STATE OF MINNESOTA

Minnesota Pollution Control Agency

Industrial Division

National Pollutant Discharge Elimination System (NPDES) and State Disposal System (SDS) Permit MN0055301

PERMITTEE: NORTHSHORE MINING COMPANY; SILVER BAY POWER COMPANY; CLEVELAND-CLIFFS INC

FACILITY NAME: E.W. Davis Works and Mile Post 7 Tailings Basin Area

RECEIVING WATERS: Beaver River and various tributaries, Marina Creek, White Rock Creek and Lake Superior

CITY/TOWNSHIP: Beaver Bay Twp, Beaver Bay, Silver Bay **COUNTY: Lake**

MODIFCATION DATE: December 2, 2005 **EXPIRATION DATE: September 30, 2008**

The state of Minnesota, on behalf of its citizens through the Minnesota Pollution Control Agency (MPCA), authorizes the Permittee to construct, install and operate a disposal system at the facility named above, and to discharge from this facility to the receiving waters named above, in accordance with the requirements of this permit.

The goal of this permit is to protect water quality according to Minnesota and U.S. statutes and rules, including Minn. Stat. chs. 115 and 116, Minn. R. chs. 7001, 7050, 7052 and 7060, and the U.S. Clean Water Act.

This permit is effective on the issuance date identified above, and supersedes the previous permit that was issued for this facility on January 26, 2004.

This permit expires at midnight on the expiration date identified above.

Signature: _____

Michael (Mike) J. Tibbetts *for* Minnesota Pollution Control Agency
Land and Water Quality Permits Section Manager
Industrial Division

If you have questions on this permit, including the specific permit requirements, permit reporting or permit compliance status, please contact:

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Permitted Facility Description

The Permittee has designed and implemented an environmental management system (EMS) as a result of a Stipulation Agreement with the MPCA dated December 2001. The Stipulation Agreement required that the EMS include components involving environmental policy, planning, implementation, routine oversight, corrective action, auditing and management review relative to the facility's water quality management.

The principal activity at this facility is the production of magnetic iron ore concentrate at average and maximum rates of 4.8 and 8.0 million long tons per year, and the production of standard and fluxed iron ore pellets and sinter feed. Iron ore concentrate also is produced for commercial sale, which may include the Mesabi Nugget Pilot Demonstration Research & Development Plant (PDRDP). The taconite ore used in production is from the Peter Mitchell Mine near Babbitt, Minnesota. The facility consists of the E.W. Davis Works plant area at Silver Bay, the Mile Post 7 Tailings Basin area, and the pipelines, rail lines, and related appurtenances that route wastes and process water between the Davis Works and Mile Post 7, as illustrated within the map areas on pages 7 and 8 of this permit. The facility includes the PDRDP, as well as the drainage area contributing surface runoff to the Mile Post 7 tailings basin.

The coarse crushed taconite ore that arrives at the Davis Works is cobbed, crushed, and concentrated by a series of mills, magnetic separators, classifiers, hydrocyclones, hydroseparators, screens and flotation cells. Limestone, dolomite and ferro-manganese slag flux agents may be added to the concentrate. The filter cake is conveyed to the Pelletizing Plant where it is mixed with bentonite, and/or a starch binder, formed into green pellets, fired in furnaces, stockpiled and loaded for ship transport. Water obtained directly from Lake Superior, at a rate of approximately 1.0 million gallons per day (MGD), is sprayed on the pellets for dust control as they leave the Pelletizing Plant, and in the pellet storage area.

Dust and other fine particles are collected in the Pelletizing Plant using Wet Wall Electrostatic Precipitators (WWESPs) on the furnace hood exhaust and waste gas emissions for the various pelletizer furnaces. The multiple WWESP effluent flows are routed into a common flume, where caustic soda (to adjust pH) and flocculant are added, prior to flume station WS005 (formerly station 990). The WWESP common flume effluent is then directed to a 100-ft diameter thickener on the west side of the Filter Plant. The majority of the 100-ft thickener overflow (to which descaling dispersant is added) and underflow is recycled to the WWESP system. WWESP thickener overflow and underflow blowdowns are routed, at a combined rate of about 100 gpm, from the WWESP system, together with other flows, to the Concentrator clarifiers; a new treatment system was implemented to remove fluoride from this blowdown, and the treated blowdown effluent is monitored by station WS014.

The PDRDP is not currently operating and will require a modification to the facility's Air Emission permit if operation is resumed. The PDRDP can produce a maximum of 30,000 metric tons/year of a direct reduced iron (DRI) product. Among the materials that may be used in the PDRDP are materials with a high fluoride content, as monitored by station WS011. The PDRDP comprises a rotary hearth furnace (RHF), a green ball processor, a coal pulverizer, auxiliary reductant equipment and cooling systems. No wet grinding or slurrying of reductant or flux materials is associated with the PDRDP process, other than the potential use of the limestone and dolomite slurries. A packed bed wet scrubber is used for air emission control on the RHF. No wastewater treatment is applied to the PDRDP scrubber wastewater other than the addition of

caustic soda. PDRDP non-contact cooling water flows, to which no chemicals have been added, and miscellaneous small spray water flows are collected and routed with the PDRDP scrubber wastewater through pipe station WS012 to the Davis Works process water system, upstream of common sump station WS003 (formerly station 910).

Various chemicals, as identified by this permit, are applied in the Concentrator, Filter Plant and Pelletizing Plant for flotation, thickening and water chemistry control. Water is pumped from Lake Superior, at a rate of approximately 0.05 MGD, to mix most of these Davis Works plant area reagents before they are added to the process stream. No cooling water chemical additives are used at the facility other than those added at the Power Plant.

Historically, average and maximum rates of 2.7 and 5.2 million dry long tons per year of coarse tailings, generated both by the Dry Cobbing Plant and the Concentrator, are conveyed to loadout bins and then transported by rail to Mile Post 7. The coarse tailings are conveyed to the loadout bins; drainage from the loadout bins and the rail loading area is collected and routed to the plant runoff collection system. A limited amount of coarse tailings also are hauled to Babbitt for use at the facility covered under NPDES/SDS Permit MN0046981 (as monitored by station WS007). A salvage yard, including a landfill site abandoned by Reserve Mining, is located in the NE¼, NW¼, Section 6, T55N, R7W, southwest of the rail loading area. Some stormwater drainage from the salvage yard and adjacent rail loading area may flow to Marina and White Rock Creeks, apart from the principal Davis Works runoff collection system.

Historically, average and maximum rates of 4.9 and 9.5 million dry long tons per year of fine tailings are routed to Concentrator clarifiers, and then pumped through a dual pipeline system to Mile Post 7 for disposal. (The combined Concentrator clarifier overflow is returned to the Concentrator through the Power House mill water sump and station WS003, in the rectangular concrete common sump at a point near the outflow return channel from this sump back to the Power House mill water sump; occasional overflow may occur from the common concrete sump to the ditch system monitored by station WS004.) The pipeline system consists of: two pipelines, one operating and one standby; Pump House 1 (at the Concentrator clarifiers); and Pump House 2 and an adjacent catchment basin. This basin (as monitored by station WS010) is used infrequently as an emergency drainage point, also collects floor drainage from Pump House 2, and when filled is pumped out to Mile Post 7. Drainage from the area around the Pump House 2 Tailings Basin area flows through a culvert located in the NW¼, SE¼, Section 2, T55N, R8W, toward the Beaver River; no tailings or process wastewater, however, are released from Pump House 2 and its tailings basin toward downstream receiving waters.

The fine tailings and associated process wastewater also include the following wastewaters generated at the Davis Works: surface drainage collected from the coarse tailings loadout system, Car Dumper, Fine Crusher and the Dry Cobbing Plants; PDRDP wastewaters; floorwash; Pump House 1 cooling wastewater; the wastewaters from the Davis Works dust control system; and runoff from the plant and material storage areas at the Davis Works. This runoff is collected from an area that includes the above-mentioned taconite processing plants, as well as the Truck Repair Shop, PDRDP Building, and other dry storage buildings and yards (all east of the Concentrator), the Stores & Repair Building, Filter Building, Electrical Shop (on the south side of the Concentrator), Chemical Additive Building, two office buildings, fuel storage areas, outfall SD003 dredged materials storage and disposal sites, and the dock area that includes storage stockpiles of taconite pellets, taconite plant fluxstone, ferro-manganese slag, coal, PDRDP product and slag. This Davis Works runoff is collected by a series of berms, culverts and unlined

ditches, and routed through ditch station WS004 (formerly station 950) to a surface water collection pond. The wastewater in this basin is then pumped to the Concentrator clarifiers; the waste sediments and sludges that accumulate in this ditch and basin are periodically removed and disposed of within the Mile Post 7 tailings basin. The conveyor systems have water sprays for dust control; the runoff water from these sprays is collected by ditches and pipes in the dock area, and routed east to the general plant runoff collection system.

Runoff from the easternmost part of the Davis Works, including aboveground tanks, the former Carpenter Shop, Paint Shop, Belt Shop and assorted other shops presently used only for dry storage, is directed to a vegetated infiltration swale.

The sewage generated at the Davis Works is routed to the Silver Bay municipal sanitary sewage treatment system. Wash and floor drain wastewater generated inside the Truck Repair Shop, as well as all wastewater generated in the Davis Works Concentrator and Power Plant analytical laboratories, also are routed to the municipal sanitary system.

Some wastewater from the Davis Works Power Plant (a two-unit, coal-, natural gas-, and oil-fueled steam electric generating plant) also is routed to the Mile Post 7 tailings basin. Lake Superior water appropriated for cooling use at the Power Plant is pumped at a design intake flow of 137 MGD through a trash screen with 2.5-inch vertical bar openings, across 3/8-inch mesh traveling screens at a through-screen design intake velocity of 0.8 ft/sec, and through pipe station SW005 (formerly station 902). Intake screen rinse water is returned to the intake sump. Solid debris cleaned from the intake screens is deposited onto the runoff collection area at the Davis Works.

The combined maximum generating capacity of the Power Plant is 125 megawatts. The once-through non-contact condenser cooling, turbine generator oil cooling, and hydrogen cooling wastewater used at the Power Plant are discharged through submerged pipe outfall SD003 (formerly outfall 020) to Lake Superior at average and maximum rates of 130 and 177 MGD; no chemical additives, including chlorine, are present in this discharge.

The following Power Plant waste streams are routed to the Concentrator clarifiers and pumped to Mile Post 7 with the fine tailings and associated wastewaters, at approximately the indicated rates:

Fan Non-Contact Cooling Wastewater	0.35 MGD
Boiler Feed and Preheater Pumps Non-Contact Cooling Wastewater	0.19 MGD
Coal Mill Non-Contact Cooling Wastewater	0.13 MGD
Air Heater Non-Contact Cooling Wastewater	0.09 MGD
Seal Oil Non-contact Cooling Wastewater	0.06 MGD
Diesel Generator Non-Contact Cooling Wastewater	0.2 MGD
Boiler Blowdown Wastewater	0.03 MGD
Heating System Evaporators	0.011 MGD
Ion Exchange, Demineralizer and Softener Bed Regeneration Wastewaters	0.007 MGD
Boiler Water Seal Drainage Wastewater	0.2 MGD
Floor and Equipment Drainage Wastewater	0.1 MGD

All of the water that supplies the above flows is pumped directly from Lake Superior, at a rate of approximately 1.0 MGD.

The coal feed to the Power Plant boilers is not washed. Neither the air preheaters nor the boiler fireside at the Power Plant are washed; these are cleaned mechanically, and the dry wastes are combined with the bottom ash waste. The heater and condenser tubes (which are copper, nickel and brass) are cleaned by a contractor periodically with sodium hydroxide, ammonium bromate and ethylenediaminetetracetic acid. These chemical metal cleaning wastewaters are containerized by the contractor and properly disposed of at another facility (as monitored through station WS008), or are incinerated at the Power Plant and the resultant ash is disposed of jointly with the Power Plant bottom ash. Power Plant fly ash is collected by baghouses and sold for beneficial reuse or conveyed with the bottom ash, above-mentioned air pre-heater and boiler fireside cleaning wastes, chemical metal cleaning waste incineration ash, and unburned pyritic coal fines.

At Mile Post 7, the fine tailings slurry is spigotted at an average flow rate of 10.8 MGD. An emergency fine tailings slurry inflow pipe to the tailings basin is located in the SW¼, NE¼, Section 4, T55N, R7W. The coarse tailings are deposited to create at least a 3-ft thick capping layer over the fine tailings beaches. (Coarse tailings not required as fine tailings cover are placed alongside the perimeter railroad tracks in the basin and upstream of the dams.) The coarse tailings surface is treated with water and/or chemical dust suppressants, and fertilized to help establish permanent vegetation.

Sets of piezometers and pressure relief wells are located at the toes of Dams 1 and 2. Eleven groups of monitoring wells are located around the tailings basin: well stations 1, 1A, 1B, 2, 2A, 3, 6, 6A, 10, 10A, GW008 (well 12), GW009 (12A), GW010 (12Bb), GW011 (13) and GW012 (13A) near Dam 1; and monitoring stations GW001 (well 5), GW002 (5A), GW013 (5Bb), 7, 7A, 7B, 9, 9A, 11 and 11A near Dam 2. Well stations GW004 (well 10), GW005 (10A), GW006 (11) and GW007 (11A) are upgradient background stations.

Seepage Recovery Dam 2 collects Dam 2 seepage, including flow from the Dam 2 pressure relief wells; this seepage is pumped back to the basin. Seepage Recovery Dam 2 also includes two pressure relief wells, which discharge together with nearby collected seepage through weir outfall SD005 to an unnamed tributary to the East Branch of the Beaver River, at a combined maximum rate of 0.003 MGD. Seepage Recovery Dams 1A and 1B collect Dam 1 seepage, including flow from the Dam 1 pressure relief wells; this seepage is pumped back to the basin. Water from Seepage Recovery Pond 5, on the exterior side of Dam 5, is pumped to the Mile Post 7 Reclaim Pond.

The process makeup water supply for the Concentrator is pumped from a reclaim floating pumphouse at the Reclaim Pond, through a buried reclaim water pipeline that parallels the fine tailings pipelines. Excess wastewater in the Mile Post 7 basin is pumped through pipe station WS001 (formerly station 900) to a wastewater treatment plant. The pump stations for both the plant reclaim water and the treatment plant in the Reclaim Pond are separated from rest of the tailings basin by a coarse tailings filter dike, which includes a bypass weir. The treatment plant consists of chemical addition using four multimedia filter beds and related equipment. Backwash from the filter beds is routed to Seepage Recovery Pond 1B. The plant design criteria are described in a March 1984 document, "Report on Mile Post 7 Tailings Disposal System Excess Water Discharge." The treatment plant discharges through pipe outfall SD001 (formerly outfall 010, also referred to for continuous effluent turbidimeter monitoring as outfall SD002, as outfall SD006 for reporting fiber monitoring results, and as outfall SD008 for reporting twelve-month

average fluoride results), at average and maximum design rates of 4.0 MGD and 5.0 MGD, to the Beaver River, which flows to Lake Superior.

A maintenance shop for the mobile equipment used in the Mile Post 7 area is located near the west side of the tailings basin. The surface runoff from this shop area flows to Seepage Recovery Pond 1A. The sewage generated at this shop is treated by a septic tank-drainfield, at a rate of less than 10,000 gal/day. Floorwash, following oil/water separator treatment, also is routed to this septic tank-drainfield.

Occasional maintenance dredging is conducted to remove sediments from the outfall SD003 flow channel in Lake Superior; these dredged materials, as monitored by station WS013, are temporarily stored at the Davis Works, and are either beneficially reused at the Davis Works or permanently disposed of into the Milepost 7 tailings basin.

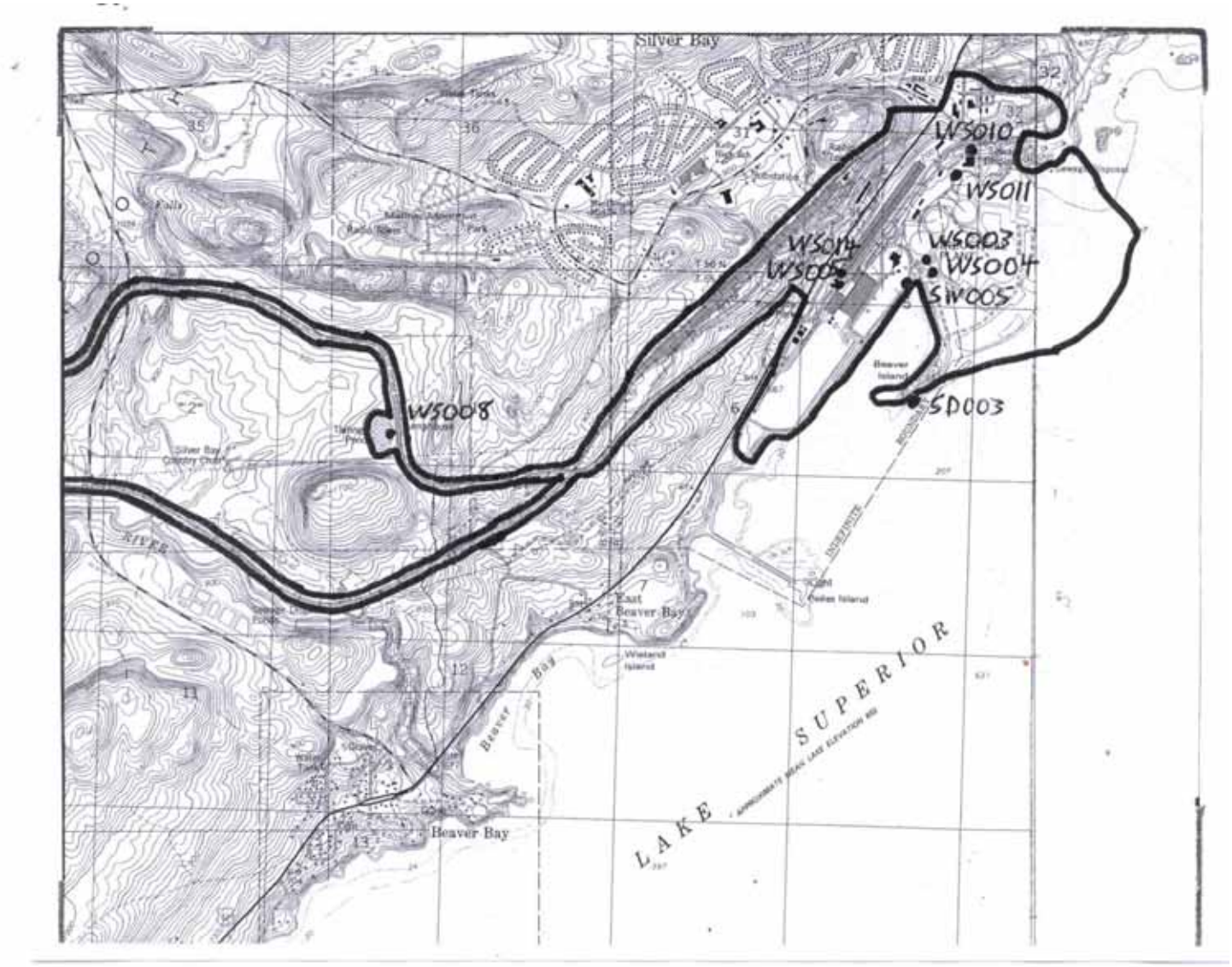
The water used for dust control at the Davis Works area is obtained directly from Lake Superior at an average rate of approximately 1.1 MGD, and at the Mile Post 7 area is obtained from Seepage Recovery Pond 1A and the West Catchment Diversion.

This permit includes surface water monitoring stations SW004 and SW001 (formerly stations 101 and 102, the latter at County Road 4) in the East Branch of the Beaver River, stations SW002 (formerly station 105, at County Road 3) and SW003 (formerly 106, at Glenn Avon) in the Beaver River, and station SW006 (formerly 108) in Bear Lake. Stations SW011 through SW014 are parallel stations for reporting fiber monitoring results. The Beaver River branches and tributaries, Big and Little Thirty-nine Creeks are class 1B, 2A, 3B, 3C, 4A, 4B, 5 and 6 waters, and also are Outstanding International Resource Waters. Marina Creek, White Rock Creek, Bear Lake are class 2B, 3B, 4A, 4B, 5 and 6 waters, and also are Outstanding International Resource Waters. Lake Superior is a class 1B, 2A, 3A, 3C, 4A, 4B, 5 and 6 water, and also is an Outstanding Resource Value Water. The location of the facility and the designated monitoring stations is shown on the maps on pages 8 and 9.

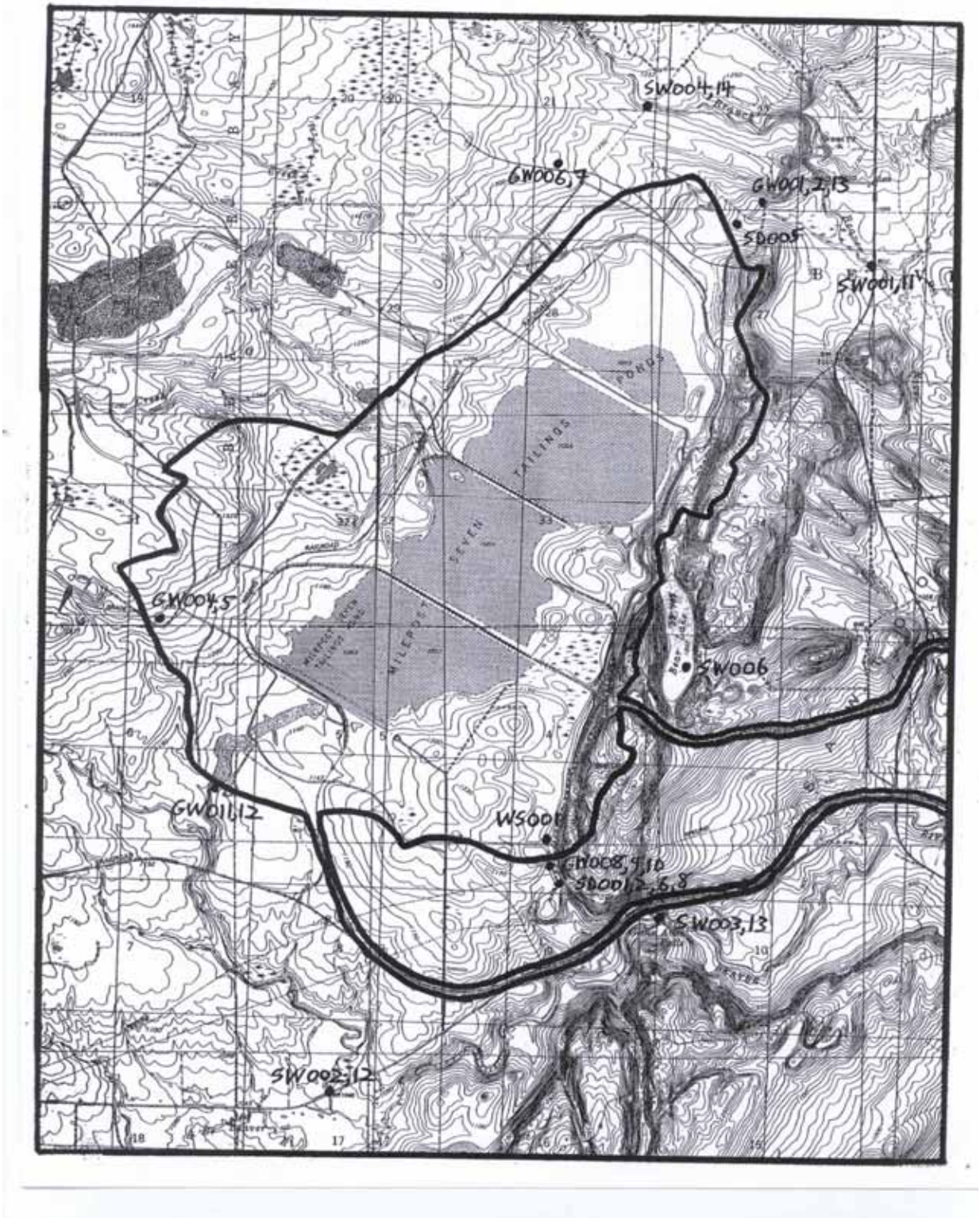
The proposed addition of two additional filter units to the Mile Post 7 Wastewater Treatment Plant will allow for an increase in the discharge volume of up to 50%. After the installation of a minimum of two dual media filter units (for a total of 6 filter units), the treatment plant discharge through pipe outfall SD001 will have average and maximum design rates of 6.0 MGD and 7.5 MGD, to the Beaver River, which flows to Lake Superior.

Topographic Maps of Permitted Facility

E.W. Davis Works



Mile Post 7 Tailings Basin



Northshore Mining Co - Silver Bay
Summary of Stations

Ground Water Stations

Station	Type of Station	Local Name	PLS Location
GW001	Well, Downgradient	Ground Water Monitoring Well #5	NE Quarter of the NE Quarter of the NW Quarter of Section 27, Township 56 North, Range 8 West
GW002	Well, Downgradient	Ground Water Monitoring Well #5A	NE Quarter of the NE Quarter of the NW Quarter of Section 27, Township 56 North, Range 8 West
GW004	Well, Upgradient	Ground Water Monitoring Well #10	SW Quarter of the SW Quarter of the SE Quarter of Section 31, Township 56 North, Range 8 West
GW005	Well, Upgradient	Ground Water Monitoring Well #10A	SW Quarter of the SW Quarter of the SE Quarter of Section 31, Township 56 North, Range 8 West
GW006	Well, Upgradient	Ground Water Monitoring Well #11	SW Quarter of the NW Quarter of the SE Quarter of Section 21, Township 56 North, Range 8 West
GW007	Well, Upgradient	Ground Water Monitoring Well #11A	SW Quarter of the NW Quarter of the SE Quarter of Section 21, Township 56 North, Range 8 West
GW008	Well, Downgradient	Ground Water Monitoring Well #12	NW Quarter of the NW Quarter of the NE Quarter of Section 9, Township 55 North, Range 8 West
GW009	Well, Downgradient	Ground Water Monitoring Well #12A	NW Quarter of the NW Quarter of the NE Quarter of Section 9, Township 55 North, Range 8 West
GW010	Well, Downgradient	Ground Water Monitoring Well #12Bb	NW Quarter of the NW Quarter of the NE Quarter of Section 9, Township 55 North, Range 8 West
GW011	Well, Downgradient	Ground Water Monitoring Well #13	SE Quarter of Section 6, Township 55 North, Range 8 West
GW012	Well, Downgradient	Ground Water Monitoring Well #13A	SE Quarter of Section 6, Township 55 North, Range 8 West
GW013	Well, Downgradient	Ground Water Monitoring Well #5Bb	NE Quarter of the NE Quarter of the NW Quarter of Section 27, Township 56 North, Range 8 West

Surface Discharge Stations

Station	Type of Station	Local Name	PLS Location
SD001	Effluent To Surface Water	Mile Post 7 Pipe Outfall 010	NE Quarter of Section 9, Township 55 North, Range 8 West
SD002	Effluent To Surface Water	Outfall 010 - Continuous Turbidimeter	NE Quarter of Section 9, Township 55 North, Range 8 West
SD003	Effluent To Surface Water	Power Plant NCCW Pipe Outfall 020	NW Quarter of Section 5, Township 55 North, Range 7 West
SD004	Stormwater, Non-specific Runoff	MP7 precipitation & evaporation	NE Quarter of Section 33, Township 56 North, Range 8 West
SD005	Effluent To Surface Water	SRD-2 Relief Well R-12, -13, seep flows	NE Quarter of the NW Quarter of Section 27, Township 56 North, Range 8 West
SD006	Effluent To Surface Water	SD001 [Mile Post 7 Outfall 010] fibers	NE Quarter of Section 9, Township 55 North, Range 8 West
SD008	Effluent To Surface Water	SD001 [MP 7 Outfall 010] F-compliance	NE Quarter of Section 9, Township 55 North, Range 8 West

Surface Water Stations

Station	Type of Station	Local Name	PLS Location
SW001	Stream/River/Ditch, Downstream	Station 102 Co. Rd 4 E. Branch Beaver R.	NE Quarter of Section 27, Township 56 North, Range 8 West
SW002	Stream/River/Ditch, Downstream	Station 105 County Road 3 Beaver River	NW Quarter of Section 17, Township 55 North, Range 8 West
SW003	Stream/River/Ditch, Downstream	Station 106 Glenn Avon Falls, Beaver R.	NE Quarter of Section 9, Township 55 North, Range 8 West
SW004	Stream/River/Ditch, Upstream	Station 101, E. Br. Beaver R. upstream	NE Quarter of the SE Quarter of Section 21, Township 56 North, Range 8 West
SW005	Lake/Reservoir	Stn 902, L Superior Cooling Water intake	NW Quarter of the NW Quarter of the NW Quarter of Section 5, Township 55 North, Range 7 West
SW006	Lake/Reservoir	Bear Lake station 108	NW Quarter of the NW Quarter of Section 3, Township 55 North, Range 8 West

Northshore Mining Co - Silver Bay
Summary of Stations

Surface Water Stations

Station	Type of Station	Local Name	PLS Location
SW011	Stream/River/Ditch, Downstream	SW001 [station 102] fibers	NE Quarter of Section 27, Township 56 North, Range 8 West
SW012	Stream/River/Ditch, Downstream	SW002 [station 105] fibers	NW Quarter of Section 17, Township 55 North, Range 8 West
SW013	Stream/River/Ditch, Downstream	SW003 [station 106] fibers	NE Quarter of Section 9, Township 55 North, Range 8 West
SW014	Stream/River/Ditch, Upstream	SW004 [station 101] fibers	NW Quarter of the NE Quarter of Section 21, Township 56 North, Range 8 West

Waste Stream Stations

Station	Type of Station	Local Name	PLS Location
WS001	Influent Waste	Station 900 influent to MP7 WWTP	NE Quarter of the NE Quarter of the NW Quarter of Section 9, Township 55 North, Range 8 West
WS003	Influent Waste	Station 910 common sump, Conc. ovflows	SW Quarter of the SW Quarter of Section 32, Township 56 North, Range 7 West
WS004	Influent Waste	Ditch Station 950, 100 Ft SE of the Sump	SE Quarter of the SW Quarter of the SW Quarter of Section 32, Township 56 North, Range 7 West
WS005	Influent Waste	WWESP common flume station 990	NE Quarter of the NE Quarter of Section 6, Township 55 North, Range 7 West
WS006	Internal Waste Stream	Coherex as applied	NE Quarter of Section 33, Township 56 North, Range 8 West
WS007	Internal Waste Stream	Coarse tailings	NE Quarter of Section 33, Township 56 North, Range 8 West
WS008	Internal Waste Stream	Power plant cleaning wastes	NE Quarter of Section 33, Township 56 North, Range 8 West
WS010	Internal Waste Stream	Pump House 2 Tails Basin water elev	SW Quarter of Section 1, Township 55 North, Range 8 West
WS011	Internal Waste Stream	Fluoride materials to PDRDP	NE Quarter of the SW Quarter of Section 32, Township 56 North, Range 7 West
WS012	Internal Waste Stream	PDRDP combined wastewater to mill water	NE Quarter of the SW Quarter of Section 32, Township 56 North, Range 7 West
WS013	Solids to Land Disposal/Non-application	Dredged materials from outfall SD013	NW Quarter of Section 5, Township 55 North, Range 7 West
WS014	Internal Waste Stream	Treated Pellet Plant blowdown effluent	NE Quarter of the NE Quarter of Section 6, Township 55 North, Range 7 West

Northshore Mining Co - Silver Bay
Limits and Monitoring Requirements

The Permittee shall comply with the limits and monitoring requirements as specified below.

GW 001: Ground Water Monitoring Well #5

Parameter	Limit	Units	Limit Type	Effective Period	Sample Type	Frequency	Notes
Boron, Dissolved (as B)	600	ug/L	Instantaneous Maximum	May, Jul, Oct	Grab	1 x Month	
Chloride, Total	250	mg/L	Instantaneous Maximum Intervention	May, Jul, Oct	Grab	1 x Month	
Elevation of GW Relative to Mean Sea Level	Monitor Only	feet	Single Value	May, Jul, Oct	Measurement	1 x Month	13
Fluoride, Total (as F)	4.0	mg/L	Instantaneous Maximum	May, Jul, Oct	Grab	1 x Month	
Fluoride, Total (as F)	1.0	mg/L	Instantaneous Maximum Intervention	May, Jul, Oct	Grab	1 x Month	
pH	Monitor Only	SU	Single Value	May, Jul, Oct	Grab	1 x Month	4
Solids, Total Dissolved (TDS)	500	mg/L	Instantaneous Maximum Intervention	May, Jul, Oct	Grab	1 x Month	
Specific Conductance	Monitor Only	umh/cm	Single Value	May, Jul, Oct	Grab	1 x Month	4
Sulfate, Total (as SO4)	250	mg/L	Instantaneous Maximum Intervention	May, Jul, Oct	Grab	1 x Month	
Temperature, Water	Monitor Only	Deg C	Single Value	May, Jul, Oct	Measurement, Instantaneous	1 x Month	4

GW 002: Ground Water Monitoring Well #5A

Parameter	Limit	Units	Limit Type	Effective Period	Sample Type	Frequency	Notes
Boron, Dissolved (as B)	600	ug/L	Instantaneous Maximum	May, Jul, Oct	Grab	1 x Month	
Chloride, Total	250	mg/L	Instantaneous Maximum Intervention	May, Jul, Oct	Grab	1 x Month	
Elevation of GW Relative to Mean Sea Level	Monitor Only	feet	Single Value	May, Jul, Oct	Measurement	1 x Month	13
Fluoride, Total (as F)	4.0	mg/L	Instantaneous Maximum	May, Jul, Oct	Grab	1 x Month	
Fluoride, Total (as F)	1.0	mg/L	Instantaneous Maximum Intervention	May, Jul, Oct	Grab	1 x Month	
pH	Monitor Only	SU	Single Value	May, Jul, Oct	Grab	1 x Month	4
Solids, Total Dissolved (TDS)	500	mg/L	Instantaneous Maximum Intervention	May, Jul, Oct	Grab	1 x Month	
Specific Conductance	Monitor Only	umh/cm	Single Value	May, Jul, Oct	Grab	1 x Month	4
Sulfate, Total (as SO4)	250	mg/L	Instantaneous Maximum Intervention	May, Jul, Oct	Grab	1 x Month	
Temperature, Water	Monitor Only	Deg C	Single Value	May, Jul, Oct	Measurement, Instantaneous	1 x Month	4

GW 004: Ground Water Monitoring Well #10

Parameter	Limit	Units	Limit Type	Effective Period	Sample Type	Frequency	Notes
Boron, Dissolved (as B)	Monitor Only	ug/L	Single Value	May, Jul, Oct	Grab	1 x Month	
Chloride, Total	Monitor Only	mg/L	Single Value	May, Jul, Oct	Grab	1 x Month	

Northshore Mining Co - Silver Bay
Limits and Monitoring Requirements

The Permittee shall comply with the limits and monitoring requirements as specified below.

GW 004: Ground Water Monitoring Well #10

Parameter	Limit	Units	Limit Type	Effective Period	Sample Type	Frequency	Notes
Elevation of GW Relative to Mean Sea Level	Monitor Only	feet	Single Value	May, Jul, Oct	Measurement	1 x Month	13
Fluoride, Total (as F)	Monitor Only	mg/L	Single Value	May, Jul, Oct	Grab	1 x Month	
pH	Monitor Only	SU	Single Value	May, Jul, Oct	Grab	1 x Month	4
Solids, Total Dissolved (TDS)	Monitor Only	mg/L	Single Value	May, Jul, Oct	Grab	1 x Month	
Specific Conductance	Monitor Only	umh/cm	Single Value	May, Jul, Oct	Grab	1 x Month	4
Sulfate, Total (as SO4)	Monitor Only	mg/L	Single Value	May, Jul, Oct	Grab	1 x Month	
Temperature, Water	Monitor Only	Deg C	Single Value	May, Jul, Oct	Measurement, Instantaneous	1 x Month	4

GW 005: Ground Water Monitoring Well #10A

Parameter	Limit	Units	Limit Type	Effective Period	Sample Type	Frequency	Notes
Boron, Dissolved (as B)	Monitor Only	ug/L	Single Value	May, Jul, Oct	Grab	1 x Month	
Chloride, Total	Monitor Only	mg/L	Single Value	May, Jul, Oct	Grab	1 x Month	
Elevation of GW Relative to Mean Sea Level	Monitor Only	feet	Single Value	May, Jul, Oct	Measurement	1 x Month	13
Fluoride, Total (as F)	Monitor Only	mg/L	Single Value	May, Jul, Oct	Grab	1 x Month	
pH	Monitor Only	SU	Single Value	May, Jul, Oct	Grab	1 x Month	4
Solids, Total Dissolved (TDS)	Monitor Only	mg/L	Single Value	May, Jul, Oct	Grab	1 x Month	
Specific Conductance	Monitor Only	umh/cm	Single Value	May, Jul, Oct	Grab	1 x Month	4
Sulfate, Total (as SO4)	Monitor Only	mg/L	Single Value	May, Jul, Oct	Grab	1 x Month	
Temperature, Water	Monitor Only	Deg C	Single Value	May, Jul, Oct	Measurement, Instantaneous	1 x Month	4

GW 006: Ground Water Monitoring Well #11

Parameter	Limit	Units	Limit Type	Effective Period	Sample Type	Frequency	Notes
Boron, Dissolved (as B)	Monitor Only	ug/L	Single Value	May, Jul, Oct	Grab	1 x Month	
Chloride, Total	Monitor Only	mg/L	Single Value	May, Jul, Oct	Grab	1 x Month	
Elevation of GW Relative to Mean Sea Level	Monitor Only	feet	Single Value	May, Jul, Oct	Measurement	1 x Month	13
Fluoride, Total (as F)	Monitor Only	mg/L	Single Value	May, Jul, Oct	Grab	1 x Month	
pH	Monitor Only	SU	Single Value	May, Jul, Oct	Grab	1 x Month	4
Solids, Total Dissolved (TDS)	Monitor Only	mg/L	Single Value	May, Jul, Oct	Grab	1 x Month	

Northshore Mining Co - Silver Bay
Limits and Monitoring Requirements

The Permittee shall comply with the limits and monitoring requirements as specified below.

GW 006: Ground Water Monitoring Well #11

Parameter	Limit	Units	Limit Type	Effective Period	Sample Type	Frequency	Notes
Specific Conductance	Monitor Only	umh/cm	Single Value	May, Jul, Oct	Grab	1 x Month	4
Sulfate, Total (as SO4)	Monitor Only	mg/L	Single Value	May, Jul, Oct	Grab	1 x Month	
Temperature, Water	Monitor Only	Deg C	Single Value	May, Jul, Oct	Measurement, Instantaneous	1 x Month	4

GW 007: Ground Water Monitoring Well #11A

Parameter	Limit	Units	Limit Type	Effective Period	Sample Type	Frequency	Notes
Boron, Dissolved (as B)	Monitor Only	ug/L	Single Value	May, Jul, Oct	Grab	1 x Month	
Chloride, Total	Monitor Only	mg/L	Single Value	May, Jul, Oct	Grab	1 x Month	
Elevation of GW Relative to Mean Sea Level	Monitor Only	feet	Single Value	May, Jul, Oct	Measurement	1 x Month	13
Fluoride, Total (as F)	Monitor Only	mg/L	Single Value	May, Jul, Oct	Grab	1 x Month	
pH	Monitor Only	SU	Single Value	May, Jul, Oct	Grab	1 x Month	4
Solids, Total Dissolved (TDS)	Monitor Only	mg/L	Single Value	May, Jul, Oct	Grab	1 x Month	
Specific Conductance	Monitor Only	umh/cm	Single Value	May, Jul, Oct	Grab	1 x Month	4
Sulfate, Total (as SO4)	Monitor Only	mg/L	Single Value	May, Jul, Oct	Grab	1 x Month	
Temperature, Water	Monitor Only	Deg C	Single Value	May, Jul, Oct	Measurement, Instantaneous	1 x Month	4

GW 008: Ground Water Monitoring Well #12

Parameter	Limit	Units	Limit Type	Effective Period	Sample Type	Frequency	Notes
Boron, Dissolved (as B)	600	ug/L	Instantaneous Maximum	May, Jul, Oct	Grab	1 x Month	
Chloride, Total	250	mg/L	Instantaneous Maximum Intervention	May, Jul, Oct	Grab	1 x Month	
Elevation of GW Relative to Mean Sea Level	Monitor Only	feet	Single Value	May, Jul, Oct	Measurement	1 x Month	13
Fluoride, Total (as F)	4.0	mg/L	Instantaneous Maximum	May, Jul, Oct	Grab	1 x Month	
Fluoride, Total (as F)	1.2	mg/L	Instantaneous Maximum Intervention	May, Jul, Oct	Grab	1 x Month	
pH	Monitor Only	SU	Single Value	May, Jul, Oct	Grab	1 x Month	4
Solids, Total Dissolved (TDS)	500	mg/L	Instantaneous Maximum Intervention	May, Jul, Oct	Grab	1 x Month	
Specific Conductance	Monitor Only	umh/cm	Single Value	May, Jul, Oct	Grab	1 x Month	4
Sulfate, Total (as SO4)	250	mg/L	Instantaneous Maximum Intervention	May, Jul, Oct	Grab	1 x Month	
Temperature, Water	Monitor Only	Deg C	Single Value	May, Jul, Oct	Measurement, Instantaneous	1 x Month	4

Northshore Mining Co - Silver Bay
Limits and Monitoring Requirements

The Permittee shall comply with the limits and monitoring requirements as specified below.

GW 009: Ground Water Monitoring Well #12A

Parameter	Limit	Units	Limit Type	Effective Period	Sample Type	Frequency	Notes
Boron, Dissolved (as B)	600	ug/L	Instantaneous Maximum	May, Jul, Oct	Grab	1 x Month	
Chloride, Total	250	mg/L	Instantaneous Maximum Intervention	May, Jul, Oct	Grab	1 x Month	
Elevation of GW Relative to Mean Sea Level	Monitor Only	feet	Single Value	May, Jul, Oct	Measurement	1 x Month	13
Fluoride, Total (as F)	4.0	mg/L	Instantaneous Maximum	May, Jul, Oct	Grab	1 x Month	
Fluoride, Total (as F)	1.0	mg/L	Instantaneous Maximum Intervention	May, Jul, Oct	Grab	1 x Month	
pH	Monitor Only	SU	Single Value	May, Jul, Oct	Grab	1 x Month	4
Solids, Total Dissolved (TDS)	500	mg/L	Instantaneous Maximum Intervention	May, Jul, Oct	Grab	1 x Month	
Specific Conductance	Monitor Only	umh/cm	Single Value	May, Jul, Oct	Grab	1 x Month	4
Sulfate, Total (as SO4)	250	mg/L	Instantaneous Maximum Intervention	May, Jul, Oct	Grab	1 x Month	
Temperature, Water	Monitor Only	Deg C	Single Value	May, Jul, Oct	Measurement, Instantaneous	1 x Month	4

GW 010: Ground Water Monitoring Well #12Bb

Parameter	Limit	Units	Limit Type	Effective Period	Sample Type	Frequency	Notes
Boron, Dissolved (as B)	600	ug/L	Instantaneous Maximum	May, Jul, Oct	Grab	1 x Month	
Chloride, Total	250	mg/L	Instantaneous Maximum Intervention	May, Jul, Oct	Grab	1 x Month	
Elevation of GW Relative to Mean Sea Level	Monitor Only	feet	Single Value	May, Jul, Oct	Measurement	1 x Month	13
Fluoride, Total (as F)	4.0	mg/L	Instantaneous Maximum	May, Jul, Oct	Grab	1 x Month	
Fluoride, Total (as F)	1.0	mg/L	Instantaneous Maximum Intervention	May, Jul, Oct	Grab	1 x Month	
pH	Monitor Only	SU	Single Value	May, Jul, Oct	Grab	1 x Month	4
Solids, Total Dissolved (TDS)	500	mg/L	Instantaneous Maximum Intervention	May, Jul, Oct	Grab	1 x Month	
Specific Conductance	Monitor Only	umh/cm	Single Value	May, Jul, Oct	Grab	1 x Month	4
Sulfate, Total (as SO4)	250	mg/L	Instantaneous Maximum Intervention	May, Jul, Oct	Grab	1 x Month	
Temperature, Water	Monitor Only	Deg C	Single Value	May, Jul, Oct	Measurement, Instantaneous	1 x Month	4

GW 011: Ground Water Monitoring Well #13

Parameter	Limit	Units	Limit Type	Effective Period	Sample Type	Frequency	Notes
Boron, Dissolved (as B)	600	ug/L	Instantaneous Maximum	May, Jul, Oct	Grab	1 x Month	
Chloride, Total	250	mg/L	Instantaneous Maximum Intervention	May, Jul, Oct	Grab	1 x Month	

Northshore Mining Co - Silver Bay
Limits and Monitoring Requirements

The Permittee shall comply with the limits and monitoring requirements as specified below.

GW 011: Ground Water Monitoring Well #13

Parameter	Limit	Units	Limit Type	Effective Period	Sample Type	Frequency	Notes
Elevation of GW Relative to Mean Sea Level	Monitor Only	feet	Single Value	May, Jul, Oct	Measurement	1 x Month	13
Fluoride, Total (as F)	4.0	mg/L	Instantaneous Maximum	May, Jul, Oct	Grab	1 x Month	
Fluoride, Total (as F)	1.5	mg/L	Instantaneous Maximum Intervention	May, Jul, Oct	Grab	1 x Month	
pH	Monitor Only	SU	Single Value	May, Jul, Oct	Grab	1 x Month	4
Solids, Total Dissolved (TDS)	500	mg/L	Instantaneous Maximum Intervention	May, Jul, Oct	Grab	1 x Month	
Specific Conductance	Monitor Only	umh/cm	Single Value	May, Jul, Oct	Grab	1 x Month	4
Sulfate, Total (as SO4)	250	mg/L	Instantaneous Maximum Intervention	May, Jul, Oct	Grab	1 x Month	
Temperature, Water	Monitor Only	Deg C	Single Value	May, Jul, Oct	Measurement, Instantaneous	1 x Month	4

GW 012: Ground Water Monitoring Well #13A

Parameter	Limit	Units	Limit Type	Effective Period	Sample Type	Frequency	Notes
Boron, Dissolved (as B)	600	ug/L	Instantaneous Maximum	May, Jul, Oct	Grab	1 x Month	
Chloride, Total	250	mg/L	Instantaneous Maximum Intervention	May, Jul, Oct	Grab	1 x Month	
Elevation of GW Relative to Mean Sea Level	Monitor Only	feet	Single Value	May, Jul, Oct	Measurement	1 x Month	13
Fluoride, Total (as F)	4.0	mg/L	Instantaneous Maximum	May, Jul, Oct	Grab	1 x Month	
Fluoride, Total (as F)	1.5	mg/L	Instantaneous Maximum Intervention	May, Jul, Oct	Grab	1 x Month	
pH	Monitor Only	SU	Single Value	May, Jul, Oct	Grab	1 x Month	4
Solids, Total Dissolved (TDS)	500	mg/L	Instantaneous Maximum Intervention	May, Jul, Oct	Grab	1 x Month	
Specific Conductance	Monitor Only	umh/cm	Single Value	May, Jul, Oct	Grab	1 x Month	4
Sulfate, Total (as SO4)	250	mg/L	Instantaneous Maximum Intervention	May, Jul, Oct	Grab	1 x Month	
Temperature, Water	Monitor Only	Deg C	Single Value	May, Jul, Oct	Measurement, Instantaneous	1 x Month	4

GW 013: Ground Water Monitoring Well #5Bb

Parameter	Limit	Units	Limit Type	Effective Period	Sample Type	Frequency	Notes
Boron, Dissolved (as B)	600	ug/L	Instantaneous Maximum	May, Jul, Oct	Grab	1 x Month	
Chloride, Total	250	mg/L	Instantaneous Maximum Intervention	May, Jul, Oct	Grab	1 x Month	
Elevation of GW Relative to Mean Sea Level	Monitor Only	feet	Single Value	May, Jul, Oct	Measurement	1 x Month	13
Fluoride, Total (as F)	4.0	mg/L	Instantaneous Maximum	May, Jul, Oct	Grab	1 x Month	

The Permittee shall comply with the limits and monitoring requirements as specified below.

GW 013: Ground Water Monitoring Well #5Bb

Parameter	Limit	Units	Limit Type	Effective Period	Sample Type	Frequency	Notes
Fluoride, Total (as F)	1.0	mg/L	Instantaneous Maximum Intervention	May, Jul, Oct	Grab	1 x Month	
pH	Monitor Only	SU	Single Value	May, Jul, Oct	Grab	1 x Month	4
Solids, Total Dissolved (TDS)	500	mg/L	Instantaneous Maximum Intervention	May, Jul, Oct	Grab	1 x Month	
Specific Conductance	Monitor Only	umh/cm	Single Value	May, Jul, Oct	Grab	1 x Month	4
Sulfate, Total (as SO4)	250	mg/L	Instantaneous Maximum Intervention	May, Jul, Oct	Grab	1 x Month	
Temperature, Water	Monitor Only	Deg C	Single Value	May, Jul, Oct	Measurement, Instantaneous	1 x Month	4

SD 001: Mile Post 7 Pipe Outfall 010

Parameter	Limit	Units	Limit Type	Effective Period	Sample Type	Frequency	Notes
Amines, Organic Total	Monitor Only	mg/L	Calendar Month Maximum	Aug	Grab	1 x Month	
Bicarbonates	Monitor Only	mg/L	Calendar Month Maximum	Mar, Jun, Sep, Dec	Grab	1 x Month	
Calcium, Total (as Ca)	Monitor Only	mg/L	Calendar Month Maximum	Mar, Jun, Sep, Dec	Grab	1 x Month	
Cations, Total	Monitor Only	meq/L	Calendar Month Maximum	Mar, Jun, Sep, Dec	Calculation	1 x Month	
Chloride, Total	Monitor Only	mg/L	Calendar Month Maximum	Jan-Dec	Grab	1 x Month	
Copper, Total (as Cu)	Monitor Only	ug/L	Calendar Month Maximum	Aug	Grab	1 x Month	
Flow	Monitor Only	mgd	Calendar Month Average	Jan-Dec	Measurement, Continuous	1 x Day	
Flow	Monitor Only	MG	Calendar Month Total	Jan-Dec	Measurement, Continuous	1 x Day	
Flow	Monitor Only	mgd	Daily Maximum	Jan-Dec	Measurement, Continuous	1 x Day	
Fluoride, Total (as F)	2.5	mg/L	Calendar Month Average	Jan-Dec	Grab	2 x Month	
Fluoride, Total (as F)	3.0	mg/L	Daily Maximum	Jan-Dec	Grab	2 x Month	
Iron, Dissolved (as Fe)	1.0	mg/L	Calendar Month Average	Jan-Dec	Grab	1 x Month	
Iron, Dissolved (as Fe)	2.0	mg/L	Daily Maximum	Jan-Dec	Grab	1 x Month	
Magnesium, Total (as Mg)	Monitor Only	mg/L	Calendar Month Maximum	Mar, Jun, Sep, Dec	Grab	1 x Month	
Mercury, Total (as Hg)	Monitor Only	ng/L	Calendar Month Maximum	Mar, Jun, Sep, Dec	Grab	1 x Month	
Molybdenum, Total (as Mo)	Monitor Only	ug/L	Calendar Month Average	Jan-Dec	Grab	1 x Month	
Molybdenum, Total (as Mo)	105	ug/L	Instantaneous Maximum Intervention	Jan-Dec	Grab	1 x Month	
Organics, Diesel Range as diesel, Total	Monitor Only	ug/L	Calendar Month Maximum	Jan-Dec	Grab	1 x Month	
pH	8.5	SU	Instantaneous Maximum	Jan-Dec	Grab	1 x Month	

Northshore Mining Co - Silver Bay
Limits and Monitoring Requirements

The Permittee shall comply with the limits and monitoring requirements as specified below.

SD 001: Mile Post 7 Pipe Outfall 010

Parameter	Limit	Units	Limit Type	Effective Period	Sample Type	Frequency	Notes
pH	6.5	SU	Instantaneous Minimum	Jan-Dec	Grab	1 x Month	
Potassium, Total (as K)	Monitor Only	mg/L	Calendar Month Maximum	Mar, Jun, Sep, Dec	Grab	1 x Month	
Sodium, % Total Cations in meq/L	Monitor Only	%	Calendar Month Maximum	Mar, Jun, Sep, Dec	Calculation	1 x Month	
Sodium, Total (as Na)	Monitor Only	mg/L	Calendar Month Maximum	Mar, Jun, Sep, Dec	Grab	1 x Month	
Solids, Total Suspended (TSS)	20	mg/L	Calendar Month Average	Jan-Dec	Grab	1 x Month	
Solids, Total Suspended (TSS)	30	mg/L	Daily Maximum	Jan-Dec	Grab	1 x Month	
Specific Conductance	Monitor Only	umh/cm	Calendar Month Average	Jan-Dec	Grab	2 x Month	
Specific Conductance	Monitor Only	umh/cm	Daily Maximum	Jan-Dec	Grab	2 x Month	
Sulfate, Total (as SO4)	Monitor Only	mg/L	Calendar Month Maximum	Jan-Dec	Grab	1 x Month	
Toxicity, Whole Effluent (Chronic)	1.02	TUc	Calendar Month Average	Aug	Laboratory Method	1 x Month	25
Turbidity	3.0	NTU	Calendar Month Average	Jan-Dec	Grab	1 x Week	
Turbidity	Monitor Only	NTU	Daily Maximum	Jan-Dec	Grab	1 x Week	

SD 002: Outfall 010 - Continuous Turbidimeter

Parameter	Limit	Units	Limit Type	Effective Period	Sample Type	Frequency	Notes
Turbidity	3.0	NTU	Calendar Month Average	Jan-Dec	Measurement, Continuous	1 x Day	
Turbidity	0.4	NTU	Instantaneous Maximum Intervention	Jan-Dec	Measurement, Continuous	1 x Day	20

SD 003: Power Plant NCCW Pipe Outfall 020

Parameter	Limit	Units	Limit Type	Effective Period	Sample Type	Frequency	Notes
Copper, Total (as Cu)	Monitor Only	ug/L	Calendar Month Maximum	Aug	Grab	1 x Month	
Flow	Monitor Only	mgd	Calendar Month Average	Jan-Dec	Measurement, Continuous	1 x Day	
Flow	Monitor Only	MG	Calendar Month Total	Jan-Dec	Measurement, Continuous	1 x Day	
Flow	Monitor Only	mgd	Daily Maximum	Jan-Dec	Measurement, Continuous	1 x Day	
Lead, Total (as Pb)	Monitor Only	ug/L	Calendar Month Maximum	Aug	Grab	1 x Month	
pH	9.0	SU	Instantaneous Maximum	Jan-Dec	Grab	2 x Month	
pH	6.0	SU	Instantaneous Minimum	Jan-Dec	Grab	2 x Month	
Plant Capacity Factor, Percent of Capacity	Monitor Only	%	Calendar Month Average	Jan-Dec	Measurement	1 x Day	

The Permittee shall comply with the limits and monitoring requirements as specified below.

SD 003: Power Plant NCCW Pipe Outfall 020

Parameter	Limit	Units	Limit Type	Effective Period	Sample Type	Frequency	Notes
Plant Capacity Factor, Percent of Capacity	Monitor Only	%	Daily Maximum	Jan-Dec	Measurement	1 x Day	
Temperature Difference Between Sample & Reference Point in C	Monitor Only	Deg C	Calendar Month Average	Jan-Dec	Calculation	1 x Month	5
Temperature Difference Between Sample & Reference Point in C	Monitor Only	Deg C	Calendar Month Maximum	Jan-Dec	Calculation	1 x Month	5
Temperature, Water	Monitor Only	Deg C	Calendar Month Average	Jan-Dec	Measurement, Continuous	1 x Day	23
Temperature, Water	Monitor Only	Deg C	Daily Maximum	Jan-Dec	Measurement, Continuous	1 x Day	23
Waste Heat Reduction Rate	636	mbtuhr	Calendar Month Average	Jan-Dec	Calculation	1 x Day	8
Waste Heat Reduction Rate	795	mbtuhr	Daily Maximum	Jan-Dec	Calculation	1 x Day	8

SD 004: MP7 precipitation & evaporation

Parameter	Limit	Units	Limit Type	Effective Period	Sample Type	Frequency	Notes
Evaporation, Accumulated	Monitor Only	in	Calendar Month Total	Jan-Dec	Measurement	1 x Month	12
Flow	Monitor Only	MG	Calendar Month Total	Jan-Dec	Measurement, Continuous	1 x Month	22
Precipitation	Monitor Only	in	Calendar Month Total	Jan-Dec	Measurement	1 x Month	11

SD 005: SRD-2 Relief Well R-12, -13, seep flows

Parameter	Limit	Units	Limit Type	Effective Period	Sample Type	Frequency	Notes
Bicarbonates	Monitor Only	mg/L	Calendar Month Maximum	Mar, Jun, Sep, Dec	Grab	1 x Month	
Boron, Total (as B)	Monitor Only	mg/L	Calendar Month Maximum	Mar, Jun, Sep, Dec	Grab	1 x Month	
Calcium, Total (as Ca)	Monitor Only	mg/L	Calendar Month Maximum	Mar, Jun, Sep, Dec	Grab	1 x Month	
Cations, Total	Monitor Only	meq/L	Calendar Month Maximum	Mar, Jun, Sep, Dec	Calculation	1 x Month	
Chloride, Total	Monitor Only	mg/L	Calendar Month Maximum	Mar, Jun, Sep, Dec	Grab	1 x Month	
Flow	Monitor Only	mgd	Calendar Month Average	Mar, Jun, Sep, Dec	Measurement, Instantaneous	1 x Month	
Flow	Monitor Only	MG	Calendar Month Total	Mar, Jun, Sep, Dec	Measurement, Instantaneous	1 x Month	
Flow	Monitor Only	mgd	Daily Maximum	Mar, Jun, Sep, Dec	Measurement, Instantaneous	1 x Month	
Fluoride, Total (as F)	Monitor Only	mg/L	Calendar Month Maximum	Mar, Jun, Sep, Dec	Grab	1 x Month	
Iron, Dissolved (as Fe)	1.0	mg/L	Calendar Month Average	Mar, Jun, Sep, Dec	Grab	1 x Month	
Iron, Dissolved (as Fe)	2.0	mg/L	Daily Maximum	Mar, Jun, Sep, Dec	Grab	1 x Month	
Magnesium, Total (as Mg)	Monitor Only	mg/L	Calendar Month Maximum	Mar, Jun, Sep, Dec	Grab	1 x Month	

Northshore Mining Co - Silver Bay
Limits and Monitoring Requirements

The Permittee shall comply with the limits and monitoring requirements as specified below.

SD 005: SRD-2 Relief Well R-12, -13, seep flows

Parameter	Limit	Units	Limit Type	Effective Period	Sample Type	Frequency	Notes
Molybdenum, Total (as Mo)	Monitor Only	ug/L	Calendar Month Maximum	Mar, Jun, Sep, Dec	Grab	1 x Month	
pH	9.0	SU	Instantaneous Maximum	Mar, Jun, Sep, Dec	Grab	1 x Month	
pH	6.0	SU	Instantaneous Minimum	Mar, Jun, Sep, Dec	Grab	1 x Month	
Potassium, Total (as K)	Monitor Only	mg/L	Calendar Month Maximum	Mar, Jun, Sep, Dec	Grab	1 x Month	
Sodium, % Total Cations in meq/L	Monitor Only	%	Calendar Month Maximum	Mar, Jun, Sep, Dec	Calculation	1 x Month	
Sodium, Total (as Na)	Monitor Only	mg/L	Calendar Month Maximum	Mar, Jun, Sep, Dec	Grab	1 x Month	
Solids, Total Dissolved (TDS)	Monitor Only	mg/L	Calendar Month Maximum	Mar, Jun, Sep, Dec	Grab	1 x Month	
Solids, Total Suspended (TSS)	20	mg/L	Calendar Month Average	Mar, Jun, Sep, Dec	Grab	1 x Month	
Solids, Total Suspended (TSS)	30	mg/L	Daily Maximum	Mar, Jun, Sep, Dec	Grab	1 x Month	
Specific Conductance	Monitor Only	umh/cm	Calendar Month Maximum	Mar, Jun, Sep, Dec	Grab	1 x Month	
Sulfate, Total (as SO4)	Monitor Only	mg/L	Calendar Month Maximum	Mar, Jun, Sep, Dec	Grab	1 x Month	
Turbidity	Monitor Only	NTU	Calendar Month Maximum	Mar, Jun, Sep, Dec	Grab	1 x Month	

SD 006: SD001 [Mile Post 7 Outfall 010] fibers

Parameter	Limit	Units	Limit Type	Effective Period	Sample Type	Frequency	Notes
Fibers, Ambiguous	Monitor Only	MF/L	Single Value	Jan, Mar, May, Jul, Sep, Nov	Grab	1 x Month	
Fibers, Amphibole	6.8	MF/L	Daily Maximum	Jan, Mar, May, Jul, Sep, Nov	Grab	1 x Month	21
Fibers, Chrysotile	Monitor Only	MF/L	Single Value	Jan, Mar, May, Jul, Sep, Nov	Grab	1 x Month	
Fibers, Non-Amphibole Non Chrysotile	Monitor Only	MF/L	Single Value	Jan, Mar, May, Jul, Sep, Nov	Grab	1 x Month	
Fibers, Total	Monitor Only	MF/L	Single Value	Jan, Mar, May, Jul, Sep, Nov	Grab	1 x Month	

SD 008: SD001 [MP 7 Outfall 010] F-compliance

Parameter	Limit	Units	Limit Type	Effective Period	Sample Type	Frequency	Notes
Fluoride, Total (as F)	Monitor Only	mg/L	Calendar Year Average	Jan-Dec	Calculation	1 x Month	1

SW 001: Station 102 Co. Rd 4 E. Branch Beaver R.

Parameter	Limit	Units	Limit Type	Effective Period	Sample Type	Frequency	Notes
Chloride, Total	1.8	mg/L	Instantaneous Maximum Intervention	Apr, Jul, Sep, Nov	Grab	1 x Month	
Flow, Stream, Instantaneous	Monitor Only	cfs	Single Value	Apr, Jul, Sep, Nov	Measurement, Instantaneous	1 x Month	

Northshore Mining Co - Silver Bay
Limits and Monitoring Requirements

The Permittee shall comply with the limits and monitoring requirements as specified below.

SW 001: Station 102 Co. Rd 4 E. Branch Beaver R.

Parameter	Limit	Units	Limit Type	Effective Period	Sample Type	Frequency	Notes
Fluoride, Total (as F)	0.5	mg/L	Instantaneous Maximum Intervention	Apr, Jul, Sep, Nov	Grab	1 x Month	
Hardness, Carbonate (as CaCo3)	Monitor Only	mg/L	Single Value	Apr, Jul, Sep, Nov	Grab	1 x Month	
pH, Field	7.8	SU	Instantaneous Maximum Intervention	Apr, Jul, Sep, Nov	Grab	1 x Month	
Solids, Total Dissolved (TDS)	Monitor Only	mg/L	Single Value	Apr, Jul, Sep, Nov	Grab	1 x Month	
Specific Conductance, Field	Monitor Only	umh/cm	Single Value	Apr, Jul, Sep, Nov	Grab	1 x Month	
Sulfate, Total (as SO4)	Monitor Only	mg/L	Single Value	Apr, Jul, Sep, Nov	Grab	1 x Month	
Turbidity	Monitor Only	NTU	Single Value	Apr, Jul, Sep, Nov	Grab	1 x Month	

SW 002: Station 105 County Road 3 Beaver River

Parameter	Limit	Units	Limit Type	Effective Period	Sample Type	Frequency	Notes
Chloride, Total	1.7	mg/L	Instantaneous Maximum Intervention	Apr, Jul, Sep, Nov	Grab	1 x Month	
Flow, Stream, Instantaneous	Monitor Only	cfs	Single Value	Apr, Jul, Sep, Nov	Measurement, Instantaneous	1 x Month	
Fluoride, Total (as F)	0.5	mg/L	Instantaneous Maximum Intervention	Apr, Jul, Sep, Nov	Grab	1 x Month	
Hardness, Carbonate (as CaCo3)	Monitor Only	mg/L	Single Value	Apr, Jul, Sep, Nov	Grab	1 x Month	
pH, Field	7.7	SU	Instantaneous Maximum Intervention	Apr, Jul, Sep, Nov	Grab	1 x Month	
Solids, Total Dissolved (TDS)	Monitor Only	mg/L	Single Value	Apr, Jul, Sep, Nov	Grab	1 x Month	
Specific Conductance, Field	Monitor Only	umh/cm	Single Value	Apr, Jul, Sep, Nov	Grab	1 x Month	
Sulfate, Total (as SO4)	Monitor Only	mg/L	Single Value	Apr, Jul, Sep, Nov	Grab	1 x Month	
Turbidity	Monitor Only	NTU	Single Value	Apr, Jul, Sep, Nov	Grab	1 x Month	

SW 003: Station 106 Glenn Avon Falls, Beaver R.

Parameter	Limit	Units	Limit Type	Effective Period	Sample Type	Frequency	Notes
Cations, Total	Monitor Only	meq/L	Single Value	Apr, Jul, Sep, Nov	Calculation	1 x Month	
Chloride, Total	Monitor Only	mg/L	Single Value	Apr, Jul, Sep, Nov	Grab	1 x Month	
Flow, Stream, Instantaneous	Monitor Only	cfs	Single Value	Apr, Jul, Sep, Nov	Measurement, Instantaneous	1 x Month	
Fluoride, Total (as F)	Monitor Only	mg/L	Single Value	Apr, Jul, Sep, Nov	Grab	1 x Month	
Hardness, Carbonate (as CaCo3)	Monitor Only	mg/L	Single Value	Apr, Jul, Sep, Nov	Grab	1 x Month	
pH, Field	Monitor Only	SU	Single Value	Apr, Jul, Sep, Nov	Grab	1 x Month	

Northshore Mining Co - Silver Bay
Limits and Monitoring Requirements

The Permittee shall comply with the limits and monitoring requirements as specified below.

SW 003: Station 106 Glenn Avon Falls, Beaver R.

Parameter	Limit	Units	Limit Type	Effective Period	Sample Type	Frequency	Notes
Sodium, % Total Cations in meq/L	Monitor Only	%	Single Value	Apr, Jul, Sep, Nov	Calculation	1 x Month	
Sodium, Total (as Na)	Monitor Only	mg/L	Single Value	Apr, Jul, Sep, Nov	Grab	1 x Month	
Solids, Total Dissolved (TDS)	Monitor Only	mg/L	Single Value	Apr, Jul, Sep, Nov	Grab	1 x Month	
Specific Conductance, Field	Monitor Only	umh/cm	Single Value	Apr, Jul, Sep, Nov	Grab	1 x Month	
Sulfate, Total (as SO4)	Monitor Only	mg/L	Single Value	Apr, Jul, Sep, Nov	Grab	1 x Month	
Turbidity	Monitor Only	NTU	Single Value	Apr, Jul, Sep, Nov	Grab	1 x Month	

SW 004: Station 101, E. Br. Beaver R. upstream

Parameter	Limit	Units	Limit Type	Effective Period	Sample Type	Frequency	Notes
Chloride, Total	Monitor Only	mg/L	Single Value	Apr, Jul, Sep, Nov	Grab	1 x Month	
Flow, Stream, Instantaneous	Monitor Only	cfs	Single Value	Apr, Jul, Sep, Nov	Measurement, Instantaneous	1 x Month	
Fluoride, Total (as F)	Monitor Only	mg/L	Single Value	Apr, Jul, Sep, Nov	Grab	1 x Month	
Hardness, Carbonate (as CaCo3)	Monitor Only	mg/L	Single Value	Apr, Jul, Sep, Nov	Grab	1 x Month	
pH, Field	Monitor Only	SU	Single Value	Apr, Jul, Sep, Nov	Grab	1 x Month	
Solids, Total Dissolved (TDS)	Monitor Only	mg/L	Single Value	Apr, Jul, Sep, Nov	Grab	1 x Month	
Specific Conductance, Field	Monitor Only	umh/cm	Single Value	Apr, Jul, Sep, Nov	Grab	1 x Month	
Sulfate, Total (as SO4)	Monitor Only	mg/L	Single Value	Apr, Jul, Sep, Nov	Grab	1 x Month	
Turbidity	Monitor Only	NTU	Single Value	Apr, Jul, Sep, Nov	Grab	1 x Month	

SW 005: Stn 902, L Superior Cooling Water intake

Parameter	Limit	Units	Limit Type	Effective Period	Sample Type	Frequency	Notes
Flow	Monitor Only	mgd	Calendar Month Average	Jan-Dec	Measurement, Continuous	1 x Day	
Flow	Monitor Only	MG	Calendar Month Total	Jan-Dec	Measurement, Continuous	1 x Day	
Flow	Monitor Only	mgd	Daily Maximum	Jan-Dec	Measurement, Continuous	1 x Day	
Temperature, Water	Monitor Only	Deg C	Calendar Month Average	Jan-Dec	Measurement, Continuous	1 x Day	
Temperature, Water	Monitor Only	Deg C	Daily Maximum	Jan-Dec	Measurement, Continuous	1 x Day	

Northshore Mining Co - Silver Bay
Limits and Monitoring Requirements

The Permittee shall comply with the limits and monitoring requirements as specified below.

SW 006: Bear Lake station 108

Parameter	Limit	Units	Limit Type	Effective Period	Sample Type	Frequency	Notes
Alkalinity, Total	25.7	mg/L	Instantaneous Maximum Intervention	Jul	Grab	0 x Month	16
Chloride, Total	1.0	mg/L	Instantaneous Maximum Intervention	Jul	Grab	0 x Month	16
Elevation of Water Level Relative to Ref Point	Monitor Only	feet	Single Value	Jul	Measurement	0 x Month	15
Fibers, Ambiguous	Monitor Only	MF/L	Single Value	Jul	Grab	0 x Month	17
Fibers, Amphibole	Monitor Only	MF/L	Single Value	Jul	Grab	0 x Month	17
Fibers, Chrysotile	Monitor Only	MF/L	Single Value	Jul	Grab	0 x Month	17
Fibers, Non-Amphibole Non Chrysotile	Monitor Only	MF/L	Single Value	Jul	Grab	0 x Month	17
Fibers, Total	Monitor Only	MF/L	Single Value	Jul	Grab	0 x Month	17
Hardness, Carbonate (as CaCo3)	Monitor Only	mg/L	Single Value	Jul	Grab	0 x Month	16
pH, Field	Monitor Only	SU	Single Value	Jul	Grab	0 x Month	16
Solids, Total Dissolved (TDS)	Monitor Only	mg/L	Single Value	Jul	Grab	0 x Month	16
Specific Conductance, Field	69	umh/cm	Instantaneous Maximum Intervention	Jul	Grab	0 x Month	16
Temperature, Water	Monitor Only	Deg C	Single Value	Jul	Measurement, Instantaneous	0 x Month	16
Turbidity	Monitor Only	NTU	Single Value	Jul	Grab	0 x Month	16

SW 011: SW001 [station 102] fibers

Parameter	Limit	Units	Limit Type	Effective Period	Sample Type	Frequency	Notes
Fibers, Ambiguous	Monitor Only	MF/L	Single Value	Apr	Grab	1 x Month	
Fibers, Amphibole	3.3	MF/L	Instantaneous Maximum Intervention	Apr	Grab	1 x Month	10
Fibers, Chrysotile	Monitor Only	MF/L	Single Value	Apr	Grab	1 x Month	
Fibers, Non-Amphibole Non Chrysotile	Monitor Only	MF/L	Single Value	Apr	Grab	1 x Month	
Fibers, Total	Monitor Only	MF/L	Single Value	Apr	Grab	1 x Month	

SW 012: SW002 [station 105] fibers

Parameter	Limit	Units	Limit Type	Effective Period	Sample Type	Frequency	Notes
Fibers, Ambiguous	Monitor Only	MF/L	Single Value	Apr	Grab	1 x Month	
Fibers, Amphibole	3.3	MF/L	Instantaneous Maximum Intervention	Apr	Grab	1 x Month	10
Fibers, Chrysotile	Monitor Only	MF/L	Single Value	Apr	Grab	1 x Month	

Northshore Mining Co - Silver Bay
Limits and Monitoring Requirements

The Permittee shall comply with the limits and monitoring requirements as specified below.

SW 012: SW002 [station 105] fibers

Parameter	Limit	Units	Limit Type	Effective Period	Sample Type	Frequency	Notes
Fibers, Non-Amphibole Non Chrysotile	Monitor Only	MF/L	Single Value	Apr	Grab	1 x Month	
Fibers, Total	Monitor Only	MF/L	Single Value	Apr	Grab	1 x Month	

SW 013: SW003 [station 106] fibers

Parameter	Limit	Units	Limit Type	Effective Period	Sample Type	Frequency	Notes
Fibers, Ambiguous	Monitor Only	MF/L	Single Value	Apr, Jul, Nov	Grab	1 x Month	
Fibers, Amphibole	Monitor Only	MF/L	Single Value	Apr, Jul, Nov	Grab	1 x Month	
Fibers, Chrysotile	Monitor Only	MF/L	Single Value	Apr, Jul, Nov	Grab	1 x Month	
Fibers, Non-Amphibole Non Chrysotile	Monitor Only	MF/L	Single Value	Apr, Jul, Nov	Grab	1 x Month	
Fibers, Total	Monitor Only	MF/L	Single Value	Apr, Jul, Nov	Grab	1 x Month	

SW 014: SW004 [station 101] fibers

Parameter	Limit	Units	Limit Type	Effective Period	Sample Type	Frequency	Notes
Fibers, Ambiguous	Monitor Only	MF/L	Single Value	Apr, Jul, Nov	Grab	1 x Month	
Fibers, Amphibole	Monitor Only	MF/L	Single Value	Apr, Jul, Nov	Grab	1 x Month	
Fibers, Chrysotile	Monitor Only	MF/L	Single Value	Apr, Jul, Nov	Grab	1 x Month	
Fibers, Non-Amphibole Non Chrysotile	Monitor Only	MF/L	Single Value	Apr, Jul, Nov	Grab	1 x Month	
Fibers, Total	Monitor Only	MF/L	Single Value	Apr, Jul, Nov	Grab	1 x Month	

WS 001: Station 900 influent to MP7 WWTP

Parameter	Limit	Units	Limit Type	Effective Period	Sample Type	Frequency	Notes
Calcium, Total (as Ca)	Monitor Only	mg/L	Single Value	Jan, Mar, May, Jul, Sep, Nov	Grab	1 x Month	
Chloride, Total	Monitor Only	mg/L	Single Value	Jan, Mar, May, Jul, Sep, Nov	Grab	1 x Month	
Flow	Monitor Only	mgd	Calendar Month Average	Jan, Mar, May, Jul, Sep, Nov	Grab	1 x Month	
Flow	Monitor Only	MG	Calendar Month Total	Jan, Mar, May, Jul, Sep, Nov	Grab	1 x Month	
Flow	Monitor Only	mgd	Daily Maximum	Jan, Mar, May, Jul, Sep, Nov	Grab	1 x Month	
Fluoride, Total (as F)	Monitor Only	mg/L	Single Value	Jan, Mar, May, Jul, Sep, Nov	Grab	1 x Month	
Magnesium, Total (as Mg)	Monitor Only	mg/L	Single Value	Jan, Mar, May, Jul, Sep, Nov	Grab	1 x Month	
pH	Monitor Only	SU	Single Value	Jan, Mar, May, Jul, Sep, Nov	Grab	1 x Month	

Northshore Mining Co - Silver Bay
Limits and Monitoring Requirements

The Permittee shall comply with the limits and monitoring requirements as specified below.

WS 001: Station 900 influent to MP7 WWTP

Parameter	Limit	Units	Limit Type	Effective Period	Sample Type	Frequency	Notes
Solids, Total Dissolved (TDS)	Monitor Only	mg/L	Single Value	Jan, Mar, May, Jul, Sep, Nov	Grab	1 x Month	
Specific Conductance	Monitor Only	umh/cm	Single Value	Jan, Mar, May, Jul, Sep, Nov	Grab	1 x Month	
Sulfate, Total (as SO4)	Monitor Only	mg/L	Single Value	Jan, Mar, May, Jul, Sep, Nov	Grab	1 x Month	

WS 003: Station 910 common sump, Conc. ovflows

Parameter	Limit	Units	Limit Type	Effective Period	Sample Type	Frequency	Notes
Calcium, Total (as Ca)	Monitor Only	mg/L	Single Value	Jan, Mar, May, Jul, Sep, Nov	Grab	1 x Month	
Chloride, Total	Monitor Only	mg/L	Single Value	Jan, Mar, May, Jul, Sep, Nov	Grab	1 x Month	
Flow	Monitor Only	mgd	Calendar Month Average	Jan-Dec	Grab	2 x Month	18
Flow	Monitor Only	MG	Calendar Month Total	Jan-Dec	Grab	2 x Month	18
Flow	Monitor Only	mgd	Daily Maximum	Jan-Dec	Grab	2 x Month	18
Fluoride, Total (as F)	Monitor Only	mg/L	Calendar Month Average	Jan-Dec	Grab	2 x Month	18
Fluoride, Total (as F)	Monitor Only	mg/L	Daily Maximum	Jan-Dec	Grab	2 x Month	18
Magnesium, Total (as Mg)	Monitor Only	mg/L	Single Value	Jan, Mar, May, Jul, Sep, Nov	Grab	1 x Month	
pH	Monitor Only	SU	Single Value	Jan, Mar, May, Jul, Sep, Nov	Grab	1 x Month	
Solids, Total Dissolved (TDS)	Monitor Only	mg/L	Single Value	Jan, Mar, May, Jul, Sep, Nov	Grab	1 x Month	
Specific Conductance	Monitor Only	umh/cm	Single Value	Jan, Mar, May, Jul, Sep, Nov	Grab	1 x Month	
Sulfate, Total (as SO4)	Monitor Only	mg/L	Single Value	Jan, Mar, May, Jul, Sep, Nov	Grab	1 x Month	

WS 004: Ditch Station 950, 100 Ft SE of the Sump

Parameter	Limit	Units	Limit Type	Effective Period	Sample Type	Frequency	Notes
Boron, Dissolved (as B)	Monitor Only	ug/L	Single Value	Apr, Jul, Oct	Grab	1 x Month	
Calcium, Total (as Ca)	Monitor Only	mg/L	Single Value	Apr, Jul, Oct	Grab	1 x Month	
Chloride, Total	Monitor Only	mg/L	Single Value	Apr, Jul, Oct	Grab	1 x Month	
Flow	Monitor Only	mgd	Single Value	Apr, Jul, Oct	Measurement, Instantaneous	1 x Month	
Fluoride, Total (as F)	Monitor Only	mg/L	Single Value	Apr, Jul, Oct	Grab	1 x Month	
Magnesium, Total (as Mg)	Monitor Only	mg/L	Single Value	Apr, Jul, Oct	Grab	1 x Month	
Molybdenum, Dissolved (as Mo)	Monitor Only	ug/L	Single Value	Apr, Jul, Oct	Grab	1 x Month	

Northshore Mining Co - Silver Bay
Limits and Monitoring Requirements

The Permittee shall comply with the limits and monitoring requirements as specified below.

WS 004: Ditch Station 950, 100 Ft SE of the Sump

Parameter	Limit	Units	Limit Type	Effective Period	Sample Type	Frequency	Notes
Nitrite Plus Nitrate, Total (as N)	Monitor Only	mg/L	Single Value	Apr, Jul, Oct	Grab	1 x Month	
Nitrogen, Ammonia, Total (as N)	Monitor Only	mg/L	Single Value	Apr, Jul, Oct	Grab	1 x Month	
Organics, Diesel Range as diesel, Total	Monitor Only	ug/L	Single Value	Apr, Jul, Oct	Grab	1 x Month	
Organics, Gasoline Range as gasoline, Total	Monitor Only	ug/L	Single Value	Apr, Jul, Oct	Grab	1 x Month	
Pentachlorophenol (PCP)	Monitor Only	ug/L	Single Value	Apr, Jul, Oct	Grab	1 x Month	
pH	Monitor Only	SU	Single Value	Apr, Jul, Oct	Grab	1 x Month	
Sodium, Total (as Na)	Monitor Only	mg/L	Single Value	Apr, Jul, Oct	Grab	1 x Month	
Solids, Total Dissolved (TDS)	Monitor Only	mg/L	Single Value	Apr, Jul, Oct	Grab	1 x Month	
Solids, Total Suspended (TSS)	Monitor Only	mg/L	Single Value	Apr, Jul, Oct	Grab	1 x Month	
Specific Conductance	Monitor Only	umh/cm	Single Value	Apr, Jul, Oct	Grab	1 x Month	
Sulfate, Total (as SO4)	Monitor Only	mg/L	Single Value	Apr, Jul, Oct	Grab	1 x Month	

WS 005: WWESP common flume station 990

Parameter	Limit	Units	Limit Type	Effective Period	Sample Type	Frequency	Notes
Calcium, Total (as Ca)	Monitor Only	mg/L	Single Value	Jan, Mar, May, Jul, Sep, Nov	Grab	1 x Month	
Chloride, Total	Monitor Only	mg/L	Single Value	Jan, Mar, May, Jul, Sep, Nov	Grab	1 x Month	
Flow	Monitor Only	mgd	Calendar Month Average	Jan-Dec	Grab	2 x Month	18
Flow	Monitor Only	MG	Calendar Month Total	Jan-Dec	Grab	2 x Month	18
Flow	Monitor Only	mgd	Daily Maximum	Jan-Dec	Grab	2 x Month	18
Fluoride, Total (as F)	Monitor Only	mg/L	Calendar Month Average	Jan-Dec	Grab	2 x Month	18
Fluoride, Total (as F)	Monitor Only	mg/L	Daily Maximum	Jan-Dec	Grab	2 x Month	18
Magnesium, Total (as Mg)	Monitor Only	mg/L	Single Value	Jan, Mar, May, Jul, Sep, Nov	Grab	1 x Month	
pH	Monitor Only	SU	Single Value	Jan, Mar, May, Jul, Sep, Nov	Grab	1 x Month	
Solids, Total Dissolved (TDS)	Monitor Only	mg/L	Single Value	Jan, Mar, May, Jul, Sep, Nov	Grab	1 x Month	
Specific Conductance	Monitor Only	umh/cm	Single Value	Jan, Mar, May, Jul, Sep, Nov	Grab	1 x Month	
Sulfate, Total (as SO4)	Monitor Only	mg/L	Single Value	Jan, Mar, May, Jul, Sep, Nov	Grab	1 x Month	

Northshore Mining Co - Silver Bay
Limits and Monitoring Requirements

The Permittee shall comply with the limits and monitoring requirements as specified below.

WS 006: Coherex as applied

Parameter	Limit	Units	Limit Type	Effective Period	Sample Type	Frequency	Notes
Acenaphthene	Monitor Only	ug/L	Single Value	Jan-Dec	Grab	1 x Year	3
Acenaphthylene	Monitor Only	ug/L	Single Value	Jan-Dec	Grab	1 x Year	3
Anthracene	Monitor Only	ug/L	Single Value	Jan-Dec	Grab	1 x Year	3
Benzo(a)anthracene	Monitor Only	ug/L	Single Value	Jan-Dec	Grab	1 x Year	3
Benzo(a)pyrene	Monitor Only	ug/L	Single Value	Jan-Dec	Grab	1 x Year	3
Benzo(b)fluoranthene	Monitor Only	ug/L	Single Value	Jan-Dec	Grab	1 x Year	3
Benzo(e)pyrene	Monitor Only	ug/L	Single Value	Jan-Dec	Grab	1 x Year	3
Benzo(ghi)perylene	Monitor Only	ug/L	Single Value	Jan-Dec	Grab	1 x Year	3
Benzo(j)fluoranthene, Total	Monitor Only	ug/L	Single Value	Jan-Dec	Grab	1 x Year	3
Benzo(k)fluoranthene	Monitor Only	ug/L	Single Value	Jan-Dec	Grab	1 x Year	3
BOD, Carbonaceous 05 Day (20 Deg C)	Monitor Only	mg/L	Single Value	Jan-Dec	Grab	1 x Year	
Chloride, Total	Monitor Only	mg/L	Single Value	Jan-Dec	Grab	1 x Year	
Chrysene	Monitor Only	ug/L	Single Value	Jan-Dec	Grab	1 x Year	3
COD (Chemical Oxygen Demand)	Monitor Only	mg/L	Single Value	Jan-Dec	Grab	1 x Year	
Dibenzo(a,h)anthracene	Monitor Only	ug/L	Single Value	Jan-Dec	Grab	1 x Year	3
Flow	0.12	MG	Calendar Year Maximum	Jan-Dec	Measurement, Continuous	1 x Year	9
Fluoranthene	Monitor Only	ug/L	Single Value	Jan-Dec	Grab	1 x Year	3
Fluorene	Monitor Only	ug/L	Single Value	Jan-Dec	Grab	1 x Year	3
Indeno(1,2,3-cd)pyrene	Monitor Only	ug/L	Single Value	Jan-Dec	Grab	1 x Year	3
Mercury, Total (as Hg)	Monitor Only	ug/L	Single Value	Jan-Dec	Grab	1 x Year	14
Methylene Blue Active Substances (Surfactants)	Monitor Only	mg/L	Single Value	Jan-Dec	Grab	1 x Year	
Naphthalene	Monitor Only	ug/L	Single Value	Jan-Dec	Grab	1 x Year	3
Organics, Diesel Range as diesel, Total	Monitor Only	mg/L	Single Value	Jan-Dec	Grab	1 x Year	
Organics, Gasoline Range as gasoline, Total	Monitor Only	mg/L	Single Value	Jan-Dec	Grab	1 x Year	
Phenanthrene	Monitor Only	ug/L	Single Value	Jan-Dec	Grab	1 x Year	3
Phosphorus, Total (as P)	Monitor Only	mg/L	Single Value	Jan-Dec	Grab	1 x Year	
Polynuclear Aromatic Hydrocarbons, Carcinogen, Total	Monitor Only	ug/L	Single Value	Jan-Dec	Calculation	1 x Year	3
Pyrene	Monitor Only	ug/L	Single Value	Jan-Dec	Grab	1 x Year	3

The Permittee shall comply with the limits and monitoring requirements as specified below.

WS 006: Coherex as applied

Parameter	Limit	Units	Limit Type	Effective Period	Sample Type	Frequency	Notes
Solids, Total Dissolved (TDS)	Monitor Only	mg/L	Single Value	Jan-Dec	Grab	1 x Year	
Specific Conductance, Field	Monitor Only	umh/cm	Single Value	Jan-Dec	Grab	1 x Year	
Sulfate, Total (as SO4)	Monitor Only	mg/L	Single Value	Jan-Dec	Grab	1 x Year	

WS 007: Coarse tailings

Parameter	Limit	Units	Limit Type	Effective Period	Sample Type	Frequency	Notes
Mass Transported From Facility	Monitor Only	ton/yr	Calendar Year To Date Total	Jan-Dec	Measurement, Continuous	1 x Month	24

WS 008: Power plant cleaning wastes

Parameter	Limit	Units	Limit Type	Effective Period	Sample Type	Frequency	Notes
Mass Transported From Facility	Monitor Only	ton/yr	Calendar Month Total	Jan-Dec	Measurement, Continuous	1 x Month	2

WS 010: Pump House 2 Tails Basin water elev

Parameter	Limit	Units	Limit Type	Effective Period	Sample Type	Frequency	Notes
Elevation of Water Level Relative to Ref Point	Monitor Only	feet	Calendar Month Maximum	Apr, Jun, Aug, Oct	Measurement, Continuous	1 x Month	

WS 011: Fluoride materials to PDRDP

Parameter	Limit	Units	Limit Type	Effective Period	Sample Type	Frequency	Notes
Mass Transported To Facility	125	ton/yr	Calendar Year To Date Total	Jan-Dec	Measurement, Continuous	1 x Month	7

WS 012: PDRDP combined wastewater to mill water

Parameter	Limit	Units	Limit Type	Effective Period	Sample Type	Frequency	Notes
Bicarbonates	Monitor Only	mg/L	Calendar Month Average	Jan-Dec	Grab	2 x Month	
Bicarbonates	Monitor Only	mg/L	Daily Maximum	Jan-Dec	Grab	2 x Month	
Calcium, Total (as Ca)	Monitor Only	mg/L	Calendar Month Average	Jan-Dec	Grab	2 x Month	
Calcium, Total (as Ca)	Monitor Only	mg/L	Daily Maximum	Jan-Dec	Grab	2 x Month	
Cations, Total	Monitor Only	meq/L	Calendar Month Average	Jan-Dec	Grab	2 x Month	
Cations, Total	Monitor Only	meq/L	Daily Maximum	Jan-Dec	Grab	2 x Month	
Chloride, Total	Monitor Only	mg/L	Calendar Month Average	Jan-Dec	Grab	2 x Month	

Northshore Mining Co - Silver Bay
Limits and Monitoring Requirements

The Permittee shall comply with the limits and monitoring requirements as specified below.

WS 012: PDRDP combined wastewater to mill water

Parameter	Limit	Units	Limit Type	Effective Period	Sample Type	Frequency	Notes
Chloride, Total	Monitor Only	mg/L	Daily Maximum	Jan-Dec	Grab	2 x Month	
Flow	Monitor Only	mgd	Calendar Month Average	Jan-Dec	Grab	2 x Month	
Flow	Monitor Only	MG	Calendar Month Total	Jan-Dec	Grab	2 x Month	
Flow	Monitor Only	mgd	Daily Maximum	Jan-Dec	Grab	2 x Month	
Fluoride, Total (as F)	Monitor Only	mg/L	Calendar Month Average	Jan-Dec	Grab	2 x Month	
Fluoride, Total (as F)	Monitor Only	mg/L	Daily Maximum	Jan-Dec	Grab	2 x Month	
Magnesium, Total (as Mg)	Monitor Only	mg/L	Calendar Month Average	Jan-Dec	Grab	2 x Month	
Magnesium, Total (as Mg)	Monitor Only	mg/L	Daily Maximum	Jan-Dec	Grab	2 x Month	
Molybdenum, Total (as Mo)	Monitor Only	ug/L	Calendar Month Average	Jan-Dec	Grab	2 x Month	
Molybdenum, Total (as Mo)	Monitor Only	ug/L	Daily Maximum	Jan-Dec	Grab	2 x Month	
pH, Field	8.7	SU	Instantaneous Maximum	Jan-Dec	Grab	2 x Month	
pH, Field	Monitor Only	SU	Instantaneous Minimum	Jan-Dec	Grab	2 x Month	
Potassium, Total (as K)	Monitor Only	mg/L	Calendar Month Average	Jan-Dec	Grab	2 x Month	
Potassium, Total (as K)	Monitor Only	mg/L	Daily Maximum	Jan-Dec	Grab	2 x Month	
Sodium, % Total Cations in meq/L	Monitor Only	%	Calendar Month Average	Jan-Dec	Calculation	2 x Month	
Sodium, % Total Cations in meq/L	Monitor Only	%	Daily Maximum	Jan-Dec	Calculation	2 x Month	
Sodium, Total (as Na)	Monitor Only	mg/L	Calendar Month Average	Jan-Dec	Grab	2 x Month	
Sodium, Total (as Na)	Monitor Only	mg/L	Daily Maximum	Jan-Dec	Grab	2 x Month	
Specific Conductance, Field	Monitor Only	umh/cm	Calendar Month Average	Jan-Dec	Grab	2 x Month	
Specific Conductance, Field	Monitor Only	umh/cm	Daily Maximum	Jan-Dec	Grab	2 x Month	
Sulfate, Total (as SO4)	Monitor Only	mg/L	Calendar Month Average	Jan-Dec	Grab	2 x Month	
Sulfate, Total (as SO4)	Monitor Only	mg/L	Daily Maximum	Jan-Dec	Grab	2 x Month	

WS 013: Dredged materials from outfall SD013

Parameter	Limit	Units	Limit Type	Effective Period	Sample Type	Frequency	Notes
Mass Transported To Facility	Monitor Only	yd3/yr	Hydrologic Year Total	Oct-Sep	Measurement, Continuous	1 x Year	6

Northshore Mining Co - Silver Bay
Limits and Monitoring Requirements

The Permittee shall comply with the limits and monitoring requirements as specified below.

WS 014: Treated Pellet Plant blowdown effluent

Parameter	Limit	Units	Limit Type	Effective Period	Sample Type	Frequency	Notes
Flow	Monitor Only	mgd	Calendar Month Average	Jan-Dec	Measurement, Continuous	2 x Month	19
Flow	Monitor Only	MG	Calendar Month Total	Jan-Dec	Measurement, Continuous	2 x Month	19
Flow	Monitor Only	mgd	Daily Maximum	Jan-Dec	Measurement, Continuous	2 x Month	19
Fluoride, Total (as F)	Monitor Only	mg/L	Calendar Month Average	Jan-Dec	Grab	2 x Month	19
Fluoride, Total (as F)	Monitor Only	mg/L	Daily Maximum	Jan-Dec	Grab	2 x Month	19

The Permittee shall comply with the limits and monitoring requirements as specified below.

Notes:
1 -- "Calendar Year Average" is defined as the twelve-month rolling average of concentrations. The station SD008 "calendar year average" is calculated by adding the station SD001 individual sample values during the last twelve months, including the values sampled during the month of the current reporting period, and dividing by the number of sample values during that twelve-month period. The Permittee shall progressively decrease the station SD008 "calendar year average" fluoride concentration starting by the initiation of operation of the MPCA-approved full-scale fluoride wastewater treatment system, and continuing throughout the term of this permit, or to the time when the fluoride effluent limits for outfall SD001 are achieved, whichever is earlier.
2 -- All wastewaters generated by the cleaning of the facility Power Plant, including air preheater cleaning wastes, boiler fireside cleaning wastes and boiler waterside cleaning wastes. Report also how and where these are disposed of.
3 -- Analysis for this station is not required to use Method 610.
4 -- As final field measurement from well stabilization tests.
5 -- As temperature at SD003 minus temperature at SW005.
6 -- As the 12-month total of dredged material from outfall SD003 placed at the facility. On the DMR form for station WS013, indicate also the dates of the dredging activity during the 12-month period.
7 -- As the addition of materials with a fluoride content exceeding 10 pct by mass.
8 -- Calculated based on the difference in measurements between stations SW005 and SD003.
9 -- Chemical dust suppressant as applied.
10 -- Limit applies to cummingtonite-grunerite fibers.
11 -- May be estimated from data at measurement stations in the Silver Bay area.
12 -- May be estimated from data at measurement stations near the Mile Post 7 Tailings Basin.
13 -- Measured to the nearest 0.01 foot before pumping or bailing the well.
14 -- Mercury analysis for this station is not required to use low-level detection methods.
15 -- Monitor once, in July 2004.
16 -- Monitor once, in July 2004. Monitor and report as three separate samples at the deepest part of the lake, at depths: one meter below the lake surface; mid-depth; and one meter above the lake bottom.
17 -- Monitor once, in July 2004. Monitor at the deepest part of the lake, at a depth of one meter below the lake surface.
18 -- Monitoring may be reduced to once monthly at the initiation of operation of the MPCA-approved full-scale fluoride wastewater treatment system.
19 -- Monitoring shall begin at the initiation of operation of the MPCA-approved full-scale fluoride wastewater treatment system.
20 -- Noncompliance with this operational performance level may be just cause for requiring additional fiber monitoring.
21 -- See Total Facility Requirements Chapter, Compliance Responsibility requirements.
22 -- Sources and volumes of non-precipitation water inputs to the Mile Post 7 Tailings Basin (for example, water appropriations by the Permittee from Lake Superior); also report net rates of uncontrolled seepage from the Mile Post & Tailings Basin.
23 -- The mixing zone at outfall SD003 is restricted to a 1000-ft radius from the outfall. At the edge of the 1000-ft radius mixing zone, the discharge wastewater shall not materially raise the temperature of Lake Superior above natural temperatures by more than 1 degree F. Natural temperatures in Lake Superior may vary due to natural conditions. This variation shall be considered, with data to substantiate this effect, and further definition of natural temperatures with respect to determining compliance at outfall SD003 may be considered by the Permittee and the MPCA.
24 -- Tons of dry coarse tailings transported to the Peter Mitchell Mining Area; see Industrial Process Wastewater Chapter, Mine Tailings Basin requirements, for detailed limits, monitoring and reporting that apply to the transport of coarse tailings from the facility.
25 -- Within the first twelve months beginning with the issuance date of this permit, the Permittee also shall conduct quarterly chronic toxicity test batteries. See Chapter 2 for detailed requirements, including the requirements for the submittal of the toxicity testing results.

Northshore Mining Co - Silver Bay
Limits and Monitoring Requirements

The Permittee shall comply with the limits and monitoring requirements as specified below.

Chapter 1. Ground Water Station Requirements - General

1. Monitoring Wells

1.1 The Permittee shall install, maintain and abandon ground water monitoring wells according to the Minnesota Water Well Construction Code, Minn. R. ch. 4725. Damaged or improperly constructed monitoring wells shall be repaired or properly abandoned and replaced. Information on licensed water well contractors is available from the Minnesota Department of Health.

1.2 The Permittee shall continue to maintain wells 1, 1A, 2, 2A, 3, 6, 6A, 7, 7A, 7B, 9 and 9A.

1.3 If a ground water monitoring well is abandoned the Permittee shall replace it with a new ground water monitoring well within 60 days, or before the next monitoring date required by this permit for the abandoned well, whichever is sooner, and as approved in writing by the MPCA.

1.4 Each monitoring well shall be clearly numbered on the outside of the well with either indelible paint or an inscribed number.

1.5 The monitoring wells shall be sampled according to "Minnesota Pollution Control Agency, Water Quality Division: Sampling Protocol for Ground Water Monitoring Wells, July 1997," Triplett, et al. Copies of this publication are available on the internet at http://www.pca.state.mn.us/water/groundwater/wqsampling.html or may be obtained from the MPCA by calling (651)296-7162.

1.6 Tailings, wastewater and other wastes shall not be deposited on, in or next to monitoring wells at the facility.

2. General Requirements

2.1 The MPCA may require the Permittee to conduct further evaluations of existing geotechnical information, conduct additional geotechnical investigations and/or ground water assessments to demonstrate the adequacy of the existing ground water monitoring program in assessing water quality impacts. The requirement to conduct additional geotechnical evaluations and/or ground water assessments shall be based upon clear indications of adverse ground water quality impacts due to the operation of the facility disposal system. The MPCA's determination that additional evaluations are required shall be consistent with Minn. R. 7060.0500, and with the ground water Limits and Monitoring Requirements section of this permit. Such determinations shall be made consistent with Minnesota rules and applicable court decisions. The Permittee reserves all legal rights to contest the validity or reasonableness of any such determination by the MPCA.

Chapter 2. Surface Discharge Station Requirements - General

1. Sampling Location

1.1 Samples for outfall SD001 and SD006 shall be taken at the pipe outfall, except when winter conditions make access to the outfall unsafe. During these unsafe winter conditions, samples may be taken at the outflow from each filter bed, at the Mile Post 7 wastewater treatment plant, before mixing with filtered wastewater from the other filter beds, and composited proportional to the respective flow rates from each filter bed at the time of sampling.

1.2 Samples for outfall SD002 shall be taken by turbidimeter continuous monitoring equipment on the effluent directed to outfall SD001.

1.3 Samples for outfall SD003 shall be taken in the thermal well downstream of mixing of the two condensor flows.

1.4 Samples for outfall SD005 shall be taken at a weir that collects the flow from Relief Wells R-12 and R-13 together with adjacent seepage from Seepage Recovery Dam 2.

2. Surface Discharges

2.1 Floating solids or visible foam shall not be discharged in other than trace amounts.

2.2 Oil or other substances shall not be discharged in amounts that create a visible color film.

2.3 The Permittee shall install and maintain outlet protection measures at the discharge outfalls to prevent erosion.

3. Discharge Monitoring Reports

3.1 The Permittee shall submit monitoring results for discharges in accordance with the limits and monitoring requirements. If no discharge occurred during the reporting period, the Permittee shall check the "No Discharge" box on the Discharge Monitoring Report (DMR).

4. Winter Sampling Conditions

4.1 The Permittee shall sample flows at the designated monitoring stations including when this requires removing ice to sample the water. If the station is completely frozen throughout a designated sampling month, the Permittee shall check the "No Discharge" box on the Discharge Monitoring Report (DMR) and note the ice conditions in Comments on the DMR.

Chapter 2. Surface Discharge Station Requirements - General

5. Chronic Toxicity Testing

5.1 A chronic toxicity test is a static renewal test conducted on an exponentially diluted series of effluent. The purpose is to calculate appropriate biological endpoints (NOEC and IC25), specified in the referenced Chronic Manual. The receiving water concentration for this permit equals the 98 pct effluent concentration, or 1.02 chronic toxicity unit (TUc), expressed as a monthly average permit limit. The TUc is the reciprocal of the wastewater concentration that causes no observable effect on the test organisms (that is, 100/NOEC) or its equivalent (100/IC25) by the end of the chronic exposure period.

5.2 Within the first twelve months beginning with the issuance date of this permit, the Permittee shall conduct quarterly chronic toxicity test batteries on outfall SD001.

5.3 Thereafter the Permittee shall conduct annual test batteries.

6. Chronic Toxicity Testing - Species and Procedural Requirements

6.1 The tests shall be conducted according to the procedures outlined in EPA-821-R-02-013 "Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms" Fourth Edition (Chronic Manual), any revisions to the Manual, and "MPCA Toxicity Test Procedures and Test Conditions for NPDES Permits."

6.2 The test organisms for each test battery shall include the fathead minnow (Pimephales promelas) Method 1000.0 and Ceriodaphnia dubia Method 1002.0.

6.3 The Limits and Monitoring section of this permit requires monitoring for certain parameters at the various outfalls for which chronic toxicity testing is required. These parameters at these outfalls shall be analyzed on samples taken on the same day as the samples used for toxicity testing, during those months the toxicity testing is required.

6.4 The static renewal chronic serial dilution tests of the effluent shall consist of a control, 12, 25, 50, 75 and 100% effluent. The Receiving Water Concentration (RWC) is equal to 98% wastewater for the purpose of evaluating compliance with water quality standards.

6.5 The wastewater samples shall be grab samples. The test solutions shall be renewed daily from each grab sample. Toxicity testing shall begin within 36 hours of sample collection. Receiving water collected from station SW004 shall be used for dilution and controls.

6.6 Circumstances not covered in this section, or that require deviation from the requirements of this section, shall first be approved by the MPCA.

Chapter 2. Surface Discharge Station Requirements - General

7. Chronic Toxicity Testing - Quality Control and Report Submittals

7.1 A test that does not meet quality control measures, or results that the Permittee believes reflect an artifact of testing, shall be repeated within two weeks. Individual test battery results shall be submitted within 30 days of test completion. These reports shall contain information consistent with the report preparation section of the Chronic Manual. The MPCA shall make the final determination regarding test validity.

7.2 Should the monthly average limit of 1.02 TUc be exceeded for whole effluent toxicity by a test, the Permittee shall conduct two repeat test batteries to be completed within 30 days after completion of the positive test to determine if toxicity exceeding the monthly average limit remains present. If no toxicity is present above the monthly average limit, the Permittee shall return to the test frequency specified by the permit. If either of the two repeat test batteries indicate toxicity above the monthly average limit, the Permittee shall submit within 30 days, for MPCA review, a plan for conducting a Toxicity Reduction Evaluation (TRE), and at a minimum provide quarterly reports regarding progress towards the identity, source, and any plans for removal of the toxicity. The TRE shall be consistent with EPA guidance (Generalized Methodology for Conducting Industrial Toxicity Reduction Evaluations [TREs], EPA/600/2-88/070; Toxicity Identification Evaluation: Characterization of Chronically Toxic Effluents, Phase I - EPA 600/6-91/005F, May, 1992), or subsequent procedures approved by the MPCA in attempting to identify and remove the source of toxicity.

Chapter 3. Surface Water Station Requirements - General

1. Sampling Location

1.1 Samples for station SW005 shall be taken at intake pipe SW005, upstream of the header that splits the flow to the two condensors.

1.2 The Permittee shall record the location, date, time and results for each station SW001 through SW006 sample on the supplemental Discharge Monitoring Report forms.

2. Winter Sampling Conditions

2.1 The Permittee shall sample flows at the designated monitoring stations including when this requires removing ice to sample the water. If the station is completely frozen throughout a designated sampling month, the Permittee shall check the "No Flow" box on the Discharge Monitoring Report (DMR) and note the ice conditions in Comments on the DMR.

If a designated monitoring station is unsafe to monitor due to ice conditions, the Permittee shall document in detail these conditions, and the Permittee shall return to collect the required sample on at least a monthly basis until a sample is collected. Unsafe conditions may justify postponing, but not cancelling, required stream monitoring.

Chapter 3. Surface Water Station Requirements - General

3. General Requirements

3.1 The MPCA recognizes that the reported flows for stations SW001, SW002, SW003 and SW004 may be estimates that may not be accurate with the plus or minus ten percent of true flow values that is specified in the Total Facility Requirements, Sampling and Analyses section of this permit.

Chapter 4. Waste Stream Station Requirements - General

1. Sampling Location

1.1 Samples for station WS001 shall be taken at the untreated influent to the wastewater treatment plant at the Mile Post 7 basin.

1.2 Samples for station WS003 shall be taken in the rectangular concrete common sump (which includes the combined Concentrator clarifier overflow, WWESP thickener blowdowns and combined PDRDP wastewaters), near the outlet from this sump to the outflow return channel to the Power House mill water sump.

1.3 Samples for station WS004 shall be taken at ditch station WS004, approximately 100 ft southeast of the rectangular concrete common sump, and upstream of the collection basin on the delta.

1.4 Samples for station WS005 shall be taken in the common flume containing the Pelletizer WWESP wastewater, leading to the 100-ft diameter WWESP thickener.

1.5 Samples for station WS012 shall be taken at the point at which the PDRDP wastewater is introduced into the water management system for the Davis Works, as it existed before construction of the PDRDP. Samples shall be taken representative of the PDRDP wastewater before mixing with other facility wastewater.

1.6 Station WS013 shall be monitored as the material dredged from outfall WS013 that is deposited at the facility.

2. General Requirements

2.1 The waste stream at station WS004 shall not contain oil or other substances in amounts sufficient to create a visible color film on the surface of the waste stream.

Chapter 5. Station Requirements - Specific

1. Ground Water Stations

1.1 GW 001: Submit a monthly DMR monthly by 21 days after end of each calendar month following permit issuance.

Chapter 5. Station Requirements - Specific

1. Ground Water Stations

1.2 GW 002: Submit a monthly DMR monthly by 21 days after end of each calendar month following permit issuance.

1.3 GW 004: Submit a monthly DMR monthly by 21 days after end of each calendar month following permit issuance.

1.4 GW 005: Submit a monthly DMR monthly by 21 days after end of each calendar month following permit issuance.

1.5 GW 006: Submit a monthly DMR monthly by 21 days after end of each calendar month following permit issuance.

1.6 GW 007: Submit a monthly DMR monthly by 21 days after end of each calendar month following permit issuance.

1.7 GW 008: Submit a monthly DMR monthly by 21 days after end of each calendar month following permit issuance.

1.8 GW 009: Submit a monthly DMR monthly by 21 days after end of each calendar month following permit issuance.

1.9 GW 010: Submit a monthly DMR monthly by 21 days after end of each calendar month following permit issuance.

1.10 GW 011: Submit a monthly DMR monthly by 21 days after end of each calendar month following permit issuance.

1.11 GW 012: Submit a monthly DMR monthly by 21 days after end of each calendar month following permit issuance.

1.12 GW 013: Submit a monthly DMR monthly by 21 days after the end of each calendar month following permit issuance.

2. Surface Discharge Stations

2.1 SD 001: Submit a monthly DMR monthly by 21 days after the end of each calendar month following permit issuance.

2.2 SD 001: For the outfall SD001 first year toxicity monitoring, the Permittee shall Submit the third test battery results by 303 days after permit issuance.

2.3 SD 001: For the outfall SD001 first year toxicity monitoring, the Permittee shall Submit the fourth test battery results by 395 days after permit issuance.

Chapter 5. Station Requirements - Specific

2. Surface Discharge Stations

2.4 SD 001: For the outfall SD001 first year toxicity monitoring, the Permittee shall Submit the second test battery results by 212 days after permit issuance.

2.5 SD 001: For the outfall SD001 first year toxicity monitoring, the Permittee shall Submit the first test battery results by 121 days after permit issuance.

2.6 SD 002: Submit a monthly DMR monthly by 21 days after end of each calendar month following permit issuance.

2.7 SD 003: Submit a monthly DMR monthly by 21 days after end of each calendar month following permit issuance.

2.8 SD 004: The Permittee shall Submit a monthly DMR annually by February 21 of each year following permit issuance.

2.9 SD 005: The Permittee shall Submit a monthly DMR monthly by 21 days after the end of each calendar month following permit issuance.

2.10 SD 006: The Permittee shall submit the monitoring results on a monthly DMR monthly by 30 days after receiving the analytical results, and not to exceed 300 days after the end of each calendar month during which the samples were taken, following permit issuance.

2.11 SD 008: The Permittee shall Submit a monthly DMR monthly by 21 days after the end of each calendar month following permit issuance.

3. Surface Water Stations

3.1 SW 001: Submit a monthly DMR monthly by 21 days after end of each calendar month following permit issuance.

3.2 SW 002: Submit a monthly DMR monthly by 21 days after end of each calendar month following permit issuance.

3.3 SW 003: Submit a monthly DMR monthly by 21 days after end of each calendar month following permit issuance.

3.4 SW 004: Submit a monthly DMR monthly by 21 days after end of each calendar month following permit issuance.

3.5 SW 005: Submit a monthly DMR monthly by 21 days after end of each calendar month following permit issuance.

3.6 SW 006: For the station SW006 (Bear Lake) July 2004 sampling, the Permittee shall Submit sampling results by May 20, 2005.

Chapter 5. Station Requirements - Specific

3. Surface Water Stations

3.7 SW 011: The Permittee shall submit the monitoring results on a monthly DMR monthly by 30 days after receiving the analytical results, and not to exceed 300 days after the end of each calendar month during which the samples were taken, following permit issuance.

3.8 SW 012: The Permittee shall submit the monitoring results on a monthly DMR monthly by 30 days after receiving the analytical results, and not to exceed 300 days after the end of each calendar month during which the samples were taken, following permit issuance.

3.9 SW 013: The Permittee shall submit the monitoring results on a monthly DMR monthly by 30 days after receiving the analytical results, and not to exceed 300 days after the end of each calendar month during which the samples were taken, following permit issuance.

3.10 SW 014: The Permittee shall submit the monitoring results on a monthly DMR monthly by 30 days after receiving the analytical results, and not to exceed 300 days after the end of each calendar month during which the samples were taken, following permit issuance.

4. Waste Stream Stations

4.1 WS 001: Submit a monthly DMR monthly by 21 days after end of each calendar month following permit issuance.

4.2 WS 003: Submit a monthly DMR monthly by 21 days after end of each calendar month following permit issuance.

4.3 WS 004: The Permittee shall Submit a monthly DMR monthly by 21 days after the end of each calendar month following permit issuance.

4.4 WS 005: The Permittee shall Submit a monthly DMR monthly by 21 days after the end of each calendar month following permit issuance.

4.5 WS 006: The Permittee shall Submit an annual DMR annually by January 21 of each year following permit issuance.

4.6 WS 007: Submit a monthly DMR monthly by 21 days after end of each calendar month following permit issuance.

4.7 WS 008: Submit a monthly DMR monthly by 21 days after end of each calendar month following permit issuance.

4.8 WS 010: The Permittee shall Submit a monthly DMR monthly by 21 days after the end of each calendar month following permit issuance.

4.9 WS 011: The Permittee shall Submit a monthly DMR monthly by 21 days after the end of each calendar month following permit issuance.

Chapter 5. Station Requirements - Specific

4. Waste Stream Stations

4.10 WS 012: The Permittee shall Submit a monthly DMR monthly by 21 days after the end of each calendar month following permit issuance.

4.11 WS 013: The Permittee shall Submit an annual DMR annually by January 21 of each year following permit issuance.

4.12 WS 014: The Permittee shall Submit a monthly DMR monthly by 21 days after the end of each calendar month following submittal of notice of initiation of operation.

Chapter 6. Industrial Process Wastewater, NPDES/SDS

1. Mine Tailings Basin

1.1 To summarize the status of the tailings basin, the Permittee shall Submit an Annual Report by February 21 of each year following permit issuance.

1.2 This Annual Report shall include a current map of the tailings basin area that details the dikes, berms, dams, roads and cells, as well as the current topographic and water level elevations.

1.3 The Annual Report for the tailings basin also shall report the annual net precipitation determined for the previous calendar year to the MPCA.

1.4 The Permittee shall discharge through outfalls SD001 plus SD005 no more than the annual net precipitation from the Mile Post 7 tailings basin during each calendar year. The annual net precipitation shall be determined as follows:

$$Y=(\{Af+Ap\}*P) - (At*E)$$

where: Y=annual net precipitation
Af=area of the tailings basin plus the drainage area contributing surface runoff to the tailings basin, now 5.83 square miles
Ap=area of the E.W. Davis Works plant that contributes surface runoff to the collection system routed to the tailings basin
P=total annual precipitation
At=open water area of the tailings basin, now 2.26 square miles, and
E=annual lake evaporation.

The total annual precipitation and the annual lake evaporation shall be based on the sum of the data reported through station SD004.

Chapter 6. Industrial Process Wastewater, NPDES/SDS

1. Mine Tailings Basin

1.5 In addition to the annual net precipitation, the Permittee is allowed to discharge through outfall SD001 the volume of net precipitation that has accumulated within the Mile Post 7 Tailings Basin in previous years of basin operation from 1985-2004.

1.6 It has been determined that the total accumulated water volume, as defined by net precipitation minus the discharged volume, within the Mile Post 7 Tailings Basin for the years 1985-2004 to be approximately 18,879 million gallons (57,938 acre-feet). This is the volume that is allowed to be released in a controlled manner, distributed over a number of years subsequent to 2004.

1.7 The discharge of historical net precipitation will be reviewed prior to any subsequent permit reissuances or modifications to verify that this practice is still justified for proper facility operation and dam safety. If, at any time, the MPCA determines that this practice is no longer justified for the reasons identified above, this language may again be modified.

1.8 The Permittee is responsible for operating the tailings basin according to the Milepost 7 Five Year Operations Plan, as conditionally approved by the MPCA on August 21, 1997 (and any revisions thereto as approved by the MPCA and in compliance with the terms of this permit), and as follows:

a. The Permittee shall adhere to the Plan as conditionally approved by the MPCA. Noncompliance with that Plan that causes a violation or creates, over the long-term, a potential for violation of the applicable air quality or water quality rules and standards or terms and conditions of this permit shall constitute a violation of this permit.

b. No significant alteration, addition, or modification to the Plan as conditionally approved by the MPCA shall be undertaken by the Permittee without the prior written approval by the MPCA. "As built" plans shall be provided to the MPCA 180 days after completion of construction identifying all changes to original design.

c. However, if at any time during construction and operation of the facility, the Permittee or the MPCA find that life, safety, health, property and air and water quality considerations require alterations to the approved design and construction plans and specifications, or the conditionally approved Plan, the Permittee shall revise these and provide the proposed revisions to the MPCA for approval. Short-term emergency modifications may be made, subject to subsequent approval by the MPCA.

d. The Permittee is responsible to provide adequate control of the construction and operations, and to notify the MPCA immediately upon discovery, and within ten days in writing, of any unusual or unexpected conditions discovered during operation of the facility which differ significantly from those presented in the Plan conditionally approved August 21, 1997, and to develop corrective action.

Chapter 6. Industrial Process Wastewater, NPDES/SDS

1. Mine Tailings Basin

1.9 If conditions significantly different from those assumed in developing the Milepost 7 Five Year Operations Plan, or the conditionally approved design and construction plans and specifications, are encountered during operation of the facility, then all new factors and conditions shall be considered by the Permittee and appropriate modifications shall be made to the Five Year Operations Plan or the construction plans and specifications. The Permittee shall submit such modification to the MPCA for approval. Any modification to the approved design and construction shall be based on sound engineering design and construction.

1.10 Changes in the design, continued construction and operation of the disposal system shall be consistent with the Milepost 7 Five Year Operations Plan as conditionally approved by the MPCA on August 21, 1997, and any revisions thereto as approved by the MPCA and in compliance with the terms of this permit. The reasonable costs of related consulting services provided to the MPCA by their consultants to evaluate the design, construction and operation of the disposal system shall be borne by the Permittee.

1.11 If during test drilling, clearing, preparation of the foundation, development of borrow pits, or construction, continuous pervious zones are encountered, they shall be cut-off, blanketed or otherwise treated as approved by the MPCA to minimize the transmission of pollutants into the ground water and prevent potential stability problems.

Upon discovery of such pervious zones, the Permittee shall provide to the MPCA for approval, the design plans and construction specifications for mitigation of potential seepage and stability problems. Upon approval by the MPCA, the Permittee shall complete construction according to the approved design plans and construction specifications. No impoundment of water or tailings is permitted, except for an approved containment structure, before approval by the MPCA.

1.12 The Permittee shall notify the MPCA in writing at least 30 days before either of the following:

a. The addition of hydraulic relief features, such as granular blanket and filter drains, relief wells and relief trenches, other than those described in the Permitted Facility Description, to any of the tailings basin perimeter or seepage recovery dams; and

b. The modification of those hydraulic relief features described in the Permitted Facility Description.

1.13 Engineering analyses and charts, developed to correlate instrumentation readings for the dams and foundations to readily predict the stability of the dams, shall be made available to the MPCA upon request.

1.14 Permanent markers in the natural ground, established for each dam structure based upon surveying conducted before construction, shall not be subject to future disturbance.

Chapter 6. Industrial Process Wastewater, NPDES/SDS

1. Mine Tailings Basin

1.15 Except for containerized, indoor, or totally covered tailings stockpiles which are permitted outside the disposal area, tailings shall be disposed of at all times in the Mile Post 7 Tailings Basin. The use of tailings for stream diversions during construction, operation and post-operational phases is prohibited.

The transport and use of coarse tailings from the facility is prohibited if it would not be consistent with the Milepost 7 Five Year Operations Plan, as conditionally approved by the MPCA on August 21, 1997 (and any revisions thereto as approved by the MPCA and in compliance with the terms of this permit), particularly for storage and schedule requirements for coarse tailings cover placement.

1.16 With the approval of the MPCA, tailings may be temporarily stored within the tailings disposal area for dam construction purposes or used within the basin area for road construction, provided:

a. Temporarily stored tailings volumes shall be limited to the amount detailed in the Milepost 7 Five Year Operations Plan, as conditionally approved by the MPCA on August 21, 1997, and any revisions thereto as approved by the MPCA and in compliance with the terms and conditions of this permit.

b. All tailings storage areas shall be located within the drainage area to the tailings basin, and the sum of all the exposed coarse tailings including the storage areas shall be minimized to the maximum practicable extent in compliance with the Milepost 7 Five Year Operations Plan, as conditionally approved by the MPCA on August 21, 1997.

c. Tailings storage areas shall be treated with water or chemicals, according to the Total Facility Requirements, Special Requirements section of this permit, as necessary to stabilize the surface and maintain essentially zero visible emissions.

d. Tailings used for road construction shall be adequately covered with native soils or other suitable natural or artificial barriers.

In addition, upon approval of the MPCA, tailings may be used in the present plant area in a bonded condition or used for backfill when suitable covered by artificial or natural barriers. Except as described herein, the Permittee is prohibited from using tailings for any other purpose or allowing any other person or governmental entity to use tailings for any purpose, unless otherwise approved in writing by the MPCA.

The Permittee shall notify the MPCA in writing at least 180 days before any expansion of the area covered by mining waste beyond that area contained within the perimeter dams for the tailings basin on the issuance date of this permit.

Chapter 6. Industrial Process Wastewater, NPDES/SDS

1. Mine Tailings Basin

1.17 The Permittee shall maintain a sufficient volume of coarse tailings at the Mile Post 7 tailings basin, on a continuous basis, to provide the following cover and to address the other requirements described below if an unanticipated facility production shutdown or facility closure occurs:

a. A three-foot cover depth over that area of the remaining pond(s) in the basin that can be affected by wave action, including at least the first 100 ft of shoreline extending into the pond(s);

b. A one-foot cover depth over the central area of these pond(s) that would not be affected by wave action;

c. A three-foot cover depth over those fine tailings surfaces that will not remain permanently inundated; and

d. For the other needs at the tailings basin, including any requirements of the Minnesota Department of Natural Resources.

If the MPCA approves in writing revised cover depths from those identified in items a through c, the Permittee shall identify and substitute those revised depths in complying with the coarse tailings volume requirements herein. Such MPCA approval may be through the specific MPCA approval of revised cover depths in a new operating plan developed by the Permittee.

1.18 On at least an annual basis, the Permittee shall make a written evaluation and determination of the coarse tailings volume needs for the Mile Post 7 tailings basin to ensure the Permittee is in compliance with the requirement above. The Permittee's evaluation shall address coarse tailings amount needs (current and anticipated) to address permit requirements, coarse tailings reserves, anticipated coarse tailings generation and anticipated off-site shipments of coarse tailings. In addition for each year, the Permittee also shall make this evaluation and determination for the future based on projections of need, reserves and projected generation rates and off-site shipments. This annual evaluation and determination shall calculate the projected materials balance for the upcoming year, and discuss the projected materials balance for beyond, to demonstrate that adequate coarse tailings will be available to cover (as identified above) the complete area of exposed and underwater fine tailings that would be present if an unanticipated facility production shutdown or facility closure occurs. This discussion shall be presented for various stages of future development at the tailings basin. The Permittee shall maintain written records of the annual evaluations and determinations.

The Permittee shall include copies of the Permittee's written annual evaluations and determinations in the Annual Report for the tailings basin to demonstrate that the above coarse tailings volume requirements were maintained at the Mile Post 7 tailings basin during the previous calendar year and will be maintained for the future.

Chapter 6. Industrial Process Wastewater, NPDES/SDS

1. Mine Tailings Basin

1.19 The coarse and fine tailings disposal system, pipelines, transport system, and appurtenances are designed, constructed and operated to collect and treat process wastewater, rainfall, runoff and seepage contained in the impoundment facility and seepage collection basins. Wastewater discharge from the facility shall be based on the terms and conditions of this permit, which considers excess accumulation of water in the Mile Post 7 tailings basin based on present and previous reduced production levels, and the operation of the facility based on the Milepost 7 Five Year Operations Plan, as conditionally approved by the MPCA on August 21, 1997, and any revisions thereto as approved by the MPCA and in compliance with the terms of this permit.

1.20 The Permittee shall operate the tailings transport dual pipeline system, and reclaim water pipeline, according to those portions of the December 17, 2002, Disposal System 5 Year Operations Plan that relate to these three pipelines.

1.21 The Permittee shall make every effort to prevent and contain any breaks in or spills from the tailings and process return water pipelines that run between the E.W. Davis Works plant area and the tailings basin. The Permittee in particular shall comply with the requirements of the Noncompliance, Upset Defense and Duty to Notify and Avoid Pollution requirements of the Total Facility section of this permit, should a pipeline break or spill occur.

1.22 The Permittee shall maintain sufficient freeboard capacity year-round in the Pump House 2 Tailings Basin to contain sufficient storage volume to accommodate the upgradient pipeline volumes.

Chapter 6. Industrial Process Wastewater, NPDES/SDS

1. Mine Tailings Basin

1.23 At a minimum, the pipeline operation and maintenance procedures shall include and document the following items:

a. Instrumentation and procedures to regularly measure flow, pressure, slurry densities and pipeline integrity. Non-destructive ultra-sonic pipe thickness measurements shall be performed a minimum of twice per year unless otherwise requested by the MPCA.

b. Identification of the specific thresholds that dictate pipeline rotation, repair and replacement, consistent with good engineering practices.

c. Alarm systems and response procedures to identify and respond to pipeline failures.

d. Automatic shut-off devices for pumps if a pipeline fails.

e. Catchment basins for use in draining closed sections of pipeline so that the drainage can be collected and properly disposed of. The Permittee in particular shall identify how the Pump House 2 Tailings Basin sediment storage capacity, wastewater storage capacity, freeboard and liner system are maintained to handle routine and emergency pipeline drainage while preventing overflow and seepage from the basin.

f. Predetermined procedures for clean-up and mitigation of adverse impacts from pipeline failures.

g. Procedures for mitigation of pipeline freezing.

h. A higher level of care for the pipeline sections within 0.25 miles on either side of the East Beaver River crossing. This higher level of care shall be reflected in terms of non-destructive ultra-sonic pipe thickness measurements performed a minimum of twice per year for these sections of the tailings pipelines.

1.24 The Permittee shall report to the MPCA, in the monthly reports described in the Total Facility Requirements, Reporting section of this permit, the number of reclaim and tailings pipeline-related alarm signals that occurred during the previous calendar month. The Permittee shall identify the cause of each signal, the pipeline with which it was associated, and the responses taken. If no alarm signals occurred during the previous month, the Permittee shall indicate that in the monthly report.

1.25 Representative analysis of the fine tailings wastewater slurry flow rate and density shall be performed monthly, and the results shall be made available to the MPCA upon request.

Chapter 6. Industrial Process Wastewater, NPDES/SDS

1. Mine Tailings Basin

1.26 When a section of pipe is determined to have reached the minimum wall thickness, the Permittee shall replace or repair that pipe section in a timely manner to maintain the pipeline in good working order and to prevent the potential for breaks in or spills from the pipeline, and not to exceed 180 days from the date of that determination.

1.27 The Permittee shall prepare a Pipeline Semiannual Report, and submit a copy of this report to the MPCA. This report shall detail, for the preceding six months:

a. The pipeline sections at or below the thresholds for rotation, repair and replacement, and the dates that these sections of pipe were determined to be at or below this threshold.

b. The schedule for rotating, repairing and replacing those pipeline sections.

c. The pipeline sections rotated, repaired and replaced.

1.28 The Permittee shall submit the Pipeline Semiannual Report to the MPCA by March 31 and September 30 of each year following permit issuance.

1.29 The major modification or reissuance of this permit is required to authorize a pump, siphon or spillway discharge from the tailings basin, including seepage recovery ponds, or to authorize an increase in discharge that would result from reducing or eliminating pumping to the tailings basin from the seepage pond recovery pumps.

If the Permittee proposes such a new or expanded discharge, the complete permit application for the discharge shall be submitted to the MPCA at least 180 days before the planned starting date of the discharge, and shall include at least the following:

a. a detailed map and diagram description of the proposed design for the flow control structures, and route of the discharge to receiving waters;
b. detailed engineering design plans and specifications to ensure compliance with the applicable water quality standards in the downstream waters of the state, including wetlands;
c. a discussion of the need for the proposed discharge in the context of the overall water balance for the facility;
d. information sufficient to demonstrate compliance with the applicable non-degradation and BAT requirements; and
e. the appropriate application fee, according to Minn. R. 7002.0250.

2. Authorization

2.1 This permit does not authorize the construction or installation of pipeline facilities.

Chapter 6. Industrial Process Wastewater, NPDES/SDS

3. Prohibited Discharges

3.1 The Permittee shall prevent the routing of pollutants from the facility to a municipal wastewater treatment system in any manner unless authorized by the pretreatment standards of the MPCA and the municipal authority.

3.2 The Permittee shall not transport pollutants to a municipal wastewater treatment system that will interfere with the operation of the treatment system or cause pass-through violations of effluent limits or water quality standards.

3.3 The disposal system shall be designed and operated to maximize the collection of both seepage and surface runoff from the tailings areas, during the continuing construction and operation phases. During the operation phase all surface runoff from the tailings areas shall be collected. All waters collected during the operation phase shall be returned to the tailings basin impoundment area except as authorized for discharge according to this permit.

3.4 The uncollected seepage through the foundation of the Mile Post 7 Tailings Basin shall not exceed the rate of 200 gallons per minute. The material balance of all inputs and outputs at the facility shall be considered to the extent practicable in determining compliance with this condition. The Permittee shall measure pore water pressures and ground water quality downstream of the tailings dams to ensure that:

a. Excessive seepage pressures do not develop in the foundation soils; and

b. Water quality is not degraded by seepage flows.

If observations indicate high seepage pressures or degradation of water quality, mitigative measures approved by the MPCA shall be undertaken by the Permittee.

Any water which reaches surface waters as a result of seepage recovery facility failure shall be rapidly sampled in an intensive manner to determine both quantitative and qualitative levels of pollutants, and reported immediately to the MPCA. At the request of the MPCA, the Permittee also shall conduct biological monitoring to assess any impacts of such seepage on aquatic organisms.

Intensive surveys have been conducted to assess the qualitative and quantitative changes in water quality which occurred both during major rainfall events and during spring snowmelt runoff. At the request of the MPCA, the Permittee may be required to conduct similar surveys in the event of extreme meteorological conditions.

Diversion ditches, as described in the January 24, 1990, Operating Plan, and according to the requirements of this permit, may be used to divert water away from the tailings disposal system.

Chapter 6. Industrial Process Wastewater, NPDES/SDS

4. Mobile and Rail Equipment Service Areas

4.1 The Truck Repair Shop, and other mobile equipment and rail equipment service areas in the facility, shall be operated in compliance with the following:

a. The Permittee shall collect and dispose of locomotive traction sand, degreasing wastes, motor oil, oil filters, oil sorbent pads and booms, transmission fluids, power steering fluids, brake fluids, coolant/antifreeze, radiator flush wastewater and spent solvents according to applicable solid and hazardous waste management rules and statutes. These materials, including the non-aqueous portion from flammable traps and oil/water separators, shall not be discharged to surface or ground waters of the state.

b. The steam-cleaning of mobile equipment and rail equipment shall be conducted in wash bays that drain to wastewater treatment systems that include the removal of suspended solids and flammable liquids. The only washing of mobile equipment done in outside areas shall be to remove mud and dirt that has accumulated during outside work.

c. The Permittee shall not use solvent-based cleaners, including brake cleaners and degreasers, to wash mobile and rail equipment unless the cleaning fluids are completely contained and not allowed to flow to surface or ground waters of the state.

d. Mobile and rail equipment maintenance and repairs shall not be conducted, and hazardous materials shall not be stored or handled, in wash bays.

e. The Permittee shall inspect wastewater containment systems regularly, and promptly repair any leaks that are detected.

f. Leaks or spills of petroleum products that enter wastewater containment systems shall be mitigated immediately.

g. The cleaning of floors shall maximize the use of dry sorbent materials, and minimize the use of water and other fluids.

h. Spill cleanup procedures shall be posted in mobile and rail equipment maintenance and repair areas.

Chapter 6. Industrial Process Wastewater, NPDES/SDS

5. Toxic Substance Reporting

5.1 The Permittee shall notify the MPCA immediately of any knowledge or reason to believe that an activity has occurred that would result in the discharge of a toxic pollutant listed in Minn. R. 7001.1060, subp. 4 to 10, or listed below that is not limited in the permit, if the discharge of this toxic pollutant has exceeded or is expected to exceed the following levels:

a. for acrolein and acrylonitrile, 200 ug/L;

b. for 2,4-dinitrophenol and 2-methyl-4,6-dinitrophenol, 500 ug/L;

c. for antimony, 1 mg/L;

d. for any other toxic pollutant listed in Minn. R. 7001.1060, subp. 4 to 10, 100 ug/L; or

e. five times the maximum concentration value identified and reported for that pollutant in the permit application.

5.2 The Permittee shall notify the MPCA immediately if the Permittee has begun or expects to begin to use or manufacture as an intermediate or final by-product a toxic pollutant that was not reported in the permit application under Minn. R. 7001.1050, subp. 2.J.

6. Polychlorinated Biphenyls (PCBs)

6.1 PCBs, including but not limited to those used in electrical transformers and capacitors, shall not be discharged or released to the environment.

Chapter 7. Land Application of Industrial By-Products, SDS

1. General Requirements

1.1 This permit does not authorize the disposal of demolition debris, bottom ash, fly ash or pyritic coal fines.

1.2 Except as identified in the Permitted Facility Description, this permit does not authorize the disposal of cleaning wastes nor wastewater from the facility Power Plant, including air preheater cleaning wastes, boiler fireside cleaning wastes, nor boiler waterside cleaning wastes.

1.3 The Permittee shall report to the MPCA, in the monthly reports described in the Total Facility Requirements, Reporting section of this permit, those wastewaters generated by such cleaning at the facility and how and where they are disposed of.

Chapter 8. Non-Contact Cooling Water, NPDES/SDS

1. Intake Screens

1.1 The Permittee shall operate the Lake Superior intake water system in a manner to minimize the entrainment and impingement of aquatic life, consistent with the procedures described in the 316(b) report on the intake system dated October 7, 1982.

1.2 The Permittee shall comply with Minnesota Department of Natural Resources (DNR) requirements concerning costs or charges assessed by the DNR for loss of fish or other aquatic life due to impingement or entrainment.

1.3 Water used to rinse the intake screens shall be free of chlorine and chemical additives.

1.4 The Permittee shall dispose of debris collected on the intake screens in a manner that prevents the debris from entering waters of the state.

2. Authorization

2.1 The discharge from outfall SD003 is limited to non-chlorinated, once-through, non-contact cooling water, and shall be free of process wastewater and other wastewater.

Chapter 9. Dredge, SDS (SW Discharge)

1. General Requirements

1.1 Material removed during occasional maintenance dredging at outfall SD003 shall be managed at the facility in a manner to prevent the runoff and other drainage from the material from directly entering Lake Superior. Runoff and other drainage from the outfall SD003 dredged material present at the facility shall be collected and routed to the Milepost 7 tailings basin.

Chapter 10. Industrial Stormwater, NPDES/SDS

1. Authorization

1.1 The Permittee shall obtain a permit modification before expanding the area covered by excavations, materials or equipment storage areas, mining waste or wastewater disposal systems beyond the boundary of the area designated on pages 7 to 8 of this permit.

2. Prohibited Discharges

2.1 This permit does not authorize the discharge of sewage, spills, oil, hazardous substances, nor equipment/vehicle cleaning and maintenance wastewaters to ditches, wetlands nor other surface waters of the state.

2.2 All runoff from materials storage sites at the E.W. Davis Works, including coal, petroleum coke, flux, slag and iron ore stockpiles, shall be collected and routed to the Mile Post 7 tailings basin. No such runoff shall drain to Lake Superior.

Chapter 10. Industrial Stormwater, NPDES/SDS

3. Water Quality Standards

3.1 The Permittee shall operate and maintain the facility and shall control runoff, including storm water, from the facility to prevent the water quality standards specified in Minn. R. chs. 7050 and 7060 from being exceeded in the waters of the state, including but not limited to those waters listed on page 1 of this permit.

3.2 The Permittee shall limit and control the use of materials at the facility that may cause ground water standards to be exceeded. These materials include, but are not limited to, laboratory chemicals, detergents and cleaning agents, solvents, chemical dust suppressants, lubricants, fuels, drilling fluids, oils, fertilizers, explosives and blasting agents.

4. Stormwater Pollution Prevention Plan

4.1 The Permittee shall comply with the Storm Water Pollution Prevention Plan for the facility dated June 2002, and all subsequent revisions.

5. Inspection and Maintenance

5.1 The Permittee shall inspect the facility on a regular basis to ensure that the Best Management Practices are being maintained.

6. Application of Chemical Dust Suppressants

6.1 Coherex shall not be applied within 100 feet of Lake Superior, the Beaver River and its tributaries, Big and Little Thirty-Nine Creeks, Bear Lake, nor other wetland or stream surface receiving waters. Coherex also shall not be applied within 100 feet of ditches that conduct surface flow to these surface receiving waters, except for along the West Ridge Road.

6.2 Coherex shall not be applied within 200 feet of any private water supply well nor within 1,000 feet of any public water supply well.

6.3 Coherex shall be applied in a manner that does not exceed product application guide rates and does not result in surface runoff. Coherex shall not be applied to paved or other impervious areas.

Chapter 11. Total Facility Requirements

1. Definitions

1.1 "Amphibole" is a group of hydrated silicate minerals usually containing two or more metals such as iron, magnesium and/or calcium. Amphibole minerals share a common crystalline structure with a double chain of linked silica tetrahedra.

Chapter 11. Total Facility Requirements

1. Definitions

1.2 "Best Available Technology" means the application to a treatment facility of the best available technology economically achievable as required by Section 301(b)(2) of the Clean Water Act, U.S. Code, Title 33, Section 1311(b)(2).

1.3 "Best Management Practices" means practices to prevent or reduce the pollution of the waters of the state, including schedules of activities, prohibitions of practices, and other management practices, and also includes treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

1.4 "Calendar Month Average" is calculated by adding all daily values measured during a calendar month and dividing by the number of daily values measured during that month. The "Calendar Month Average" limit is an upper limit.

1.5 "Calendar Month Maximum" is the highest value of single samples taken throughout the month. The "Calendar Month Maximum" is an upper limit.

1.6 "Calendar Month Total" is calculated by adding all daily values measured during a calendar month. It is usually expressed in mass or volume units. The "Calendar Month Total" is an upper limit.

1.7 "Calendar Year Average" is defined as the twelve-month rolling average of concentrations. The station SD008 "calendar year average" is calculated by adding the station SD001 individual sample values during the last twelve months, including the values sampled during the month of the current reporting period, and dividing by the number of sample values during that twelve-month period.

1.8 "Calendar Year Maximum" is the highest value of single samples taken throughout the calendar year. The "Calendar Year Maximum" is an upper limit.

1.9 "Calendar Year To Date Total" is calculated by adding all amounts measured from the first month in the "effective period" to the end date of the reporting period. It is usually expressed in mass or volume units. The "Calendar Year To Date Total" is an upper limit for the entire year, but is reported monthly. When the limit is reached, further applications or discharges are prohibited.

1.10 "Chrysotile" is a fibrous magnesium silicate mineral in the serpentine group with a characteristic scroll-like structure which often gives the unit fibers a hollow-tube appearance.

1.11 "Closure" shall mean operation and closure of the facility consistent with the Milepost 7 Five Year Operations Plan, as conditionally approved by the MPCA on August 21, 1997, and any revisions thereto as approved by the MPCA and in compliance with the terms of this permit.

Chapter 11. Total Facility Requirements

1. Definitions

1.12 "Coarse tailings," as managed at the tailings basin, means a mixture of 65-75 percent dry cobs and 25-35 percent filtered tailings.

1.13 "Cummingtonite-grunerite" is a monoclinic silicate mineral of the amphibole group containing varying ratios of iron and magnesium as the dominant metal components.

1.14 "Daily Maximum" means the maximum allowable discharge of pollutant during a calendar day. Where daily maximum limitations are expressed in units of mass, the daily discharge is the total mass discharged over the course of the day. Where daily maximum limitations are expressed in terms of a concentration, the daily discharge is the arithmetic average measurement of the pollutant concentration derived from all measurements taken that day. The "Daily Maximum" is an upper limit.

1.15 "Exposed coarse tailings" means coarse tailings surfaces that have not been treated by artificial means including but not limited to watering, chemical stabilization, mulching or vegetation, or natural methods (rainfall or snow cover).

1.16 "Fibers", for the purpose of this permit, are defined as chrysotile and amphibole mineral particles with 3-to-1 or greater aspect ratios.

1.17 "Flow Composite" sample type is a combination of individual grab samples taken at periodic intervals over the defined time period. Either samples taken at equal time intervals shall be combined using a volume of each sample that is proportional to the flow that sample represents, or equal volume samples shall be combined that are taken at intervals of equal flow volumes.

1.18 "Grab" sample type is an individual sample collected from one location at one point in time.

1.19 "Hydrologic Year Total" is calculated by adding all values measured during a hydrologic year (beginning on October 1 and ending on September 30 of the following calendar year). It is usually expressed in mass or volume units. The "Hydrologic Year Total" is an upper limit.

1.20 "Instantaneous Maximum" is the highest value recorded when continuous monitoring is used or when the reporting frequency is not specifically defined. The "Instantaneous Maximum" is an upper limit. The highest value recorded is reported.

1.21 "Instantaneous Maximum Intervention Limit" is the maximum value that, if exceeded by a single sample, the Permittee must perform specified response actions.

1.22 "Instantaneous Minimum" is the lowest value recorded when continuous monitoring is used or when the reporting frequency is not specifically defined. The "Instantaneous Minimum" is a lower limit. The lowest value recorded is reported.

Chapter 11. Total Facility Requirements

1. Definitions

1.23 "Single Value" is a reported value from a single sample or measurement for which there is no limit.

1.24 "Stormwater" means stormwater runoff, snow melt runoff, and surface runoff and drainage.

2. Sampling and Analyses

2.1 Samples and measurements required by this permit shall be representative of the monitored activity and shall be analyzed by a laboratory certified by the Minnesota Department of Health for the applicable permitted parameters. Information on laboratory certification is available from the Minnesota Department of Health at (612)676-5243.

Analyses of dissolved oxygen, pH, temperature and total residual chlorine shall be conducted as soon as possible after sample collection, and no later than one hour after collection; these analyses do not need to be completed by a certified laboratory.

2.2 Sample preservation and test procedures for the analysis of pollutants shall conform to 40 CFR Part 136.

2.3 Fiber analyses shall be quantitative including fiber concentrations as amphibole, chrysotile, non-amphibole/non-chrysotile, ambiguous, and shall also include a mineralogical breakdown of the fibers found and the range of concentrations, consistent with Minnesota Department of Health (MDH) statistical procedures. Monitoring for fibers required by this permit shall be performed according to MDH Method Code 851, "Transmission Electron Microscope Analysis for Asbestos in Water" (March 19, 1991). The Permittee, at its own discretion, may perform fiber monitoring according to U.S. Environmental Protection Agency (EPA) Method EPA-600/4-83-043, "Analytical Method for Determination of Asbestos Fibers in Water" (September 1983), but such monitoring shall not substitute for monitoring according to MDH Method Code 851.

Nothing herein shall be considered a waiver by the Permittee of its right to contest data or conclusions derived from the analytical methods acceptable to the MDH and the MPCA.

2.4 Except for station WS006 monitoring, the mercury water sampling and analyses required by this permit shall be conducted using the most current revisions of EPA Methods 1669 and 1631. If the EPA approves another mercury analytical method under 40 CFR Part 136 that enables detection of mercury to levels at least as low as those of Method 1631, the Permittee may conduct the mercury water analyses required by this permit using that method.

The other metals analyses required by this permit, except for calcium, iron, magnesium, manganese, potassium, sodium and zinc, shall be conducted using low-level detection methods, for example atomic absorption (AA) furnace methods.

Chapter 11. Total Facility Requirements

2. Sampling and Analyses

2.5 The volatile organics analyses required by this permit shall be conducted using Minnesota Department of Health Method 468 or equivalent method.

The polynuclear aromatic hydrocarbon analyses required by this permit shall be conducted using EPA Method 610 with high performance liquid chromatography.

If an updated/revised method, or a new method, with a lower detection limit is promulgated according to 40 CFR 136, the MPCA may approve in writing the use of this updated/revised or new method for these analyses required by this permit.

2.6 The amines analyses required by this permit shall be conducted using the Michigan Technological University "Bromophenol Blue Method for Detecting Trace Amine."

2.7 All monitoring and analytical instruments used to monitor as required by this permit shall be calibrated and maintained at a frequency necessary to ensure accuracy. The Permittee shall measure flows to ensure accuracy within plus or minus ten percent of the true flow values. The Permittee shall maintain written records of all calibrations and maintenance.

2.8 The "sample type", "sampling frequency" and "effective period" identified in the Limits and Monitoring section of this permit together designate the minimum required monitoring frequency.

2.9 If a Permittee monitors more frequently than required by this permit, the results and the frequency of monitoring shall be reported on the Discharge Monitoring Report (DMR) or other form for that reporting period.

2.10 A biological monitoring program has been conducted to determine the diversity of aquatic organisms in the basin area. This background information shall be used for future reference should the water quality monitoring program indicate water quality changes due to basin operation that may have an effect on aquatic organisms. At the request of the MPCA, the Permittee shall conduct biological surveys to assess the impact of such water quality changes.

2.11 For bypasses, upsets, spills or any other discharge that may cause pollution of the waters of the state, the Permittee shall take at least one grab sample for permitted effluent parameters two times per week. If the Permittee believes that measuring these parameters is inappropriate due to known information about the discharge, the monitoring may be modified in consultation with the MPCA. Where there is reason to believe a pollutant other than those limited in the permit is present, the Permittee shall sample for that pollutant. Appropriate sampling shall be determined in consultation with the MPCA.

Chapter 11. Total Facility Requirements

3. Reporting

3.1 The Permittee shall report monitoring results for the completed reporting period in the units specified by this permit on a Discharge Monitoring Report (DMR) form or other report form provided by the MPCA.

3.2 The Permittee shall report monitoring results below the reporting limit (RL) of a particular instrument as "<" the value of the RL. For example, if an instrument has a RL of 0.1 mg/L and a parameter is not detected at a value of 0.1 mg/L or greater, the concentration shall be reported as "<0.1 mg/L." "Non-detected", "undetected", "below detection limit" and "zero" are unacceptable reporting results, and are permit reporting violations.

3.3 A Discharge Monitoring Report (DMR) shall be submitted for each station even if no discharge occurred during the reporting period. The Permittee shall report 'No Discharge', 'No Flow' or 'No Materials Generated' on a DMR or other monitoring report form only if no discharge, flow or materials are generated during the entire reporting period. The schedule for reporting can be found on the Submittals Summary section of this permit.

3.4 Individual values for each sample and measurement for stations SW001 through SW006 shall be reported on the Supplemental Report Form provided by the MPCA and submitted with the Discharge Monitoring Report (DMR).

3.5 For DMR submittal, "submit a monthly DMR monthly by 21 days after the end of each calendar month" means received or postmarked no later than the 21st day of the month.

3.6 The Permittee shall report the following information on the Discharge Monitoring Report (DMR):

a. any substantial changes in operational procedures;

b. activities which alter the nature or frequency of the discharge; and

c. material factors affecting compliance with the conditions of this permit.

3.7 The Permittee also shall submit with the monthly Discharge Monitoring Reports the following information required by the sections noted:

a. The pipeline-related alarm signal information in the Mine Tailings Basin section.

b. The Power Plant cleaning wastes information in the Industrial Residual Solids section.

3.8 The Permittee or the duly authorized representative of the Permittee shall sign the reports and documents submitted to the MPCA by the Permittee.

Chapter 11. Total Facility Requirements

3. Reporting

3.9 A person who falsifies, tampers with, or knowingly renders inaccurate a monitoring device or method required to be maintained under this permit is subject to penalties provided by federal and state law.

3.10 The Permittee shall report noncompliance with the permit not reported under Minn. R. 7001.0150, subp. 3, item K as a part of the next report which the Permittee is required to submit under this permit. If no reports are required within 30 days of the discovery of the noncompliance, the Permittee shall submit the information listed in Minn. R. 7001.0150, subp. 3, item K within 30 days of the discovery of the noncompliance.

3.11 A person who knowingly makes a false statement, representation, or certification in a record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance is subject to penalties provided by federal and state law set forth.

4. Records

4.1 The Permittee shall maintain records for each sample and measurement. The records shall include the following information:

a. the exact place, date and time of the sample or measurement;

b. the date of analysis;

c. the name of the person who performed the sample collection, measurement, analysis, or calculation;

d. the analytical techniques, procedures and methods used; and,

e. the results of the analysis.

4.2 The Permittee shall keep the records required by this permit for at least three years, including any calculations, original recordings from automatic monitoring instruments, and laboratory sheets. The Permittee shall extend these record retention periods upon request of the MPCA and/or during the course of an unresolved enforcement action.

4.3 Except for data determined to be confidential according to Minn. Stat. ch. 116.075, subd. 2, all reports required by this permit shall be available for public inspection at the MPCA St. Paul office. Effluent data shall not be considered confidential. Confidential material shall be submitted according to Minn. R. 7000.1300.

Chapter 11. Total Facility Requirements

4. Records

4.4 The Permittee shall, when requested by the MPCA, submit within a reasonable time the information and reports that are relevant to the control of pollution regarding the construction, modification, or operation of the facility covered by the permit or regarding the conduct of the activity covered by the permit.

5. Intervention Limits

5.1 For the purpose of determining compliance with the intervention limits for surface receiving water quality, the background quality of surface waters has been characterized considering data collected at stations SW004 (101), 103, 111 and 112 from November 1974 through December 1983. The background levels, which to an unknown extent may be affected by human activities, are indicated as "Response Level" intervention limits. In the absence of unusual upstream disturbances, unusual meteorological conditions or impacts from the basin, it is expected (at a confidence level of 95 pct) that 95 pct of all values measured over the long-term will fall below the intervention limits.

The fluoride intervention limit for surface water quality does not indicate the true natural background level but rather indicates the minimum level of analytical detectability above which the natural background level is not observed to occur. This value may be subject to future change based on improved analytical techniques.

These intervention limits guide the MPCA in identifying surface water quality impacts potentially caused by basin operations. The MPCA recognizes that some excursions over these values will occur either by change or as a result of other factors outside of the control of the Permittee. The Permittee shall document each time a surface water quality intervention limit is exceeded and provide an explanation on the monthly DMR reports.

Chapter 11. Total Facility Requirements

5. Intervention Limits

5.2 The MPCA will use the following criteria in determining whether exceeding a surface receiving water quality intervention limit requires follow-up actions by the Permittee. However, at no time shall concentrations exceed the applicable water quality standards according to Minn. R. ch. 7050 or levels resulting from application of Best Available Technology.

1) Beaver River chemical parameters. Any one parameter value greater than the intervention limits in four consecutive samples from the same sampling station.

2) Beaver River fibers. Any two values greater than the intervention limits in three consecutive samples. In addition, if and when cummingtonite-grunerite fiber levels exceed 3.3 million fibers/L at stations SW011 and SW012 (also known as 102 and 105), the MPCA shall evaluate the levels of amphibole fibers. The MPCA has determined that cummingtonite-grunerite is predominantly associated with the Permittee's tailings while the remaining amphiboles are associated with the existing native soils in the basin area.

3) Bear Lake parameters. Any value greater than the intervention limits within the term of this permit.

5.3 If the above criteria are exceeded, the MPCA, taking into consideration the level of the excursions noted, and Minn. R. 7050.0180 (and any amendments thereto), may require the Permittee to do any of the following:

1. Conduct additional monitoring.

2. Conduct such studies as are reasonably necessary to determine the cause of the excursions.

3. Develop plans for mitigation of surface water quality impacts.

4. Take other reasonable action that is necessary for mitigation of surface water quality impacts.

The Permittee shall provide any information, reports or plans for mitigation to the MPCA. Upon approval of plans by the MPCA, these plans shall be implemented and adhered to by the Permittee.

Surface receiving water quality intervention limits may be proposed by the MPCA. These intervention limits shall consider appropriate data, including but not limited to, data collected during the period of the previous permits and by the Permittee. Any proposed modification of this permit to include additional intervention limits shall be consistent with Minn. R. 7001.0170 (and any amendments thereto), and the permit modification sections of this permit.

Chapter 11. Total Facility Requirements

5. Intervention Limits

5.4 If an intervention limit for other than the Beaver River and Bear Lake stations is exceeded, the Permittee shall:

a. sample the monitoring station again within seven days of receiving sample results if the previous samples at the facility did not exceed the intervention limit;

b. evaluate the significance and the cause of the intervention limit having been exceeded;

c. evaluate the need for immediate corrective action to prevent pollutant levels from exceeding the intervention limits again; and

d. evaluate the need for changes in monitoring, including but not limited to, increasing sampling frequencies, changing the characteristics monitored, installing additional monitoring stations, and reducing pollutant loadings.

5.5 The Permittee shall submit an Intervention Limits Exceeded Report with the DMR that identifies when an intervention limit has been exceeded.

5.6 This report shall describe the evaluations and conclusions, and the schedule of actions taken or planned to prevent the intervention limits from being exceeded.

6. Special Requirements

6.1 By February 28 of each year, the Permittee shall submit an Annual Progress Report on the Environmental Management System (EMS) initially designed and implemented in 2001-2002.

6.2 This EMS Annual Progress Report shall at a minimum:

a. Describe any major changes made to the water quality-related aspects of the EMS implementation framework, with emphasis on any changes made in the (1) routine oversight/corrective action and (2) management review elements of the EMS;

b. Identify the dates of the EMS system audits conducted by the Permittee and/or independently accredited third parties during the previous year; and

c. Describe any major goals that are planned for the next year to support the water quality-related aspects of the EMS implementation, and related tasks for achieving those goals.

If the Permittee maintains ISO 14001 registration, the Annual Progress Report shall certify that this registration is valid as of the date of the Report, and the Annual Progress Report then does not need to include items a through c above.

Chapter 11. Total Facility Requirements

6. Special Requirements

6.3 The Permittee shall be required to apply the Best Available Technology (BAT) to maintain water and air quality and to comply with the applicable laws, rules, court orders and decisions, specifically including Minn. R. 7009.0010 to 7009.0080, 7050 and 7060, and other duly adopted rules and standards that now or in the future may be applied to the facility.

6.4 Reasonable costs related to monitoring and analysis beyond the routine compliance monitoring conducted by the MPCA or consultants directed by the MPCA shall be borne by the Permittee. Such costs also shall include necessary MPCA consultants to evaluate the design, construction and operation of the Mile Post 7 wastewater treatment plant.

6.5 The Permittee shall obtain the written approval of the MPCA before implementing process operational scenarios at the PDRDP alternative to those probable extreme scenarios (in terms of potential maximum impacts on water quality) described in detail by the Permittee's PDRDP submittals to the MPCA dated June 5, July 15 and August 13, 2002. The alternative PDRDP scenarios requiring approval include, but are not limited to, the generation of contact cooling water and/or quench water, and the use of raw iron and ore concentrates other than those generated by the Permittee's Peter Mitchell Mining Area.

The Permittee shall provide a request for approval, including a detailed description of the proposed alternative PDRDP scenario requiring approval, at least 90 days before the anticipated startup of the alternative scenario. For the proposed use of raw iron and ore concentrates, the Permittee shall at a minimum provide the following information to the MPCA with its request for approval:

a. The total amount by mass of the materials proposed for use.
b. The origin, by location and supplier, of the proposed materials.
c. Measured values representative of the content in the proposed materials of the potential pollutants fluoride, mercury, molybdenum, sodium and sulfur.

The major modification or reissuance of this permit may be required for alternative process operational scenarios at the PDRDP that have the potential to worsen existing water quality violations at the facility, including violations of fluoride limits.

6.6 Permit requirements relating to stations WS011 and WS012 shall expire when the PDRDP is closed and dismantled, and the PDRDP scrubber system is completely removed.

Chapter 11. Total Facility Requirements

6. Special Requirements

6.7 By July 1, 2004, the Permittee shall submit a preliminary design for one of the following options or a combination of these options, based on an ongoing evaluation involving independent, qualified technical professional consultant(s) experienced in water filtration and sedimentation treatment technologies:

a. A study to test the effectiveness and evaluate the corrosion potential of flocculant addition at the Water Reclaim Pond.

b. An engineering study for construction of a new filter dike.

c. An engineering study for the construction of a new splitter dike.

Turbidity levels in the treatment plant influent and effluent may serve as an indicator of the water treatment plant's effectiveness in removing fibers if the MPCA determines that this assumption is reasonable based on current turbidity and fiber data from the treatment plant. The submitted preliminary design(s) shall include a preliminary assessment, description and demonstration of the expected impacts on maintaining compliance with the turbidity and total amphibole fiber effluent limits consistent with the provisions in Total Facility Requirements, Compliance Responsibility section requirement 8.5 of this permit. The preliminary design(s) shall include a schedule for the submittal of final engineering plans and specifications and the proposed dates for the beginning of construction, the completion of construction and initiation of operation. These preliminary design(s) are subject to MPCA review and approval.

6.8 In accordance with the MPCA-approved preliminary design(s) and schedule, the Permittee shall submit final engineering plans and specifications. These plans and specifications shall include a final assessment, description and demonstration of the expected impacts on maintaining compliance with the turbidity and total amphibole fiber effluent limits consistent with the provisions in section 8.5 of this permit. These plans and specifications shall include a schedule that identifies dates for the beginning of construction, the completion of construction and initiation of operation of the MPCA-approved options. These plans and specifications are subject to MPCA review and approval. The Permittee shall begin construction, complete construction and initiate operation in compliance with the MPCA-approved schedule, plans and specifications.

7. Compliance Schedule

7.1 The Permittee shall comply with the fluoride effluent limits for outfall SD001 according to the following schedule.

7.2 The Permittee shall submit to the MPCA, for review and approval, final plans and specifications for full-scale fluoride wastewater treatment of the Pelletizing Plant air emission blowdown wastewater by February 16, 2004.

Chapter 11. Total Facility Requirements

7. Compliance Schedule

7.3 The full-scale fluoride wastewater treatment system shall be designed, constructed, operated, maintained and monitored to achieve the removal of the fluoride wastewater treatment system solids and sludges from the Pelletizing Plant air emission blowdown treatment system, with subsequent disposal of these solids and sludges at an MPCA-permitted industrial solid waste disposal facility.

7.4 The final plans and specifications for full-scale fluoride wastewater treatment of the Pelletizing Plant air emission blowdown wastewater shall include a projection of how the outfall SD001 fluoride concentration will change over time after the full-scale fluoride wastewater treatment system begins operation. The fluoride concentration projection shall include, at a minimum, a mathematical calculation of fluoride concentration in the SD001 effluent taking into account air emission blowdown wastewater volumes and fluoride concentration, types of pellets produced, treatment system removal efficiencies, tailings basin water volumes and fluoride chemistry, and the water balance of the facility. If necessary to account for variables in the process, the projection may be expressed as a range of fluoride concentrations. The projection shall include the period from start of operation of the full-scale fluoride treatment system to the expiration date of the permit or to the time when the SD001 effluent fluoride concentration is projected to reach a steady state condition, whichever is later.

7.5 Construction of the fluoride wastewater treatment system shall not begin until the MPCA has approved in writing the plans and specifications, in accordance with the Total Facility Requirements, Construction section of this permit.

7.6 The Permittee shall submit to the MPCA notice of the beginning of construction of the MPCA-approved full-scale fluoride wastewater treatment system by August 16, 2004.

7.7 The Permittee shall submit to the MPCA notice of the completion of construction and the initiation of operation of the MPCA-approved full-scale fluoride wastewater treatment system by November 15, 2004.

7.8 The Permittee shall conduct a Fluoride Removal Optimization Study beginning at the initiation of operation of the MPCA-approved full-scale fluoride wastewater treatment system, and continuing for 90 days thereafter.

7.9 The Fluoride Removal Optimization Study shall be conducted to determine the chemical (lime) dosages used for treatment associated with resulting fluoride concentrations in the treated blowdown effluent. The study shall be done using a range of lime dosages to include: a) the lime dosage required to produce the minimum achievable resulting treated blowdown effluent fluoride concentration; and b) an optimum lime dosage, or the lime dosage which produces maximum fluoride removal at lowest lime dosage. All lime dosages used shall be expressed in terms per mass of fluoride in the untreated blowdown influent, and shall be correlated with treated blowdown effluent fluoride concentrations, including the lime mass loadings used. Dosage testing shall occur under representative wastewater conditions.

Chapter 11. Total Facility Requirements

7. Compliance Schedule

7.10 A report on the Fluoride Removal Optimization Study shall be submitted to the MPCA, for review and approval, by 150 days after the initiation of operation of the MPCA-approved full-scale fluoride wastewater treatment system.

7.11 In addition to providing all data and test conditions, the Fluoride Removal Optimization Study report shall recommend a lime dosage to be used for continuous operation. The study may determine a most cost effective lime dosage, although the most cost effective dosage may not necessarily be the sole factor for determination of the eventual lime dosage operating setpoint by the MPCA. The lime dosage recommended shall at a minimum be a dosage projected to achieve eventual compliance with the outfall SD001 fluoride limits, and calculations or modeling shall be provided to demonstrate that compliance correlates with a recommended dosage. The MPCA will evaluate the Study report and will approve, reject, or modify the Permittee's recommended lime dosage. The lime dosage operating setpoint thus determined by the MPCA shall be implemented by the Permittee in the continuous operation of the treatment system. MPCA approval of a lime dosage setpoint may be amended in the event that the lime dosage setpoint is not projected by the MPCA to achieve eventual compliance with the outfall SD001 fluoride limits.

7.12 The Permittee shall progressively decrease the twelve-month average fluoride concentration at outfall SD001 starting by the initiation of operation of the MPCA-approved full-scale fluoride wastewater treatment system, and continuing throughout the term of this permit, or to the time when the fluoride effluent limits for outfall SD001 are achieved, whichever is earlier. The "twelve-month average" is a rolling average of concentrations. The twelve-month average is calculated by adding the individual sample values during the last twelve months, including the values sampled during the month of the current reporting period, and dividing by the number of sample values during that twelve-month period.

7.13 The Permittee shall comply with the intermediate fluoride effluent limits of 5.9 mg/l daily maximum and 4.8 mg/l monthly average, within 5 years of the date of permit modification. Fluoride analysis completed for SD001 will be used to determine compliance.

7.14 The Permittee shall evaluate the reduction of fluoride at the discharge of the MP7 Tailings Basin according to the estimated fluoride reduction curve submitted by NSM (Figure 3 on Page 23 of the "Nondegradation Analysis" dated March 25, 2005). If, at the time of application for permit reissuance (180 days prior to September 30, 2008), it is determined that the fluoride concentration at the discharge of the MP7 Tailings Basin will not comply with the intermediate fluoride limit within 5 years of the date of permit modification, the Permittee shall submit a request for variance from the fluoride limit with the application for permit reissuance.

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7. Compliance Schedule

7.15 The Permittee is responsible for the impacts on tailings basin fluoride levels that may result from changes in facility operation or raw material selection. Before the new or increased use or implementation of products or activities at the facility, the Permittee shall evaluate whether the product or activity will have the potential to increase the concentration of fluoride in the tailings basin. This evaluation process shall be incorporated within the EMS for the facility.

For products or activities that are determined to have the potential to increase fluoride concentrations in the tailings basin, the Permittee shall obtain the advance written approval of the MPCA prior to use or implementation. Activities and/or products subject to this evaluation include, but are not limited to, the following:

a. The installation of additional wet dust or air emission control equipment or control capacity at the Pelletizing Plant.

b. New, alternate, or increased use of materials containing fluoride or sodium as one or more of the principal ingredients, including, but not limited to, materials such as fluxstone, fluxes, pellet binders, fuels and chemical pipe and furnace cleansers.

c. Chemical and mechanical pipe and furnace cleaning and maintenance processes in the Pelletizing Plant system.

7.16 The Permittee's evaluation of whether the product or activity will have the potential to increase the concentration of fluoride in the tailings basin shall be made available to the MPCA upon request. For products or activities that are determined to have the potential to increase fluoride in the tailings basin, the Permittee shall provide a written request for approval, including a detailed description of the proposed activity requiring approval, to the MPCA at least 180 days before the proposed start of the activity. This request shall include calculations and discussion that demonstrate the effect these products or activities will have on the concentration of fluoride in the tailings basin. The request shall also include, as relevant, the following information:

a. The total amount by mass of the materials proposed for use.
b. The origin, by location and supplier, of the proposed materials.
c. Measured values representative of the content in the proposed materials of fluorine and sodium.
d. For chemical additives, the information required by the Total Facility Requirements, Chemical Additives section of this permit.

The major modification or reissuance of this permit may be required for activities that have the potential to worsen existing water quality violations of fluoride limits.

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8. Compliance Responsibility

8.1 The Permittee shall perform the actions or conduct the activity authorized by the permit according to the plans and specifications approved by the agency and in compliance with the conditions of the permit.

8.2 Whether or not this permit includes effluent limitations for toxic pollutants, the Permittee shall not discharge a toxic pollutant except according to 40 CFR sections 400 to 460 and Minn. R. 7050.0100 to 7050.0221 and 7052.0010 to 7052.0110 (applicable to toxic pollutants in the Lake Superior Basin) and any other applicable MPCA rules.

8.3 Consistent with Minn. R. 7050.0180 and 7060.0500, the disposal system and wastewater discharge shall be designed, constructed, operated and maintained by the Permittee to ensure to the maximum practicable extent that the ground and surface waters of the state are maintained at their natural quality. The increase in ground or surface waters of any pollutant shall not preclude the appropriate beneficial present and future use of the water.

The Permittee shall limit and control the use of materials at the facility when such use has caused or is likely to cause water quality standards to be exceeded in the ground water. Such materials include, but are not limited to, detergents and cleaning agents, solvents, chemical dust suppressants, lubricants, fuels, oils and fertilizers.

8.4 The Mile Post 7 wastewater treatment plant BAT turbidity operational performance levels have been determined to range between 0.1 nephalometric turbidity units (NTU) and 0.4 NTU depending on seasonal variation and influent quality to the wastewater treatment plant.

Based upon compliance with these operational performance levels for turbidity, the Permittee may, upon written approval of the MPCA, reduce the fiber monitoring frequency.

Noncompliance with the determined turbidity operational performance levels may be just cause for requiring additional fiber monitoring.

8.5 The Permittee shall comply with the total amphibole fiber effluent limits described in the Limits and Monitoring Requirements of this permit. Compliance shall be determined based on the fiber sampling and analysis required by the fiber monitoring requirements described below, or samples taken by the MPCA and analyzed according to the procedures described in the fiber monitoring requirements described below.

The total amphibole fiber effluent limit in the Limits and Monitoring Requirements of this permit has been determined by the MPCA to be a limit based on the implementation of BAT. Substantial changes or additions to the treatment facilities in place on the effective date of this permit, such as the addition of new filters, are subject to review and approval by the MPCA. Such approval shall be based on any additions or changes being in compliance with the implementation of BAT.

Chapter 11. Total Facility Requirements

8. Compliance Responsibility

8.6 Provided the established BAT turbidity operational performance levels for the filter beds as described above in this permit are met, the fiber monitoring frequency required by this permit shall be once every other month. Based on consistent compliance with the fiber effluent limits in the Limits and Monitoring Requirements, after a period of 12 months at a monitoring frequency of once every other month, the Permittee may request a further reduction in monitoring for fibers. With adequate justification for a reduction in monitoring, a fiber monitoring frequency of quarterly is envisioned. Approval of a request for reduction in monitoring shall not be unreasonably withheld.

9. Noncompliance

9.1 Noncompliance with the requirements of this permit subjects the Permittee to penalties provided by federal and state law including monetary penalties, imprisonment, or both.

9.2 If the Permittee discovers that noncompliance with a condition of the permit has occurred, the Permittee shall:

a. take all reasonable steps to minimize the adverse impacts to human health, public drinking water supplies, or the environment resulting from a permit violation.

b. notify the Minnesota Department of Public Safety Duty Officer at 1(800)422-0798 or (651)649-5451 within 24 hours of becoming aware of a permit violation that may endanger human health, public drinking water supplies or the environment. The Permittee shall submit a written description of the exceedance to the MPCA within five days of discovery of the exceedance.

Nothing in this requirement relieves the Permittee from immediately notifying the MPCA of any release to surface waters of the state.

9.3 The Permittee shall submit a written description of any bypass, spill, upset or permit violation during the reporting period to the MPCA with its Discharge Monitoring Report (DMR). If no DMR is required within 30 days, the Permittee shall submit a written report within 30 days of the discovery of the noncompliance. This description shall include the following information:

a. a description of the event including volume, duration, monitoring results and receiving waters;

b. the cause of the event;

c. the steps taken to reduce, eliminate and prevent reoccurrence of the event;

d. the exact dates and times of the event; and

e. steps taken to reduce any adverse impact resulting from the event.

Chapter 11. Total Facility Requirements

9. Noncompliance

9.4 It shall not be a defense for the Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of the permit.

10. Upset Defense

10.1 In the event of temporary noncompliance by the Permittee with an applicable effluent limitation resulting from an upset at the Permittee's facility due to factors beyond the control of the Permittee, the Permittee has an affirmative defense to an enforcement action brought by the agency as a result of the noncompliance if the Permittee demonstrates by a preponderance of competent evidence:

a. the specific cause of the upset;

b. that the upset was unintentional;

c. that the upset resulted from factors beyond the control of the Permittee and did not result from operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventative maintenance, or increases in production which are beyond the design capability of the treatment facilities;

d. that at the time of the upset the facility was being properly operated;

e. that the Permittee properly notified the MPCA of the upset in accordance with Minn. R. 7001.0150, subp. 3, item I; and

f. that the Permittee implemented the remedial measures required by Minn. R. 7001.0150, subp. 3, item J.

11. Duty to Notify and Avoid Water Pollution

11.1 The Permittee shall notify the Minnesota Department of Public Safety Duty Officer at (800)422-0798 or (651)649-5451 immediately of the discharge, accidental or otherwise, of any substance or material under its control which, if not recovered, may cause pollution of waters of the state. Notification is not required for a discharge of five gallons or less of petroleum.

11.2 The Permittee shall report to the Duty Officer all pertinent information regarding the discharge. Refer to the MPCA "Emergency Notification Guidance for Wastewater Treatment Systems" for further information.

Chapter 11. Total Facility Requirements

11. Duty to Notify and Avoid Water Pollution

11.3 The Permittee shall take all reasonable steps to minimize the adverse impacts to human health, public drinking water supplies or to the environment resulting from the discharge. This may include restricting or preventing untreated or partially treated wastewater, plant chemicals or feedlot materials from entering waterways, containing spilled materials, recycling by-passed wastewater through the plant, or using auxiliary treatment methods.

11.4 The Permittee shall maintain a plan designed to adequately notify the public of potential health threats due to discharges of untreated or partially treated wastewater. The Permittee shall notify the public in accordance with the plan.

12. Anticipated Bypasses

12.1 The Permittee may allow a bypass to occur if the bypass will not cause an effluent limitation to be exceeded, but only if the bypass is necessary for essential maintenance to assure efficient operation of the facility. The Permittee shall submit notice of the need for the bypass at least ten days before the date of the bypass.

12.2 The notice of the need for a bypass shall include the following information:

a. The proposed date and estimated duration of the bypass.

b. The alternatives to bypassing.

c. The proposed measures to mitigate environmental harm caused by the bypass.

d. A proposal for bypass monitoring.

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12. Anticipated Bypasses

12.3 The Permittee shall not allow an anticipated bypass to occur that will cause an applicable effluent limitation to be exceeded unless the following conditions are met:

a. The bypass is unavoidable to prevent loss of life, personal injury, or severe property damage. For the purposes of this paragraph, "severe property damage" means substantial damage to property of the Permittee or of others; damage to the wastewater treatment facilities that may cause them to become inoperable; or substantial and permanent loss of natural resources that can be reasonably expected to occur in the absence of a bypass. "Severe property damage" does not mean economic loss as a result of a delay in production.

b. There is no feasible alternative to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or performance of maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate backup equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventative maintenance.

c. The Permittee has notified the MPCA of the anticipated bypass and the MPCA has approved the bypass.

12.4 In no event shall a bypass, whether anticipated or unanticipated, be permitted if it results in a violation of water quality standards.

13. Facilities Operation

13.1 The Permittee shall properly operate and maintain the systems used to achieve permit compliance. Proper operation and maintenance includes effective performance, adequate funding, adequate staffing and training, and adequate process and laboratory controls, including appropriate quality assurance procedures.

13.2 The Permittee is responsible for insuring system reliability and shall install adequate backup or support systems to achieve permit compliance and prevent the discharge of untreated or inadequately treated waste. These systems may include alternative power sources, auxiliary treatment works and sufficient storage volume for untreated wastes.

13.3 In the event of a reduction or loss of effective treatment of wastewater at the facility, the Permittee shall control production or curtail its discharges to the extent necessary to maintain compliance with the terms and conditions of this permit. The Permittee shall continue this control or curtailment until the wastewater treatment facility has been restored or until an alternative method of treatment is provided.

Chapter 11. Total Facility Requirements

13. Facilities Operation

13.4 The Permittee shall store, transport and dispose of biosolids, sediments, residual solids, filter backwash, screenings, oil, grease and other substances so that pollutants do not enter surface waters or ground waters of the state. The Permittee shall not transport waste materials to the facility unless authorized in writing by the MPCA, including by permit issuance if needed.

13.5 The facility shall not cause any nuisance conditions, acutely toxic conditions to aquatic life or other adverse impacts to waters of the state.

13.6 The Permittee shall comply with all applicable water quality, air quality, solid waste and hazardous waste statutes and rules in the operation and maintenance of the facility.

13.7 The Permittee shall schedule maintenance of the treatment works during non-critical water quality periods to prevent degradation of water quality.

13.8 In-plant control tests shall be conducted at a frequency adequate to ensure continuous efficient operation of the treatment facility.

13.9 Nothing in this permit shall prohibit the MPCA from exercising emergency powers pursuant to Minn. Stat. ch. 116.11.

14. Chemical Additives

14.1 The Permittee shall receive prior written approval from the MPCA before increasing the use of a chemical additive authorized by this permit, or using a chemical additive not authorized by this permit. "Chemical additive" includes processing reagents, water treatment products, cooling water additives, freeze conditioning agents, chemical dust suppressants, detergents and solvent cleaners used for equipment and maintenance cleaning, among other materials.

Chapter 11. Total Facility Requirements

14. Chemical Additives

14.2 The Permittee is authorized to apply the following additives at the facility for the indicated purposes, at rates not to exceed the indicated maximum application rates:

Chemical/Purpose/Max. Application Rate

-Freeze conditioning agents/Coarse crushed ore transport/Per permit MN0046981
-Sodium hydroxide (caustic soda)/PDRDP scrubber pH adjustment/5000 gal/yr
-Sodium hydroxide (caustic soda) /WWESP pH adjustment/400,000 gal/yr
-Sodium carbonate (soda ash)/Rod mill regulation of calcium levels/5.4 million lbs/yr
-Kleen AC9507/Concentrator descalant/660 gal/yr
-Acetic acid, 70 pct solution/Flotation/350,000 lbs/year
-Nalco 23283/Filter Bldg, WWESP descale dispersant/7,500 lbs/yr
-Sulfuric acid/Cation Exchange Bed Regeneration/6,000 gal/yr
-Sodium hydroxide (caustic soda)/Anion Exchange Bed Regeneration/12,500 gal/yr
-Sodium hydroxide (caustic soda)/Power Plant Boiler pH control/400 lbs/yr
-Sodium sulfite/Power Plant Boiler Descalant/600 lbs/yr
-Hydrazine hydrate/Power Plant Boiler Rust Inhibitor/300 lbs/yr
-Steamate PAS4010/Power Plant Boiler Rust Inhibitor/500 gal/yr
-Optisperse PQ4683/Power Plant Boiler Descalant/500 gal/yr
-Ferric chloride solution/Mile Post 7 treatment plant/1,250,000 lbs/yr
-Coherex (monitored by station WS006)/Dust suppressant/120,000 gal/yr
-Calcium chloride solution/Dust suppressant, coarse tails transport/100,000 gal/yr

Chapter 11. Total Facility Requirements

14. Chemical Additives

14.3 The Permittee also is authorized to apply the following other additives at the facility for the indicated purposes, at rates not to exceed the indicated maximum application rates:

Arosurf MG-584 or equivalent cationic alkyl ether primary amine acetate or alkyl ether diamine acetate flotation collectors (alkyl chain R no greater than C14), at a combined maximum rate of 1.2 million lbs/yr.

Methyl isobutyl carbinol, 2-ethylhexanol, or equivalent alcohol frothers (mixed C4 to C9 aliphatic alcohols only), at a combined maximum rate of 600,000 lbs/yr.

Ethoxylated propoxylated linear alcohols, C12-C18 (Benewet or equivalent) surfactant, at a maximum rate of 750,000 lbs/yr in the Filter Building.

Flocculants NS 3450, Percol 370, or equivalent polymethyldiallylammonium chloride material, at a combined maximum rate of 1.3 million lbs/yr to the tailings Concentrator clarifiers, and also to the 100-ft diameter WWESP thickener.

A mixture of sodium chlorite, sodium hypochlorite and hydrochloric acid, for disinfection in the mill water system, at a maximum rate of 5000 gal/year.

A mixture of disodium phosphate and trisodium phosphate, for descalant use in the Power Plant boiler system, at a maximum rate of 1200 lbs/year.

NS 6000, or equivalent polyacrylamide in powder form or oil solution, at the Mile Post 7 treatment plant, at a maximum rate not to exceed 12,000 lbs/yr.

14.4 The Permittee shall request approval for an increased or new use of a chemical additive 60 days before the proposed increased or new use.

Chapter 11. Total Facility Requirements

14. Chemical Additives

14.5 This written request shall include the following information for the proposed additive:

a. Material Safety Data Sheet.

b. A complete product use and instruction label.

c. The commercial and chemical names of all ingredients.

d. Aquatic toxicity and human health or mammalian toxicity data including a carcinogenic, mutagenic or teratogenic concern or rating.

e. Environmental fate information including, but not limited to, persistence, half-life, intermediate breakdown products, and bioaccumulation data.

f. The proposed method, concentration, and average and maximum rates of use.

g. If applicable, the number of cycles before wastewater bleedoff.

h. If applicable, the ratio of makeup flow to discharge flow.

14.6 This permit may be modified to restrict the use or discharge of a chemical additive.

15. Construction

15.1 Construction related to facility modifications, additions or expansions that is not expressly authorized by this permit requires a permit modification. If the construction project requires an Environmental Assessment Worksheet under Minn. R. 4410, no construction shall begin until a negative declaration has been issued and all approvals have been received or implemented.

15.2 No construction shall begin until the Permittee has received written approval of reports, plans and specifications for the construction from the MPCA.

15.3 The Permittee shall notify the MPCA a minimum of 14 days prior to the start of construction of the expansion of the Mile Post 7 Wastewater Treatment Plant.

15.4 The Permittee shall notify the MPCA a minimum of 14 days prior to the initiation of operation of the expanded portion of the Mile Post 7 Wastewater Treatment Plant.

15.5 Initiation of operation of the expanded portion of the Mile Post 7 Tailings Basin Wastewater Treatment Plant shall not occur until the Permittee has received written approval of the construction.

Chapter 11. Total Facility Requirements

16. Permit Modification, Suspension or Revocation

16.1 This permit may be modified, suspended, or revoked for the following reasons:

a. A violation of permit requirements.

b. Misrepresentation or failure to disclose fully all relevant information to obtain the permit.

c. A change in a condition that alters the discharge.

d. The establishment of a new or amended pollution standard, limitation or effluent guideline that is applicable to the permitted facility or activity.

e. Failure to pay permit fees.

f. Other reasons listed in Minn. R. 7001.0170.

17. Permit Modifications

17.1 Changes to the facility or operation of the facility may require a permit modification. The Permittee shall submit an application describing the changes to the facility or operation to the MPCA and receive a permit modification prior to implementing the changes. The Permittee shall submit the permit modification application fee in accordance with Minn. R. 7002.0250 with the application.

17.2 The Permittee shall obtain a major modification or reissuance of this permit in order to begin discharge from a new outfall at least 180 days before the planned starting date of the discharge. New outfalls include new fuel-spill contaminated ground water pumpout direct discharges.

Chapter 11. Total Facility Requirements

17. Permit Modifications

17.3 The Permittee shall obtain authorization under this permit for adequate wastewater treatment capability before a production capacity expansion that would result in the generation of increased wastewater or pollutant levels.

The following changes may require a permit modification, and shall be proposed to the MPCA before implementation:

a. Proposed changes in the facility described in the "Permitted Facility Description" of this permit.

b. Proposed changes in the increased use or new use of a chemical additive, according to the Chemical Additives section of this permit.

c. Changes in the characteristics, concentrations or frequency of the wastewater flow. These changes may include: an increase in design discharge greater than 200,000 gal/day; an increase in the mass loading discharge of a toxic pollutant that is likely to increase the concentration of the pollutant in the receiving water by more than one percent over the baseline receiving water quality; significant rerouting of wastewater for land disposal; or significant changes in the levels of indicator characteristics.

d. Changes in biosolids or residual solids use and disposal practices.

17.4 The procedures as set forth in Minn. R. 7001.0100 through 7001.0130, including public notice, apply to applications for permit modifications, with the following exceptions:

a. Modifications solely as to ownership or control as described in Minn. R. 7001.0190, subp. 2.

b. Minor modifications as described in Minn. R. 7001.0190, subp. 3.

17.5 No permit may be assigned or transferred by the holder without the approval of the MPCA. A person to whom the permit has been transferred shall comply with the conditions of the permit.

18. Permit Reissuance

18.1 The Permittee shall Submit an application for permit reissuance by 180 days before permit expiration.

18.2 The Permittee shall include analytical data as part of the application for reissuance of this permit. These analyses shall be done on individual samples taken during the twelve-month period before the reissuance application is submitted. The application shall identify the sampling date(s).

Chapter 11. Total Facility Requirements

18. Permit Reissuance

18.3 The permit application shall include analytical data for at least the following parameters at outfalls SD001, SD003 and SD005:

a. biochemical oxygen demand, chemical oxygen demand, total organic carbon, gasoline range organics, diesel range organics, pyrene, fecal coliform, ammonia, temperature;

b. color, fluoride, nitrate-nitrite (as nitrogen), total organic nitrogen, total phosphorus, bromide, chloride, sulfate, sulfide (as sulfur), surfactants, bicarbonates, alkalinity, total dissolved solids, specific conductance;

c. aluminum, antimony, arsenic, barium, beryllium, boron, cadmium, calcium, chromium, cobalt, copper, iron, lead, lithium, magnesium, manganese, molybdenum, nickel, potassium, selenium, silver, sodium, strontium, thallium, tin, titanium, vanadium, zinc (all in total form) using atomic absorption (AA) furnace methods according to 40 CFR Part 136.3;

d. total mercury using EPA Method 1631;

e. gross alpha particles, radium-226, radium-228, radon-222, uranium;

f. PCB-1016, PCB-1221, PCB-1232, PCB-1242, PCB-1248, PCB-1254, PCB-1260; and

g. a scan of constituents using EPA Methods 624 and 625, in 40 CFR Part 136. The Permittee shall identify, in addition to those pollutants noted in Methods 624 and 625 (Appendix D, Table II), the concentrations of at least ten of the most abundant constituents of the acid and base/neutral organic fractions shown to be present by peaks on the total ion plots (reconstructed gas chromatograms) within ten percent of the nearest internal standard. Identification shall be through the use of U.S. EPA/NIH computerized library of mass spectra, with visual confirmation and potential quantification.

18.4 The permit application shall include low-level detection analytical data for the following parameters at monitoring stations GW006 and GW008: aluminum, antimony, arsenic, cadmium, chromium, cobalt, copper, lead, lithium, manganese, molybdenum, nickel, potassium, radium-226, radium-228, selenium, silver, sodium, strontium, sulfide, thallium, vanadium, zinc (all in dissolved form), fibers, Eh, dissolved oxygen, nitrate-nitrite, ammonia, surfactants, total organic amines, gasoline range organics, diesel range organics and pyrene.

18.5 The Permittee shall include, as part of the application for reissuance of this permit:

a. an updated water balance for the facility; and

c. an updated Operating Plan for the tailings basin for the five years following the date of permit expiration, if such a five-year plan has not already been approved by the MPCA.

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18. Permit Reissuance

18.6 If the Permittee has submitted a timely application for permit reissuance, the Permittee may continue to conduct the activities authorized by this permit, in compliance with the requirements of this permit, until the MPCA takes final action on the application, unless the MPCA determines one of the following:

a. The Permittee is not in substantial compliance with the requirements of this permit, or with a stipulation agreement or compliance schedule designed to bring the Permittee into compliance with this permit.

b. The MPCA, as a result of an action or failure to act by the Permittee, has been unable to take final action on the application on or before the expiration date of the permit.

c. The Permittee has submitted an application with major deficiencies or has failed to properly supplement the application in a timely manner after being informed of deficiencies.

18.7 If the Permittee does not intend to continue the activities authorized by this permit after the expiration date of this permit, the Permittee shall notify the MPCA. The MPCA may require the Permittee to apply for reissuance or a major modification of this permit to authorize facility closure.

19. Facility Closure

19.1 The Permittee shall not at any time substantially reduce or cease the deposit of tailings at the disposal system except according to the Milepost 7 Five Year Operations Plan, as conditionally approved by the MPCA on August 21, 1997, and any revisions thereto as approved by the MPCA and in compliance with the terms and conditions of this permit.

19.2 The Permittee is responsible for the perpetual maintenance of the Mile Post 7 Basin to insure the integrity of the structures and to prevent tailings from entering the air and waters of the state. This condition is applicable until such time the MPCA determines that the basin will naturally maintain itself in a form which is stable and non-polluting.

19.3 At least 180 days before the planned reduction or cessation of operations, the Permittee shall provide to the MPCA a facility Closure Plan for approval.

19.4 Facility closure that could result in a potential long-term water quality concern, such as the ongoing discharge of wastewater to surface or ground water, may require a permit modification. An application for permit modification shall be submitted to the MPCA for approval before the proposed change is implemented.

19.5 The Permittee is responsible for closure and postclosure care of the facility. The Permittee shall notify the MPCA of a significant reduction or cessation of operations described in this permit.

Chapter 11. Total Facility Requirements

19. Facility Closure

19.6 The Permittee shall establish and maintain financial assurance to ensure performance of certain obligations under this permit, including closure, postclosure care and remedial action at the facility. As of the effective date of this permit, certain financial assurance requirements are being addressed through the October 21, 1996, Financial Assurance Agreement executed by the MPCA, Minnesota Department of Natural Resources, Cleveland-Cliffs, Inc and the Permittee. The Agreement provides for an irrevocable standby Letter of Credit in the amount of Four Million Dollars ($4,000,000) and an unconditional corporate guaranty by Cleveland-Cliffs, Inc (dated July 31, 1996).

19.7 The MPCA may require the Permittee to establish additional financial assurance for closure, postclosure care and remedial action at the facility.

19.8 The amount and type of financial assurance or any proposed modifications in the amount or type of previous MPCA-approved financial assurance, and any related documentation, shall be approved by the MPCA. Any proposed modifications of previous MPCA-approved financial assurance shall be approved by MPCA before the modifications are made effective. All documents relating to financial assurance shall be in form and content approved by the MPCA.

20. Inspection And Entry

20.1 The Permittee shall allow a representative of the MPCA, in accordance with Section 308 of the Clean Water Act and Minn. Stat. 115.04, and upon presentation of proper credentials, to:

a. enter the premises where the facility is located or activity conducted;

b. review and copy the records required by this permit;

c. inspect the facilities, systems, equipment, practices or operations regulated or required by this permit;

d. sample or monitor to determine compliance; and

e. bring equipment upon the Permittee's premises necessary to conduct surveys and investigations.

21. Property Rights

21.1 The permit does not convey a property right or an exclusive privilege.

Chapter 11. Total Facility Requirements

22. Liabilities

22.1 The issuance of a permit does not prevent the future adoption by the MPCA of pollution control rules, standards or orders more stringent than those now in existence and does not prevent the enforcement of these rules, standards or orders against the Permittee.

22.2 The MPCA's issuance of this permit does not release the Permittee from any liability, penalty or duty imposed by Minnesota or federal statutes or rules or local ordinances, except the obligation to obtain the permit.

22.3 The Permittee shall continue to assume all legal risks and liabilities arising from the Permittee's construction, operation, or closure of the disposal system including, without limitations, damages or injury to persons or property.

22.4 This permit only authorizes the construction and operation of the disposal system and wastewater discharge as defined herein and the disposal of tailings at the Mile Post 7 Tailings Basin. Although it is the intent of the MPCA to maintain consistency with other required permits and approvals relating to the disposal of tailings at the Mile Post 7 Tailings Disposal Basin, this permit does not abrogate other authorities or provide binding provisions on other state or federal permits and approvals. Other permits and approvals include, but are not limited to, permits and approvals for the plant air emission sources, mining area discharges, mine air emission sources, landfill sites and related operations, ash and coal wastes disposal sites, demolition debris disposal sites, power plant cleaning wases, and fuel storage sites.

23. Liability Exemption

23.1 Any review, comment or approval of plans, designs, specifications or programs by the MPCA are solely for the limited purpose of evaluating whether such will enable the facilities subject thereto to reasonably comply with this permit. Neither the state of Minnesota nor the MPCA assume any legal risk or liability arising from the approval of said plans, designs, specifications or programs related to the design construction, operation, monitoring or closure of the disposal system.

23.2 In issuing this permit, the state and the MPCA assume no responsibility for damage to persons, property, or the environment caused by the activities of the Permittee in the conduct of actions, including those activities authorized, directed, or undertaken to achieve compliance with this permit. To the extent the state and MPCA may be liable for the activities of its employees, that liability is explicitly limited to that provided in the Tort Claims Act, Minn. Stat. 3.736.

23.3 The MPCA's issuance of this permit does not obligate the MPCA to enforce local laws, rules or plans beyond what is authorized by Minnesota Statutes.

Chapter 11. Total Facility Requirements

24. Severability

24.1 The provisions of this permit are severable, and if any provisions of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances and the remainder of this permit shall not be affected thereby.

25. Incorporation By Reference

25.1 The Permittee shall comply with the provisions of 40 CFR Parts 122.41 and 122.42(a), Minn. R. 7001.0150, subp. 3, and 7001.1090, which are incorporated into this permit by reference, and are enforceable parts of this permit.