.	Advisory only.	Comment is noted.
700	17a	2075		Will vehicle emissions be included in air modeling that is used to support a health risk assessment?	Answer question. Future topic of discussion for treatment of health issues in development of Draft Scoping Decision Document.	The Project will address this question, as necessary, in the EIS.
701	17a	2075		Pursuant to the question about dust and odors and the effects thereof on sensitive receptors and quality of life, briefly discuss how health risk assessment will be used to address fugitive dust and odors.	Answer question. Future topic of discussion for treatment of health issues in development of Draft	The Project will address this question, as necessary, in the EIS.

Comment No.	EAW Section	Line No.	Table; Figure; Graphic	DNR Comment 9/19/2023	Requested Action By DNR	Talon Response and Treatment in EAW 10/11/2023
					Scoping Decision Document.	
702	17	2080		All vehicle emissions above and below ground will need to be included in the various air quality impact reviews.	Advisory only. Future discussion in development of draft scoping decision document.	Comment is noted. Future discussion item, as necessary, in development of DSDD.
703	17b	2080		Include emissions from trains.	Advisory only; future discussion item as part of developing the Draft Scoping Decision Document	Comment is noted. Future discussion item, as necessary, in development of DSDD.
704	17b	2080		What about emissions from possible use of propane or natural gas powered vehicles?	Answer Question; future discussion topic for development of Draft Scoping Decision Document	Off-highway mobile equipment will be evaluated.
705	17c	2092		Dust and Odors section did not mention nearby sensitive receptors/quality of life impacts. Sensitive receptors should be identified/referenced as well as whether they could be expected to experience dust/odor impacts.	Answer question. Future topic of discussion for treatment of community health issues in development of Draft Scoping Decision Document.	The Project will address this question, as necessary, in the EIS.
706	17c	2094		How would the overburden and construction-related materials piles be kept safe from wind erosion?	Answer Question; future discussion topic for development of Draft Scoping Decision Document	Stockpiles will meet MN Permit to Mine rules under Minnesota Rules, chapter 6132.2400 Storage Pile Design. A variety of methods may be utilized to control fugitive dust which will be further evaluated in the EIS.
707	17c	2097		A Fugitive Dust Control Plan is forthcoming in EIS. No dust control plan prepared yet. Recommend review of NIOSH Dust Control Handbook for Industrial Minerals Mining and Processing (NIOSH, 2019) in preparation of your Fugitive Dust Control Plan. Plan for sampling and analysis of types and quantity of fugitive dust has not been presented.	Note comment. A Fugitive Dust Control Plan will be presented in the EIS.	Comment is noted. The Project will address, as necessary, this issue in the EIS.
708	17c	2105		Will there be monitoring or confirmation testing that the air is being scrubbed sufficiently of dust and particulates? What specific standards will be applied when determining if suspended dust/particulates have been sufficiently reduced?	Answer Question; future discussion topic for development of Draft Scoping Decision Document	Required compliance air monitoring procedures will be determined during the permitting process. The Project will meet the Clean Air Act ambient air quality standards.
709	17c	2107		Describe visible emission inspection procedure. Describe specific location, frequency, and method for inspections (example: daily fence line measurements using PM2.5 instrumentation)	Note for Fugitive Emissions Plan in EIS	Required compliance air monitoring procedures will be determined during the permitting process. The Project will meet the Clean Air Act ambient air quality standards.
710	17c	2109		Describe frequency of dust suppressant application. Describe criteria for use of additional chemical dust suppressants, if needed.	Note for Fugitive Emissions Plan in EIS	Specific procedures related to dust suppressants for fugitive emission controls will be addressed in the fugitive dust control plan created for permitting.

Comment No.	EAW Section	Line No.	Table; Figure; Graphic	DNR Comment 9/19/2023	Requested Action By DNR	Talon Response and Treatment in EAW 10/11/2023
711	18a	2117		Peat wetlands are an important carbon store. Draining them and/or using peat as soil amendments where it can decompose releases carbon dioxide. Assessment of land use change based GHGs should include disturbed peatlands.	Edit document as needed to address comment. Further discussion of issue for treatment in draft scoping decision document.	The Project will address this question, as necessary, in the EIS.
712	18a	2117		Would the lifetime GHG emissions include the 1-2 years of construction + 10 years of operation + ?? Years for closure. A timeline discussion would be valuable here.	Answer question.	The Project looks forward to future discussions on this topic and will address this question, as necessary, in the EIS.
713	18a	2123		Odors from water treatment and the storm water pond should be considered within this section.	Consider comment; edit figure and/or text as warranted.	The Project looks forward to future discussions on this topic and, if necessary, will address this question in the EIS.
714	18a	2140	Table 15	Cement production is a major source of Greenhouse Gases. The project proposes to use substantial amounts of cement for the CRF. Cement manufacturing should be included in the GHG budget.	Advisory only; future discussion item as part of developing the Draft Scoping Decision Document	Comment is noted. Future discussion item, as necessary, in development of DSDD.
715	18a	2141	Table 15	Evaluate impacts of removing peat lands on carbon sequestration.	Advisory only; future discussion item as part of developing the Draft Scoping Decision Document	Comment is noted. Future discussion item, as necessary, in development of DSDD.
716	18a	2148		"a. GHG Assessment" should be "b. GHG Assessment"	Edit EAW	Document has been revised to correct this typographical error.
717	18bi	2148		Only include mitigation measures that were purposely intended to mitigate for greenhouse gas emissions in the list of mitigation measures. Measures such as minimizing the use of uncemented backfill, which were not primarily intended to mitigate for greenhouse gas emissions, should not be included in the list of mitigation measures. Also, it is unclear how biosolids applications will mitigate for GHG emissions.	Consider comment; edit text as warranted.	The Project looks forward to future discussions on this topic. At this time, the Project believes that all the measures included on this list would be meaningful mitigation measures to address greenhouse gas emissions. Many of these measures would have other positive effects in addition to GHG mitigation, and it is not clear at this time whether the GHG mitigation effect would be the "primary" benefit intended for their implementation compared to other positive effects. Biosolids applications has been removed from the list of GHG mitigation measures.
718	18bi	2149		Other aspects of construction should be discussed in this section. Have emissions from temporary water treatment and emergency generators been considered in the GHG calculations?	Consider comment; edit text as warranted.	These items would be included in the GHG emission source categories listed on lines 2127 and 2131 of the initial Project Description. The Project will further address this question, as necessary, in the EIS.
719	18bi	2150		Define feasibility criteria.	Consider comment; edit text as warranted.	Please provide additional detail or specifics to help clarify the question.
720	18bi	2150		The EIS should to identify all possible GHG mitigation alternatives (e.g., on-site production of renewable energy).	Advisory only; future discussion item as part of developing the Draft Scoping Decision Document	Comment is noted. Future discussion item, as necessary, in development of DSDD.

Comment No.	EAW Section	Line No.	Table; Figure; Graphic	DNR Comment 9/19/2023	Requested Action By DNR	Talon Response and Treatment in EAW 10/11/2023
721	18bi	2150		For mitigation measures, the EIS needs to include, at a minimum, the GHG emissions for transporting the ore to the processing facility so that a meaningful comparison can be made with the alternative of processing ore on-site. To the extent that ore processing on-site would result in materially different GHG emissions than a comparable processing facility in North Dakota, that information also should be evaluated.	Advisory only; future discussion item as part of developing the Draft Scoping Decision Document	Comment is noted. Future discussion item, as necessary, in development of DSDD.
722	18bi	2163		Where would biosolids applications occur and what would the source of biosolids be?	Answer Question; future discussion topic for development of Draft Scoping Decision Document	Biosolids applications has been removed from the list of GHG mitigation measures.
723	18bi	2163		Would this be land application from the water treatment plant or the peat relocation? Depending on the product and use, this could require a Land Application Permit (not listed in Section 9). More information and elaboration on this is needed.	Respond to comment; edit document as needed.	Currently there are no plans to land apply peat or water treatment plant residuals. The Project will address this issue, as necessary, in the EIS.
724	18biii	2169		What options are available to further reduce the project-related GHG emissions beyond the Next Energy Act Goals?	Answer Question; future discussion topic for development of Draft Scoping Decision Document	The Project will address this question, as necessary, in the EIS.
725	18biii	2173		GHG emissions from water treatment should be considered and discussed in this section.	Consider comment; edit text as warranted.	The Project will address this question, as necessary, in the EIS.
726	19	2179		DNR notes the Draft Scoping Decision Document would likely account for the numerous stationary and mobile noise sources in models of daytime and nighttime activity, with results required to be compared with measured daytime and nighttime noise levels (to assess increase over existing and potential annoyance) and MPCA daytime and nighttime Noise Standards to address compliance with MPCA noise standards.	Advisory only; future discussion item as part of developing the Draft Scoping Decision Document and noise/vibration impact assessment work plan.	Comment is noted. Future discussion item, as necessary, in development of DSDD.
727	19	2179		The assessment of potential noise impacts should recognize that explosives are detonated underground (as noted in Item 6b at Lines 358-396), and in particular predict any potential for surface noise impacts.	Advisory only. Future discussion in development of draft scoping decision document.	Comment is noted. Future discussion item, as necessary, in development of DSDD.
728	19	2179		Noise is discussed but not vibration from blasting. Maps with contour lines for both noise and vibration are needed for the project. Analysis of effects of vibration on wells, houses, etc. is needed.	Address comment; modify text as warranted.	This topic will be addressed further during the EIS. See Response to Comment #109 for additional information.
729	19	2179		Are noise impacts to wildlife considered?	Answer Question; future discussion topic for development of Draft Scoping Decision Document	This topic will be addressed as necessary during the EIS.
730	19	2179		What if the pre-established barrier or the additional natural barrier fails (due to blowdown, wildfire, pest infestation, disease, etc.), what other sound control measures will be used?	Answer Question; future discussion topic for development of Draft Scoping Decision Document	This topic will be addressed as necessary during the EIS.

Comment No.	EAW Section	Line No.	Table; Figure; Graphic	DNR Comment 9/19/2023	Requested Action By DNR	Talon Response and Treatment in EAW 10/11/2023
731	19	2185		The characterization of existing noise environment at nearest noise-sensitive parcels does not accurately describe the outdoor soundscape of the remote, isolated, scattered homes nearest the project site.	Consider comment; edit text as warranted.	The Project looks forward to future discussions on this topic, which would be further addressed as necessary in the EIS.
732	19	2187		Nearby sensitive receptors should be specifically identified with their distances to project boundaries indicated. Inclusion of a figure/map showing locations and distances would add clarity.	Consider comment; edit text as warranted.	This topic will be addressed as necessary during the EIS.
733	19	2190		The TBM operations should be added to the equipment that could contribute to noise and vibration effects of note. // The potential for the TBM's operations to generate dust effects should be noted.	Consider comment; modify text to address the issue. The draft scoping decision document could identify TBM operations as a potential source of noise and vibration impacts to humans and wildlife. Similarly, the Draft Scoping Decision Document could identify TBM as source of dust impacts to humans and wildlife.	Section 19 of the document has been updated to include the TBM.
734	19	2191		Noise impacts of blasting and TBM operation should be discussed in detail.	Consider comment; edit text as warranted.	<p>TBM tunneling has been preferred and successfully used in dense urban areas (e.g., downtown New York and Los Angeles). TBM tunneling is selected for these projects in part because of strict noise and vibration limits that are difficult to comply with using other methods.</p> <p>The rock breaking mechanism of a TBM is based on disc cutting tools continuously rotating against the face, not involving any high energy and repeated impact typical of other mechanical excavation means. As a further mitigation measure, TBM cutterhead rotation and advance speed can be reduced in more sensitive areas, with shallow ground cover. In consideration of the depth of the rock section of the tunnel (greater than 130 feet deep) and damping effect generated by the thick soil layer above it, we do not anticipate perceivable noise and vibrational effects to the area. In any case, construction will be in compliance with local/state/federal ordinances.</p> <p>See Response to Comment #109 regarding blasting.</p> <p>These items will be evaluated in further detail for the EIS.</p>
735	19	2195		The noise analysis should be performed by a qualified acoustician with demonstrated expertise using modern ISO9613-based environmental noise modeling software. The noise analysis should evaluate compliance with MPCA Noise Standards, and also changes in the quiet rural soundscape. The methodology used to measure existing noise levels should be based on ANSI/ASA s3/sc1.100-2014 ANSI/ASA S12.100-2014 (R2020) Methods to Define	Advisory only; future discussion item as part of developing the Draft Scoping Decision Document	<p>Comment is noted.</p> <p>Future discussion item, as necessary, in development of DSDD.</p>

Comment No.	EAW Section	Line No.	Table; Figure; Graphic	DNR Comment 9/19/2023	Requested Action By DNR	Talon Response and Treatment in EAW 10/11/2023
				and Measure the Residual Sound in Protected Natural and Quiet Residential Areas.		
736	19	2200		FRA methods should be used to evaluate noise from project-related trains, and project-related noise on local railways. Ideally this would be included in the models of stationary and mobile noise sources.	Advisory only; future discussion item as part of developing the Draft Scoping Decision Document	Comment is noted. Future discussion item, as necessary, in development of DSDD.
737	19	2200		The noise analysis should model stationary and mobile noise sources using spectral noise emissions data and a three-dimensional noise modeling software product that utilizes ISO9613 propagation equations, and not use a spreadsheet-based noise model. CadnaA and Soundplan are two software-based noise models that are appropriate for modeling noise from stationary and mobile noise sources on the project site, and also the proposed railroad. FHWA TNM should be used to evaluate project-related traffic.	Consider comment; edit text as warranted.	The Project looks forward to future discussions on this topic ultimately leading to the RGUs determinations for what items and methods acceptable for use in the EIS.
738	19	2200		At a minimum there should be daytime and nighttime noise models for construction, operation, and closure.	Advisory only; future discussion item as part of developing the Draft Scoping Decision Document	Comment is noted. Future discussion item, as necessary, in development of DSDD.
739	19	2200		The EIS should evaluate construction noise levels using FHWA/FTA methods that identify equipment and noise levels used during each phase of construction and closure. The assessment of noise from construction and closure should be detailed and reflect actual equipment likely to be used.	Advisory only; future discussion item as part of developing the Draft Scoping Decision Document	Comment is noted. Future discussion item, as necessary, in development of DSDD.
740	19	2203		Project-related noise is subject to Minnesota Noise Standards.	Advisory	Comment is noted.
741	19	2205		Considering wild rice waters in the vicinity of the project, a description of how far the sounds of mine, including blasting, could be heard would be helpful.	Address comment; modify text as warranted.	The Project will address this issue, as necessary, in the EIS. Also see Response to Comment #109 for additional discussion regarding blasting.
742	19	2205		Potential noise reduction associated with vegetated strips does not correctly reflect what Reference 50 says. Reference 50 oversimplifies acoustical absorption by vegetation and is not an appropriate reference for this project.	Address comment; modify text as warranted.	Comment is noted. Future discussion item, as necessary, in development of DSDD.
743	19	2208		Details of various barrier options should be discussed as well as why chosen option(s) were selected over others (e.g. trees vs berm etc..).	Address comment. Future discussion topic	The Project looks forward to future discussions on this topic and will address this issue, as necessary, in the EIS.
744	20a	2212		The document states: "Due to the rural nature of the Project location, alternative transportation modes are not available." This is likely incorrect as alternative transportation modes are available (e.g., Arrowhead Transit, taxi services, ride-share services, etc.), however those modes of transportation are not practical or feasible, due to lack of service frequency or the high cost of using those services.	Consider comment and edit document.	The Project does not consider these to be viable methods of alternative transportation to the site for construction and operations purposes. There are no rideshare services or taxis within 30 miles. Arrowhead Transit is not a practical solution to transport workers on regular schedule.
745	20a	2212		The project description for the EIS will require greater detail around the proposed rail shipment of ore to the concentrator.	Advisory only. Future discussion item for development of the draft scoping decision as the detail is needed	Comment is noted. Future discussion item, as necessary, in development of DSDD.

Comment No.	EAW Section	Line No.	Table; Figure; Graphic	DNR Comment 9/19/2023	Requested Action By DNR	Talon Response and Treatment in EAW 10/11/2023
					to support the impact assessment.	
746	20a	2212		"Future parking would consist of approximately 160 spaces." So, will the parking lot be surface be permeable or impermeable surface for the bulk stormwater runoff?	Answer question.	The Project will address this issue, as necessary, in the EIS.
747	20a	2217		If known include a brief description of volume of any Oversize / Overweight (OSOW) and/or truck volumes during construction and operation.	Edit text with detail as currently known.	Oversize / Overweight (OSOW) trucks will not be a regular occurrence once the mine is in operation. During construction phase there will be both permanent equipment deliveries and construction equipment deliveries that may be Oversize / Overweight (OSOW). Further details are not available currently.
748	20a	2231		Back at Item 6b at Lines 569-595, there will be both outgoing shipment of ore and returning empty railcars, plus potential incoming shipment of aggregate, all of which represents and increase in rail traffic over existing conditions. Estimates of this increase in rail traffic should be restated here.	Edit document as indicated. Future discussion item in development of draft scoping decision document.	The Project will address this issue, as necessary, in the EIS.
749	21a	2255		RGU notes that it remains to be determined what project impacts would operate at a geographic scale and timeframe that may interact with other projects, including land management activities.	Advisory only; the issue will be explored over the development of the scoping EAW and draft scoping decision document.	Comment is noted. Future discussion item, as necessary, in development of DSDD.
750	21a	2255		RGU notes that even though current condition typically provides a good representation of past actions or activities, it may be necessary to detail previous development.	Advisory only; the issue will be explored over the development of the scoping EAW and draft scoping decision document.	Comment is noted. Future discussion item, as necessary, in development of DSDD.
751	21a	2258		The EIS scope may include discussion of the surrounding community, its sociodemographics, environmental justice, and human health issues.	Advisory only; future discussion item in development of the draft scoping decision document.	Comment is noted. Future discussion item, as necessary, in development of DSDD.
752	21a	2266		RGU notes consideration may be given to adding tribal lands and ceded territories.	Advisory only; future discussion item in development of the draft scoping decision document.	Comment is noted. Future discussion item, as necessary, in development of DSDD.
753	21b	2271		The document states: "At this time there are no other known projects within the vicinity that may interact with the proposed Project." DNR as RGU will independently assess the potential for the proposed project to interact with any reasonably foreseeable future projects (for which a reasonable basis of expectation has been laid). This is necessary for all mining actions as it is common for potential resource exploitation to extend into neighboring lands over extended timeframes.	Advisory only; future discussion item in development of the draft scoping decision document.	Comment is noted. Future discussion item, as necessary, in development of DSDD.

Comment No.	EAW Section	Line No.	Table; Figure; Graphic	DNR Comment 9/19/2023	Requested Action By DNR	Talon Response and Treatment in EAW 10/11/2023
754	21b	2274		A potential area of cumulative effects could involve mercury impairments and how both Premier Horticulture and Talon propose to address potential additional loading of mercury to already impaired waters.	Advisory only; future discussion item as potential impacts are better understood in development of scoping documents.	Comment is noted. Future discussion item, as necessary, in development of DSDD.
755	21b	2279		As noted in Item 6b at Lines 894-898, the RGU will be required to consider whether other reasonably foreseeable actions meet EQB's guidance as future mining activity requiring consideration for potential cumulative effects.	Advisory only; future discussion item as potential impacts are better understood in development of scoping documents.	Comment is noted. Future discussion item, as necessary, in development of DSDD.
756	21c	2281		Scoping could include consideration the potential for the project to result in community-scale health effects to Native American and local populations.	Advisory only; future discussion item as potential impacts are better understood in development of scoping documents.	Comment is noted. Future discussion item, as necessary, in development of DSDD.
757	21c	2284		The RGU agrees that identifying Premier Horticulture's Wright Bog Project constitutes a project whose impacts could interact with those of the proposed project.	Advisory only; future discussion item as potential impacts are better understood in development of scoping documents.	Comment is noted. Future discussion item, as necessary, in development of DSDD.
758	22	2293		Scoping could include consideration of Environmental Justice issues that may be associated with the project.	Advisory only; future discussion item as potential impacts are better understood in development of scoping documents.	Comment is noted. Future discussion item, as necessary, in development of DSDD.
759	23	2306		Including the NI43-101 report as a reference and cited within the EAW would be beneficial.	Address comment and update EAW as appropriate.	The Project only included references for sources used in the writing of the document. EAW was edited to include: "(Only references cited in the EAW data submittal were included in the reference list.)"
760	23	2306		Should add the following reference Current Records -- Map -- https://osaportal.gisdata.mn.gov/CurrentRecordsMap -- July 1, 2023	Edit document.	The Project only included references for sources used in the writing of the document.
761	23	2306		Should add the following reference Tribal Directory Assessment Tool -- https://egis.hud.gov/tdat/ -- July 1, 2023	Edit document.	The Project only included references for sources used in the writing of the document.
762	23	2306		Should add the following reference -- National Register of Historic Places -- Database Research -- https://www.nps.gov/subjects/nationalregister/database-research.htm -- July 1, 2023	Edit document.	The Project only included references for sources used in the writing of the document.
763	23	2391		A discussion regarding the increase of traffic and rail usage to the area should be discussed within the cumulative impacts section in association to GHG and air emissions.	Advisory only; future discussion item in development of the draft scoping decision document.	Comment is noted. Future discussion item, as necessary, in development of DSDD.

Comment No.	EAW Section	Line No.	Table; Figure; Graphic	DNR Comment 9/19/2023	Requested Action By DNR	Talon Response and Treatment in EAW 10/11/2023
764	6	General		DNR notes the description does not provide enough information to identify location of project features on a map or aerial photo, which will be needed to determine where noise- and vibration-sensitive land uses are located relative to the proposed project site.	Advisory only; future discussion item as part of developing the Draft Scoping Decision Document and noise/vibration impact assessment work plan.	Comment is noted. Future discussion item, as necessary, in development of DSDD.
765	13	General		Risk assessment is an important tool for developing waste management programs for hazardous and non-hazardous wastes. Risk assessment information can be used to inform waste minimization programs, support applications for operating permits, and assess the need for cleanup actions, including setting cleanup goals.	Advisory only; future discussion item as part of developing the Draft Scoping Decision Document	Comment is noted. Future discussion item, as necessary, in development of DSDD.
766	15	General		The cultural resources inventory report should include a comprehensive and near-exhaustive overview of the prehistoric/protohistoric, early historic, and historic developments in the Tamarack region. The text should also note that the National Register-listed Sandy River Lumber Company Horse Barn is located south of Tamarack. Exact location of the property in relation to the project area will need to be provided.	Address comment. Modify text as needed. Future discussion topic for Draft Scoping Decision Document	Comment is noted. Future discussion item, as necessary, in development of DSDD.
767	16	General		A discussion regarding DNR Visual Sensitivity Classification should be included for the project area and adjacent land.	Answer question. Edit text as necessary	Comment is noted. Future discussion item, as necessary, in development of DSDD.
768	17	General		Fugitive Dust and Particulate Matter are considered but, are there concerns regarding parameters of concern (CO, NOx, etc..) and will these need treatment prior to emission release?	Answer Question; future discussion topic for development of Draft Scoping Decision Document	Comment is noted. Future discussion item, as necessary, in development of DSDD.
769	17	General		This section of the EAW is problematic in that it covers air emissions from only stationary sources and mobile sources, and from dust and odor. There is no spot to explore other anthropogenic emissions, nor a way to quantify biogenic emissions. Since explosives are not stationary sources or mobile sources, though they may generate dust and odor, the EAW makes no room to address emissions from these explosives. The EAW should include this so that we can better evaluate the Project.	answer question, modify text, if needed	Explosives can be treated as a stationary source since all mine emissions/odors will exit via the Mine Exhaust Stacks. The Project will look to the RGU for further guidance.
770	18	General		All discussions regarding mobile sources so far has not discussed emissions from increased rail traffic.	Include discussion on emissions from rail	Comment is noted. Future discussion item, as necessary, in development of DSDD.
771	21	General		The EIS scope may include assessment of potential impacts to the uses in and around the proposed project area including Treaty rights (e.g., wild rice harvest), hunting and gathering (foraging), and recreation.	Advisory only; future discussion item in development of the draft scoping decision document.	Comment is noted. Future discussion item, as necessary, in development of DSDD.
772	All EAW	General		There is no mention of Ecosystem Services Valuation in the EAW document.	Advisory only; future discussion item as part of developing the draft scoping decision document. Likely considered as part of socioeconomic analysis.	Comment is noted. Future discussion item, as necessary, in development of DSDD.