MINNESOTA POLLUTION CONTROL AGENCY

National Pollutant Discharge Elimination System/State Disposal System

MN0055301

Permittee:	Northshore Mining Company
Facility name:	E.W. Davis Works and Mile Post 7 Tailings Basin
Receiving water:	Unassessed - Class 2Bg, 3, 4A, 4B, 5, 6 water; Unassessed - Class 2Bg, 3, 4A, 4B, 5, 6 water; Beaver River - Class 1B, 2Ag, 3, 4A, 4B, 5, 6 water; Beaver River, East Branch - Class 1B, 2Ag, 3, 4A, 4B, 5, 6 water; Lake Superior Shoreline - Class 1B, 2A, 3, 4A, 4B, 5, 6 water
City or Township:	Silver Bay, **County:** Lake
Issuance date:	**August 28, 2025**
Expiration date:	**July 31, 2030**
Modification date:	**April 1, 2026**

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

The goal of this permit is to reduce pollutant levels in point source discharges and protect water quality in accordance with the U.S. Clean Water Act, Minnesota statutes and rules, and federal laws and regulations.

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

Signature: Theresa Haugen

This document has been electronically signed.

for the Minnesota Pollution Control Agency

Theresa Haugen
Manager
Industrial Division

Resources

Submit electronic Discharge Monitoring Reports (eDMR) via the MPCA e-Services at: https://rsp.pca.state.mn.us/TEMPO_RSP/Orchestrate.do?initiate=true

Submit documents electronically to wq.submittals.mpca@state.mn.us. **Note:** The Water quality submittals form located at https://www.pca.state.mn.us/sites/default/files/wq-wwprm7-71.docx must be attached.

For eDMR and other permit reporting issues, use the directory listed at the bottom of the Discharge Monitoring Report page: https://www.pca.state.mn.us/water/discharge-monitoring-reports

For specific permit requirements, contact your compliance staff: https://www.pca.state.mn.us/water/wastewater-compliance-and-enforcement-staff-contacts

For wastewater permit program general questions, contact the MPCA at 651-282-6143 or 800-657-3938, or reference the permit user's manual at https://www.pca.state.mn.us/sites/default/files/wq-wwtp7-09.pdf.

Additional guidance and resources are located at: https://www.pca.state.mn.us/water/wastewater.

A printable summary of sampling requirements can be found at: https://www.pca.state.mn.us/water/wastewater-permit-submittal-checklists.

A printable checklist of submittals can be found at: https://www.pca.state.mn.us/water/wastewater-permit-submittal-checklists

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1. Permitted facility description

The Northshore Mining Co - Silver Bay facility (facility) is located at 10 Outer Dr, Silver Bay, Minnesota 55614-1401, Lake County.

The principal activity at this facility is the production of magnetic iron ore concentrate at average and maximum rates of 5.4 and 8.0 million long tons per year, and the production of standard, low silica direct reduced iron-grade (DRI-grade), fluxed iron ore pellets and sinter feed, and iron ore. The facility consists of the E.W. Davis Works plant area at Silver Bay, steam plant, fluoride treatment system, the Mile Post 7 Tailings Basin area, water treatment plant (fibers), and the pipelines, rail lines, and related appurtenances that route wastes and process water between the Davis Works and Mile Post 7, as well as the drainage area contributing surface runoff to the Mile Post 7 tailings basin.

The site also includes an idled Silver Bay Power Company (SBP) steam electric generating plant which was indefinitely idled in 2019 as part of a power agreement with Minnesota Power. While SBP is idle, water from Lake Superior is appropriated for makeup water uses at the plant by using one intake pump with a design intake flow of 43.2 million gallons per day (mgd). Excess of this make-up water is discharged via SD 003 at an average rate of 41.0 mgd and a maximum rate of 43.2 mgd. An alternate discharge location from SD 003 exists approximately 1000 ft northeast of SD 003 at the Tailings Delta near Lake Superior. The alternate discharge location is used only when maintenance dredging of SD 003 is occurring.

Occasional maintenance dredging is conducted to remove sediments from the outfall SD 003 flow channel in Lake Superior. The dredged materials are temporarily stored at the Davis Works and are beneficially reused at the Davis Works or permanently disposed at the Mile Post 7 tailings basin.

The Mile Post 7 tailings basin consists of a reclaim pond, seepage recovery pond, and water treatment plant. The company has the ability to manage and route water from the various seepage recovery areas to the reclaim pond, tailings basin, water treatment plant, and other seepage recovery ponds. Excess water in the Mile Post 7 basin is pumped to the water treatment plant which discharges treated water to the Beaver River at an average and maximum rate of 6.0 mgd and 7.5 mgd. Tailings basin seepage from Dam 2 and pressure relief wells is collected at the north side of the basin and is discharged at an average and maximum rate of 0.004 and 0.01 mgd to an unnamed tributary to the East Branch of the Beaver River.

Approval was granted in 2024 to route seepage water from the 1A, 1B and 2/3 Ponds directly to the outfall at SD 001 at the tailings basin. Approval was also granted to pump Murphy's Pond outlet waters into the 1A seepage pond and add infrastructure to pump water treatment plant backflush wastewater into the tailings basin pond. The permitted water quality and volume of treated water will not increase as a result of these changes.

A runoff collection system at the Davis Works collects industrial stormwater from the plant site, conveyor system and rail loading area. This runoff is routed to the tailings basin. Some stormwater drainage from the salvage yard and adjacent rail loading area may either infiltrate or flow to Marina and White Rock Creeks apart from the principal Davis Works runoff collection system. Benchmark monitoring for industrial stormwater that is not routed to the tailings basin is monitored at the plant at SD 010.

Eleven groups of groundwater monitoring wells are located around the tailings basin. Active downgradient groundwater stations include: well Group 5 (GW 001, GW 002 and GW 013); Group 12, (GW 008, GW 009 and, GW 010); and Group 13 (GW 011 and, GW012). Active upgradient, background groundwater stations include: Group 10 (GW 004, and GW 005) and Group 11 (GW 006, and GW 007).

Monitoring at internal waste stream stations occurs at various locations in the process. Internal monitoring occurs at the influent to the water treatment plant at the tailings basin (WS 001), Seepage Recovery Pond 1A (WS 017) and Seepage Recovery Pond 1B (WS 018). Water from the pellet plant blowdown treatment at the Davis Works is monitored at WS 014. Leachate transferred to the tailings basin from the former ash landfill is monitored at WS 016.

This permit includes surface water monitoring stations SW 001 and SW 004 in the East Branch of the Beaver River, stations SW 002 and SW 003 in the Beaver River, and station SW 005 in Lake Superior.

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A 2020 Supreme Court decision in County of Maui v. Hawaii Wildlife Fund, 140 S. Ct. 1462 (2020), (Maui) requires consideration of whether discharges of wastewater from a facility to groundwater are functionally equivalent to direct discharges of wastewater to surface water. This permit authorizes a discharge of tailings basin seepage to groundwater under SDS permitting authority, with estimated flows reported at GW 026. Surface water monitoring locations SW 001 and SW 002 in the East Branch of the Beaver River and the Beaver River respectively have intervention limits applicable to address the potential for this sub-surface seepage discharge to reach and/or affect downgradient surface waters which would require the permitting of a functionally equivalent discharge under the NPDES permitting authority.

The facility is further described in greater detail in the accompanying Fact Sheet.

Changes to the facility may result in an increase in pollutant loading to surface waters or other causes of degradation to surface waters. If a change to the facility will result in a net increase in pollutant loading or other causes of degradation that exceed the maximum loading authorized through conditions specified in the existing permit, the changes to the facility are subject to antidegradation requirements found in Minn. R. 7050.0250 to 7050.0335.

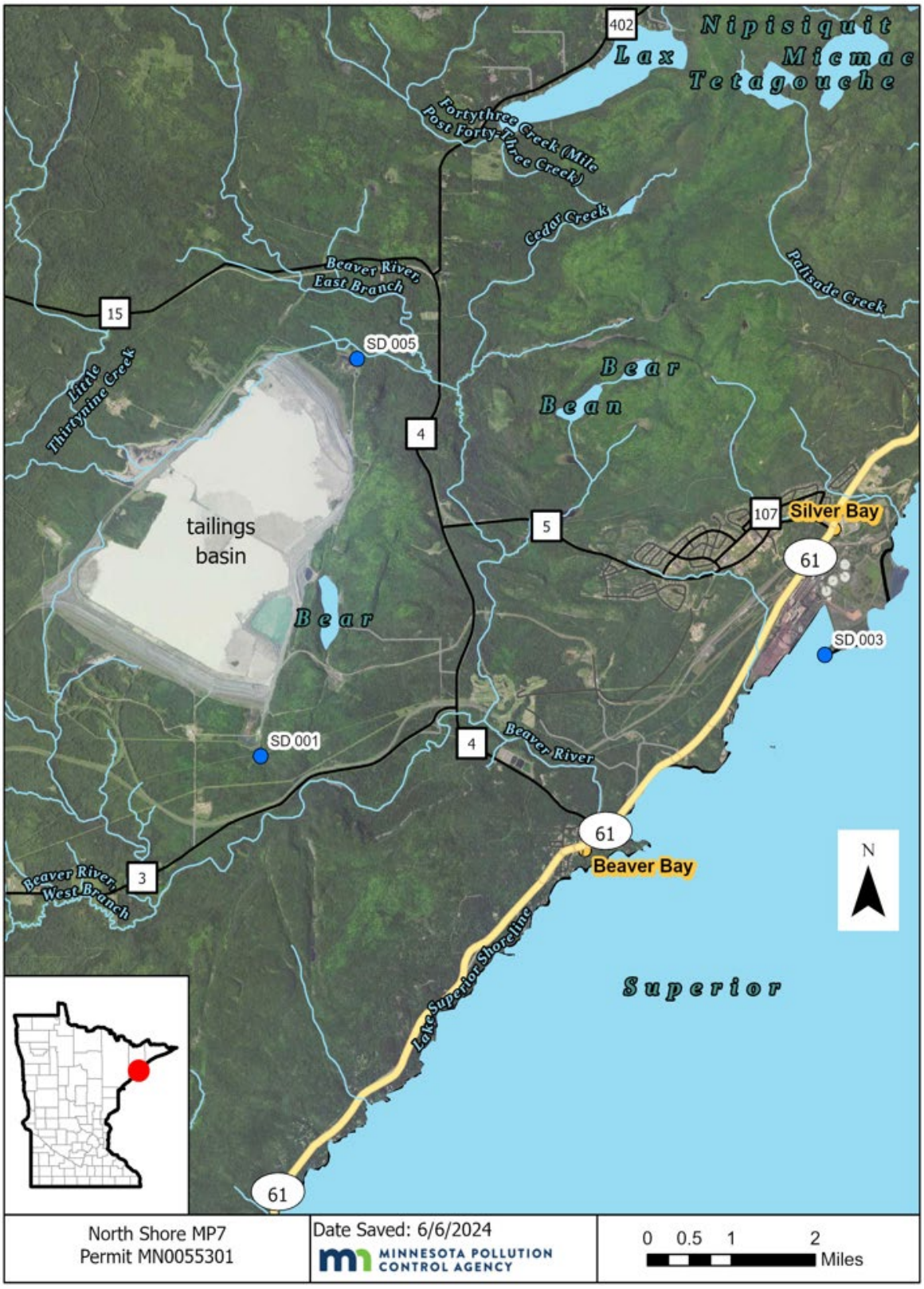
Lake Superior - Class 1B, 2A, 3, 4A, 4B, 5, 6 water was designated an Outstanding Resource Value Water (ORVW) on November 5, 1984..

This Permit also complies with Minn. R. 7053.0275 regarding anti-backsliding.

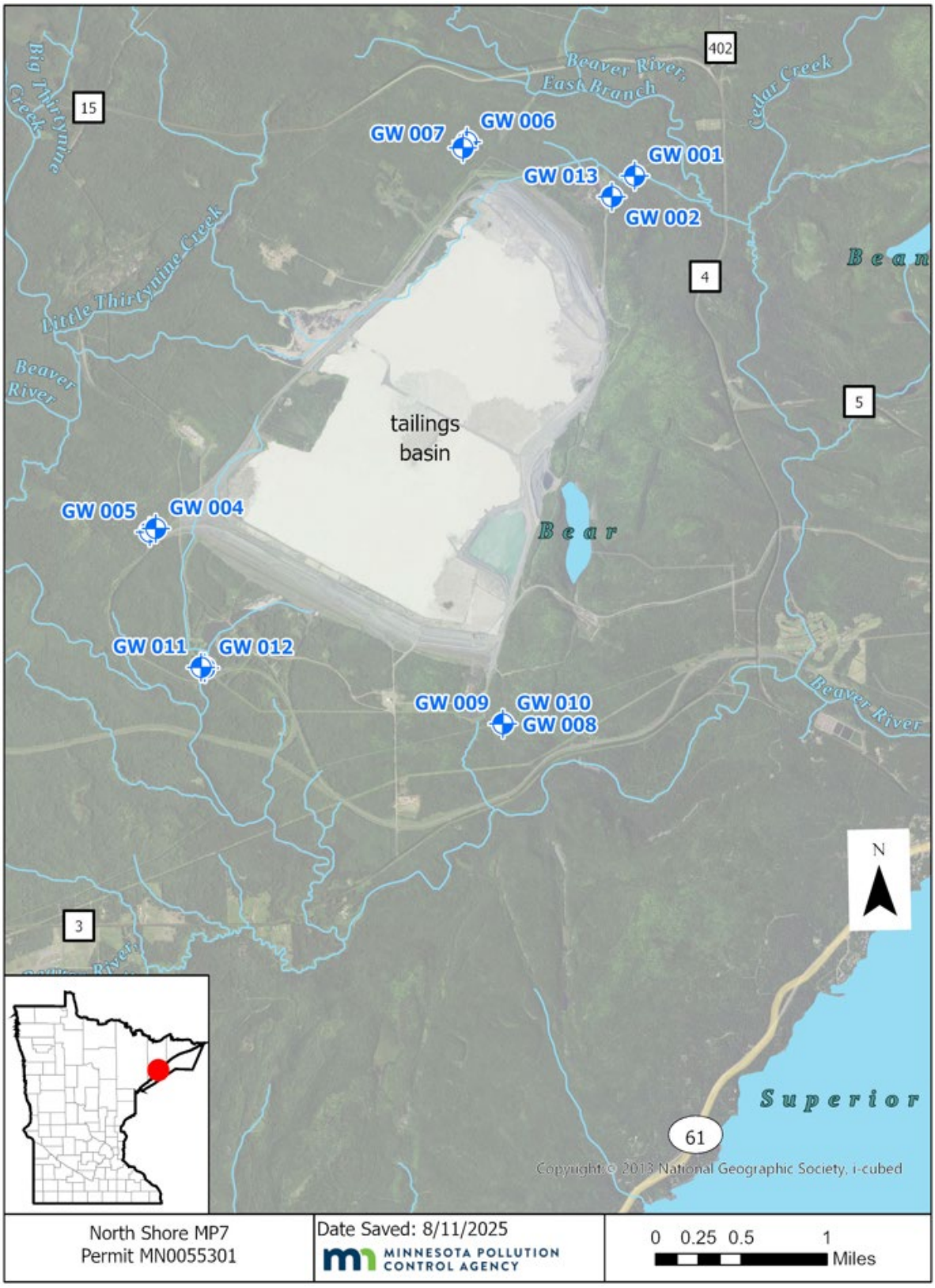
Any point source discharger of sewage, industrial, or other wastes for which a National Pollutant Discharge Elimination System (NPDES) permit has been issued by the MPCA that contains effluent limits more stringent than those that would be established by Minn. R. 7053.0215 to 7053.0265 shall continue to meet the effluent limits established by the permit, unless the permittee establishes that less stringent effluent limits are allowable pursuant to federal law, under section 402 (o) of the Clean Water Act, United States Code, title 33, section 1342.

2. Location map of permitted facility

Map of Surface Water Discharge (SD) Locations

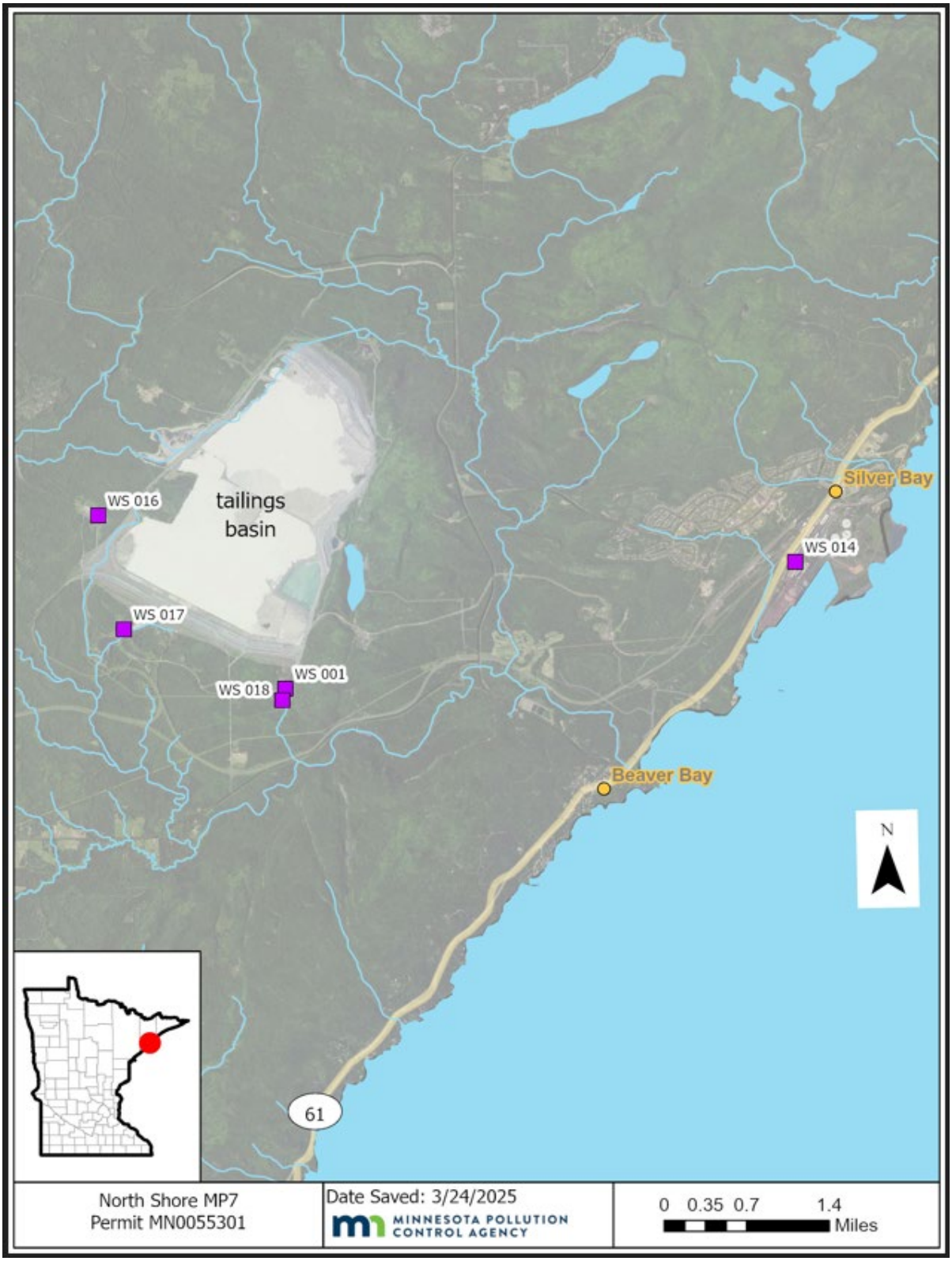


Map of Groundwater Monitoring (GW) Locations

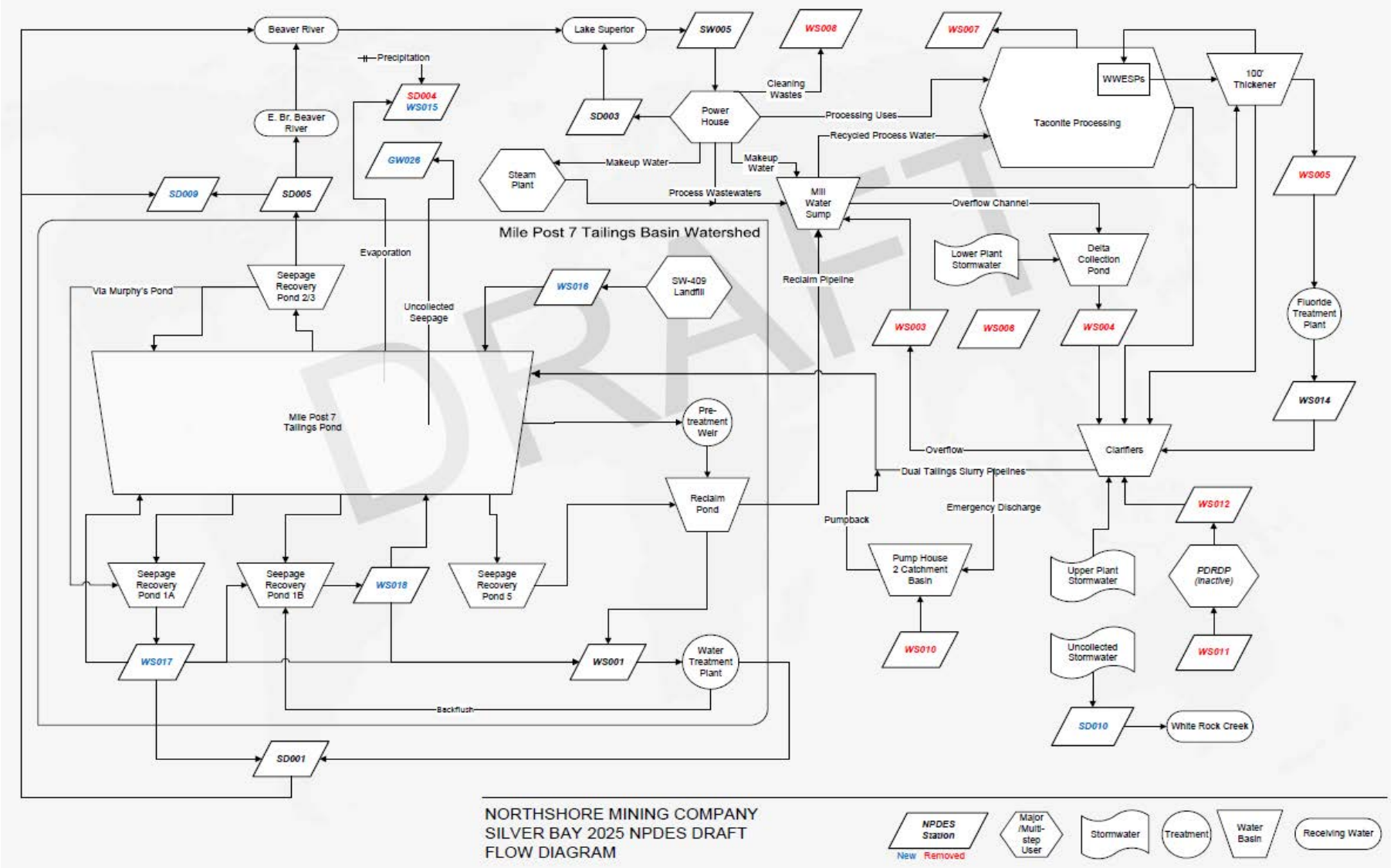


Map of Surface Water Monitoring (SW) Locations

Map of Internal Monitoring (WS) Locations



4. Flow diagram



5. Summary of stations and station locations

Station	Type of station	Local name	PLS location
GW 001	Well, Downgradient	Ground Water Monitoring Well #5	T56N, R08W, S27, NE Quarter of the NE Quarter of the NW Quarter
GW 002	Well, Downgradient	Ground Water Monitoring Well #5A	T56N, R08W, S27, NE Quarter of the NE Quarter of the NW Quarter
GW 004	Well, Upgradient	Ground Water Monitoring Well #10	T56N, R08W, S31, SW Quarter of the SW Quarter of the SE Quarter
GW 005	Well, Upgradient	Ground Water Monitoring Well #10A	T56N, R08W, S31, SW Quarter of the SW Quarter of the SE Quarter
GW 006	Well, Upgradient	Ground Water Monitoring Well #11	T56N, R08W, S21, SW Quarter of the NW Quarter of the SE Quarter
GW 007	Well, Upgradient	Ground Water Monitoring Well #11A	T56N, R08W, S21, SW Quarter of the NW Quarter of the SE Quarter
GW 008	Well, Downgradient	Ground Water Monitoring Well #12	T55N, R08W, S09, NW Quarter of the NW Quarter of the NE Quarter
GW 009	Well, Downgradient	Ground Water Monitoring Well #12A	T55N, R08W, S09, NW Quarter of the NW Quarter of the NE Quarter
GW 010	Well, Downgradient	Ground Water Monitoring Well #12Bb	T55N, R08W, S09, NW Quarter of the NW Quarter of the NE Quarter
GW 011	Well, Downgradient	Ground Water Monitoring Well #13	T55N, R08W, S06, SE Quarter
GW 012	Well, Downgradient	Ground Water Monitoring Well #13A	T55N, R08W, S06, SE Quarter
GW 013	Well, Downgradient	Ground Water Monitoring Well #5Bb	T56N, R08W, S27, NE Quarter of the NE Quarter of the NW Quarter
GW 026	Limits Calculation	Tailings Basin Seepage to Groundwater	T56N, R08W, S09
SD 001	Effluent To Surface Water	Mile Post 7 Pipe Outfall 010	T55N, R08W, S09, NE Quarter
SD 002	Effluent To Surface Water	MP7 Water Treatment Plant effluent (filter effluent at WTP)	T55N, R08W, S09, NE Quarter
SD 003	Effluent To Surface Water	Power Plant NCCW Pipe Outfall 020	T55N, R07W, S05, NW Quarter
SD 005	Effluent To Surface Water	SRD-2 Relief Well R-12, -13, seep flows	T56N, R08W, S27, NE Quarter of the NW Quarter
SD 009	Limits Calculation	Calculation Station - TSS	N/A
SD 010	Stormwater, Non-specific Runoff	ISW Benchmark Monitoring - Rail Loadout Ditch	T55N, R07W, S06, NE Quarter
SW 001	Stream/River/Ditch, Downstream	Station 102 Co. Rd 4 E. Branch Beaver R.	T56N, R08W, S27, NE Quarter
SW 002	Stream/River/Ditch, Downstream	Station 105 County Road 3 Beaver River	T55N, R08W, S17, NW Quarter
SW 003	Stream/River/Ditch, Downstream	Station 106 Glenn Avon Falls, Beaver R.	T55N, R08W, S09, NE Quarter

SW 004	Stream/River/Ditch, Upstream	Station 101, E. Br. Beaver R. upstream	T56N, R08W, S21, NE Quarter of the SE Quarter
SW 005	Lake/Reservoir	Stn 902, L Superior Cooling Water intake	T55N, R07W, S05, NW Quarter of the NW Quarter of the NW Quarter
WS 001	Influent Waste	Station 900 influent to MP7 WWTP	T55N, R08W, S09, NE Quarter of the NE Quarter of the NW Quarter
WS 014	Internal Waste Stream	Treated Pellet Plant blowdown effluent	T55N, R07W, S06, NE Quarter of the NE Quarter
WS 015	Limits Calculation	MP7 - precipitation & evaporation	N/A
WS 016	Internal Waste Stream	Ash landfill leachate to MP7 Tailings Basin	T56N, R08W, S31, NE Quarter of the SE Quarter
WS 017	Internal Waste Stream	Seepage Recovery Pond 1A (West side TB Dam 1)	T56N, R08W, S33, SE Quarter of the SE Quarter
WS 018	Internal Waste Stream	Seepage Recovery Pond 1B (East side TB Dam 1)	T55N, R08W, S05, SW Quarter of the NW Quarter

6. Permit requirements

GW 001	Well, Downgradient	
		Facility Specific Limit and Monitoring Requirements
	5.1.1	The Permittee shall submit a monthly DMR: Due by 21 days after the end of each calendar month following permit issuance. [Minn. R. 7001.0150, Subp. 2(B)]
	5.1.2	Sampling Location. [Minn. R. 7001.0150, Subp. 2(B)]
	5.1.3	Samples for Station GW 001 shall be taken at Monitoring Well #5. [Minn. R. 7001.0150, Subp. 2(B)]
	5.1.4	The Permittee shall submit monitoring results in accordance with the limits and monitoring requirements for this station. If conditions are such that no sample can be acquired, the Permittee shall report "No Flow" or "No Discharge" on Discharge Monitoring Report (DMR) and shall add a Comments attachment to the DMR detailing why the sample was not collected. [Minn. R. 7001.0150, Subp. 2(B)]
GW 002	Well, Downgradient	
		Facility Specific Limit and Monitoring Requirements
	5.2.1	The Permittee shall submit a monthly DMR: Due by 21 days after the end of each calendar month following permit issuance. [Minn. R. 7001.0150, Subp. 2(B)]
	5.2.2	Sampling Location. [Minn. R. 7001.0150, Subp. 2(B)]
	5.2.3	Samples for Station GW 002 shall be taken at Monitoring Well #5A. [Minn. R. 7001.0150, Subp. 2(B)]
	5.2.4	The Permittee shall submit monitoring results in accordance with the limits and monitoring requirements for this station. If conditions are such that no sample can be acquired, the Permittee shall report "No Flow" or "No Discharge" on Discharge Monitoring Report (DMR) and shall add a Comments attachment to the DMR detailing why the sample was not collected. [Minn. R. 7001.0150, Subp. 2(B)]
GW 004	Well, Upgradient	
		Facility Specific Limit and Monitoring Requirements
	5.3.1	The Permittee shall submit a monthly DMR: Due by 21 days after the end of each calendar month following permit issuance. [Minn. R. 7001.0150, Subp. 2(B)]
	5.3.2	Sampling Location. [Minn. R. 7001.0150, Subp. 2(B)]
	5.3.3	Samples for Station GW 004 shall be taken at Monitoring Well #10. [Minn. R. 7001.0150, Subp. 2(B)]
	5.3.4	The Permittee shall submit monitoring results in accordance with the limits and monitoring requirements for this station. If conditions are such that no sample can be acquired, the Permittee shall report "No Flow" or "No Discharge" on Discharge Monitoring Report (DMR) and shall add a Comments attachment to the DMR detailing why the sample was not collected. [Minn. R. 7001.0150, Subp. 2(B)]
GW 005	Well, Upgradient	
		Facility Specific Limit and Monitoring Requirements
	5.4.1	The Permittee shall submit a monthly DMR: Due by 21 days after the end of each calendar month following permit issuance. [Minn. R. 7001.0150, Subp. 2(B)]
	5.4.2	Sampling Location. [Minn. R. 7001.0150, Subp. 2(B)]
	5.4.3	Samples for Station GW 005 shall be taken at Monitoring Well #10A. [Minn. R. 7001.0150, Subp. 2(B)]
	5.4.4	The Permittee shall submit monitoring results in accordance with the limits and monitoring

		requirements for this station. If conditions are such that no sample can be acquired, the Permittee shall report "No Flow" or "No Discharge" on Discharge Monitoring Report (DMR) and shall add a Comments attachment to the DMR detailing why the sample was not collected. [Minn. R. 7001.0150, Subp. 2(B)]
GW 006	Well, Upgradient	
		Facility Specific Limit and Monitoring Requirements
	5.5.1	The Permittee shall submit a monthly DMR: Due by 21 days after the end of each calendar month following permit issuance. [Minn. R. 7001.0150, Subp. 2(B)]
	5.5.2	Sampling Location. [Minn. R. 7001.0150, Subp. 2(B)]
	5.5.3	Samples for Station GW 006 shall be taken at Monitoring Well #11. [Minn. R. 7001.0150, Subp. 2(B)]
	5.5.4	The Permittee shall submit monitoring results in accordance with the limits and monitoring requirements for this station. If conditions are such that no sample can be acquired, the Permittee shall report "No Flow" or "No Discharge" on Discharge Monitoring Report (DMR) and shall add a Comments attachment to the DMR detailing why the sample was not collected. [Minn. R. 7001.0150, Subp. 2(B)]
GW 007	Well, Upgradient	
		Facility Specific Limit and Monitoring Requirements
	5.6.1	The Permittee shall submit a monthly DMR: Due by 21 days after the end of each calendar month following permit issuance. [Minn. R. 7001.0150, Subp. 2(B)]
	5.6.2	Sampling Location. [Minn. R. 7001.0150, Subp. 2(B)]
	5.6.3	Samples for Station GW 007 shall be taken at Monitoring Well #11A. [Minn. R. 7001.0150, Subp. 2(B)]
	5.6.4	The Permittee shall submit monitoring results in accordance with the limits and monitoring requirements for this station. If conditions are such that no sample can be acquired, the Permittee shall report "No Flow" or "No Discharge" on Discharge Monitoring Report (DMR) and shall add a Comments attachment to the DMR detailing why the sample was not collected. [Minn. R. 7001.0150, Subp. 2(B)]
GW 008	Well, Downgradient	
		Facility Specific Limit and Monitoring Requirements
	5.7.1	The Permittee shall submit a monthly DMR: Due by 21 days after the end of each calendar month following permit issuance. [Minn. R. 7001.0150, Subp. 2(B)]
	5.7.2	Sampling Location. [Minn. R. 7001.0150, Subp. 2(B)]
	5.7.3	Samples for Station GW 008 shall be taken at Monitoring Well #12. [Minn. R. 7001.0150, Subp. 2(B)]
	5.7.4	The Permittee shall submit monitoring results in accordance with the limits and monitoring requirements for this station. If conditions are such that no sample can be acquired, the Permittee shall report "No Flow" or "No Discharge" on Discharge Monitoring Report (DMR) and shall add a Comments attachment to the DMR detailing why the sample was not collected. [Minn. R. 7001.0150, Subp. 2(B)]
GW 009	Well, Downgradient	
		Facility Specific Limit and Monitoring Requirements
	5.8.1	The Permittee shall submit a monthly DMR: Due by 21 days after the end of each calendar month following permit issuance. [Minn. R. 7001.0150, Subp. 2(B)]

	5.8.2	Sampling Location. [Minn. R. 7001.0150, Subp. 2(B)]
	5.8.3	Samples for Station GW 009 shall be taken at Monitoring Well #12A. [Minn. R. 7001.0150, Subp. 2(B)]
	5.8.4	The Permittee shall submit monitoring results in accordance with the limits and monitoring requirements for this station. If conditions are such that no sample can be acquired, the Permittee shall report "No Flow" or "No Discharge" on Discharge Monitoring Report (DMR) and shall add a Comments attachment to the DMR detailing why the sample was not collected. [Minn. R. 7001.0150, Subp. 2(B)]
GW 010	Well, Downgradient	
		Facility Specific Limit and Monitoring Requirements
	5.9.1	The Permittee shall submit a monthly DMR: Due by 21 days after the end of each calendar month following permit issuance. [Minn. R. 7001.0150, Subp. 2(B)]
	5.9.2	Sampling Location. [Minn. R. 7001.0150, Subp. 2(B)]
	5.9.3	Samples for Station GW 010 shall be taken at Monitoring Well 12Bb. [Minn. R. 7001.0150, Subp. 2(B)]
	5.9.4	The Permittee shall submit monitoring results in accordance with the limits and monitoring requirements for this station. If conditions are such that no sample can be acquired, the Permittee shall report "No Flow" or "No Discharge" on Discharge Monitoring Report (DMR) and shall add a Comments attachment to the DMR detailing why the sample was not collected. [Minn. R. 7001.0150, Subp. 2(B)]
GW 011	Well, Downgradient	
		Facility Specific Limit and Monitoring Requirements
	5.10.1	The Permittee shall submit a monthly DMR: Due by 21 days after the end of each calendar month following permit issuance. [Minn. R. 7001.0150, Subp. 2(B)]
	5.10.2	Sampling Location. [Minn. R. 7001.0150, Subp. 2(B)]
	5.10.3	Samples for Station GW 011 shall be taken at Monitoring Well #13. [Minn. R. 7001.0150, Subp. 2(B)]
	5.10.4	The Permittee shall submit monitoring results in accordance with the limits and monitoring requirements for this station. If conditions are such that no sample can be acquired, the Permittee shall report "No Flow" or "No Discharge" on Discharge Monitoring Report (DMR) and shall add a Comments attachment to the DMR detailing why the sample was not collected. [Minn. R. 7001.0150, Subp. 2(B)]
GW 012	Well, Downgradient	
		Facility Specific Limit and Monitoring Requirements
	5.11.1	The Permittee shall submit a monthly DMR: Due by 21 days after the end of each calendar month following permit issuance. [Minn. R. 7001.0150, Subp. 2(B)]
	5.11.2	Sampling Location. [Minn. R. 7001.0150, Subp. 2(B)]
	5.11.3	Samples for Station GW 012 shall be taken at Monitoring Well #13A. [Minn. R. 7001.0150, Subp. 2(B)]
	5.11.4	The Permittee shall submit monitoring results in accordance with the limits and monitoring requirements for this station. If conditions are such that no sample can be acquired, the Permittee shall report "No Flow" or "No Discharge" on Discharge Monitoring Report (DMR) and shall add a Comments attachment to the DMR detailing why the sample was not collected. [Minn. R. 7001.0150, Subp. 2(B)]

GW 013	Well, Downgradient	
		Facility Specific Limit and Monitoring Requirements
	5.12.1	The Permittee shall submit a monthly DMR: Due by 21 days after the end of each calendar month following permit issuance. [Minn. R. 7001.0150, Subp. 2(B)]
	5.12.2	Sampling Location. [Minn. R. 7001.0150, Subp. 2(B)]
	5.12.3	Samples for Station GW 013 shall be taken at Monitoring Well 5Bb. [Minn. R. 7001.0150, Subp. 2(B)]
	5.12.4	The Permittee shall submit monitoring results in accordance with the limits and monitoring requirements for this station. If conditions are such that no sample can be acquired, the Permittee shall report "No Flow" or "No Discharge" on Discharge Monitoring Report (DMR) and shall add a Comments attachment to the DMR detailing why the sample was not collected. [Minn. R. 7001.0150, Subp. 2(B)]
GW 026	Limits Calculation	
		Facility Specific Limit and Monitoring Requirements
	5.13.1	The Permittee shall submit a monthly DMR : Due by 21 days after the end of each calendar month following permit issuance. [Minn. R. 7001.0150, Subp. 2(B)]
	5.13.2	**Sampling Location**. [Minn. R. 7001.0150, subp. 2(B)]
	5.13.3	The volume of uncollected seepage shall be calculated using Darcy's Equation and an estimated cross-sectional area of saturated glacial till. The estimated calculated volume of uncollected seepage shall be reported at station GW 026. [Minn. R. 7001.0150, subp. 2(B)]
SD 001	Effluent To Surface Water	
		Facility Specific Limit and Monitoring Requirements
	5.14.1	The Permittee shall submit a monthly DMR: Due by 21 days after the end of each calendar month following permit issuance. [Minn. R. 7001.0150, Subp. 2(B)]
	5.14.2	Sampling Location. [Minn. R. 7001.0150, Subp. 2(B)]
	5.14.3	Samples for Station SD001 shall be taken at the Milepost 7 Pipe Outfall S010. [Minn. R. 7001.0150, Subp. 2(B)]
	5.14.4	The Permittee shall submit monitoring results in accordance with the limits and monitoring requirements for this station. If conditions are such that no sample can be acquired, the Permittee shall report "No Flow" or "No Discharge" on Discharge Monitoring Report (DMR) and shall add a Comments attachment to the DMR detailing why the sample was not collected. [Minn. R. 7001.0150, Subp. 2(B)]
		Chronic Toxicity Requirements
	5.15.5	**Definitions**. [Minn. R. 7001]
	5.15.6	"Chronic Whole Effluent Toxicity (WET) Test" is a static renewal test conducted on an exponentially diluted series of effluent. The purpose is to calculate appropriate biological effect endpoints (NOEC or IC25), specified in the referenced chronic manual. A statistical effect level less than the Receiving Water Concentration (RWC) constitutes a positive test for chronic toxicity. The RWC equals the 98% effluent concentration or 1.02 TUc. [State Definitions]
	5.15.7	"Chronic toxic unit (TUc)" is the reciprocal of the effluent dilution that causes no unacceptable effect on the test organisms by the end of the chronic exposure period. For example, a TUc equals [7Q10flow (mgd) + effluent average dry weather flow (mgd)]/[effluent average dry weather flow (mgd)]. [State Definitions]
	5.15.8	"Test" refers to an individual species. [State Definitions]

	5.15.9	"Test Battery" consists of WET testing of each species with each specified chronic test. For chronic WET testing, all test species includes fathead minnows and Ceriodaphnia dubia. [State Definitions]
	5.15.10	**General Requirements**. [Minn. R. 7001]
	5.15.11	This permit includes a chronic WET limit of 1.02 TUc to be met at outfall Station SD001. A violation of the 1.02 TUc limit constitutes a violation of the permit. [Minn. R. 7052, Minn. R. 7053]
	5.15.12	The Permittee shall submit annual chronic toxicity test battery results: Due annually, by the 30th of September thereafter. [Minn. R. 7001]
	5.15.13	Additional WET tests are required for each year that exceeds the five-year permit cycle if the permit is not immediately reissued after permit expiration. The WET testing results are due on the same date as the original requirement, annually, until the permit is reissued. [Minn. R. 7001]
	5.15.14	Any test that exceeds 1.02 TUc shall be re-tested according to the Positive Toxicity Results requirement(s) that follow to determine if toxicity is still present above 1.02 TUc (RWC< 98% effluent concentration). [Minn. R. 7001]
	5.15.15	**Species and Procedural Requirements**. [Minn. R. 7001]
	5.15.16	Tests shall be conducted in accordance with procedures outlined in EPA-821-R-02-013 Short-term Methods for Measuring the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms - Fourth Edition (Chronic Manual) and any revisions to the Chronic Manual. [Minn. R. 7001]
	5.15.17	Any test that begins with an effluent sample that is equal to or exceeds a total ammonia concentration of 5.0 mg/L may use the carbon dioxide-controlled atmosphere technique to control pH drift. [Minn. R. 7001]
	5.15.18	Test organisms for each test battery shall include the fathead minnow (Pimephales promelas)-Method 1000.0 and Ceriodaphnia dubia-Method 1002.0 or any updates to these methods. [Minn. R. 7001]
	5.15.19	Static renewal chronic serial dilution tests of the effluent shall consist of a control, 12, 25, 50, 75, and 100% effluent. [Minn. R. 7001]
	5.15.20	All effluent samples shall be grab samples. Test solutions shall be renewed daily. Testing of the effluent shall begin within 36 hours of sample collection. Receiving water collected from SW004 outside of the influence of discharge or synthetic water provided by the laboratory shall be used for dilution and controls. [Minn. R. 7001]
	5.15.21	Any other circumstances not addressed in the previous requirements or that require deviation from that specified in the previous requirements shall first be approved by the MPCA. [Minn. R. 7001]
	5.15.22	**Quality Control (QC) and Report Submittals**. [Minn. R. 7001]
	5.15.23	Any test that does not meet quality control measures or results which the Permittee believes reflect an artifact of testing (i.e. poor control results) shall be repeated within two weeks of the notification from the lab regarding the test sample results. The chronic WET report and QC reports shall contain information consistent with the report preparation section of the Chronic Manual. The MPCA shall make the final determination regarding test validity. [Minn. R. 7001]
	5.15.24	**Positive Toxicity Result for WET**. [Minn. R. 7001]
	5.15.25	Should a test exceed 1.02 TUc for WET based on results from the most sensitive test species, the Permittee shall conduct two repeat test batteries on all species. The repeat tests are to be completed within 45 days after completion of the positive test. These tests are used to determine if toxicity exceeding 1.02 TUc remains present for any test species. [Minn. R. 7001]
	5.15.26	**Repeat Testing Results**. [Minn. R. 7001]
	5.15.27	**Negative Retests.** If no toxicity is present above 1.02 TUc for any test species in both retests, the Permittee shall return to the test frequency specified by the permit. [Minn. R. 7001]
	5.15.28	**Positive Retests.** If toxicity is present above 1.02 TUc for any test species in either retests, the Permittee shall submit a plan for conducting a Toxicity Reduction Evaluation (TRE) for MPCA review and approval. [Minn. R. 7001]
	5.15.29	**TRE Requirements**. [Minn. R. 7001]
	5.15.30	The TRE shall be submitted within 60 days after the toxicity discovery date and include a Facility Performance Review. Upon approval of the TRE, the Permittee shall implement the TRE or subsequent amendments in its entirety. Any violations of the TRE are violations of this permit.

		In addition, quarterly reports starting from the date of the TRE submittal are required. The quarterly reports shall include, but are not limited to, a complete description of all progress made towards the identification of the source(s) of toxicity, and the Permittee's plans for the removal of the toxicity. The TRE shall be consistent with the Chronic Manual or subsequent procedures approved by the MPCA in attempting to identify and remove the source of the toxicity. Routinely scheduled chronic toxicity test batteries required in this permit shall remain in effect throughout the permit cycle. The Permittee must submit a request to discontinue the TRE for MPCA review upon conclusion of the TRE requirements. If the MPCA discontinues the TRE, the permit may be modified to set conditions to be met by the Permittee based on the TRE results. If the MPCA continues the TRE, the Permittee shall continue to implement the approved conditions of the TRE. [Minn. R. 7001]
	5.15.31	Following successful completion of the TRE, the Permittee shall conduct semi-annual testing for the next five-year permit cycle. [Minn. R. 7001]
	5.15.32	**WET Data and Test Acceptability Criteria (TAC) Submittal**. [Minn. R. 7001]
	5.15.33	All WET test data and TAC must be submitted to the MPCA by the dates required by this section of the permit using both the MPCA Ceriodaphnia dubia Chronic Toxicity Test Report and the MPCA Fathead Minnow Chronic Toxicity Test Report found on the MPCA website at https://www.pca.state.mn.us/water/wastewater-additional-guidance-and-information. Data not submitted on the correct form(s), or submitted incomplete, will be returned to the Permittee and deemed incomplete until adequately submitted on the designated form(s). These are legal forms and must be signed and dated by the Permittee. The data and form(s) should be emailed to MPCA, WQ Submittals Center at wq.submittals.mpca@state.mn.us. [Minn. R. 7001]
	5.15.34	**Potential Permit Modifications**. [Minn. R. 7001]
	5.15.35	The permit may be modified during a permit cycle to include additional toxicity testing and/or a WET limit based on the WET testing results. [Minn. R. 7001]
SD 002	Effluent To Surface Water	
		Facility Specific Limit and Monitoring Requirements
	5.16.1	The Permittee shall submit a monthly DMR: Due by 21 days after the end of each calendar month following permit issuance. [Minn. R. 7001.0150, Subp. 2(B)]
	5.16.2	**Sampling Location**. [Minn. R. 7001.0150, subp. 2(B)]
	5.16.3	Samples for Station SD 002 shall be taken by turbidimeter continuous monitoring equipment on the effluent directed to outfall SD 001. [Minn. R. 7001.0150, subp. 2(B)]
SD 003	Effluent To Surface Water	
		Facility Specific Limit and Monitoring Requirements
	5.17.1	The Permittee shall submit a monthly DMR: Due by 21 days after the end of each calendar month following permit issuance. [Minn. R. 7001.0150, Subp. 2(B)]
	5.17.2	Sampling Location. [Minn. R. 7001.0150, Subp. 2(B)]
	5.17.3	Samples for Station SD 003 shall be taken at a point representative of the discharge to the non-contact cooling water pipe outfall (S020). Samples for the alternative discharge location used during maintenance dredging shall be taken at the same point as the discharge at discharge at SD 003. [Minn. R. 7001.0150, Subp. 2(B)]

	5.17.4	The Permittee shall submit monitoring results in accordance with the limits and monitoring requirements for this station. If conditions are such that no sample can be acquired, the Permittee shall report "No Flow" or "No Discharge" on Discharge Monitoring Report (DMR) and shall add a Comments attachment to the DMR detailing why the sample was not collected. [Minn. R. 7001.0150, Subp. 2(B)]
SD 005	Effluent To Surface Water	
		Facility Specific Limit and Monitoring Requirements
	5.18.1	The Permittee shall submit a monthly DMR: Due by 21 days after the end of each calendar month following permit issuance. [Minn. R. 7001.0150, Subp. 2(B)]
	5.18.2	Sampling Location. [Minn. R. 7001.0150, Subp. 2(B)]
	5.18.3	Samples for Station SD005 shall be taken at a point representative the flow from Relief Wells R-12 and R-13. [Minn. R. 7001.0150, Subp. 2(B)]
	5.18.4	The Permittee shall submit monitoring results in accordance with the limits and monitoring requirements for this station. If conditions are such that no sample can be acquired, the Permittee shall report "No Flow" or "No Discharge" on Discharge Monitoring Report (DMR) and shall add a Comments attachment to the DMR detailing why the sample was not collected. [Minn. R. 7001.0150, Subp. 2(B)]
SD 009	Limits Calculation	
		Facility Specific Limit and Monitoring Requirements
	5.19.1	The Permittee shall submit a monthly DMR: Due by 21 days after the end of each calendar month following permit issuance. [Minn. R. 7001.0150, Subp. 2(B)]
	5.19.2	**Sampling Location**. [Minn. R. 7001.0150, subp. 2(B)]
	5.19.3	SD 009 is a combination calculation of SD 001 and SD 005. [Minn. R. 7001.0150, subp. 2(B)]
		Facility Specific Requirements
	5.20.4	The mass of total suspended solids limited by the Lake Superior South Watershed TMDL shall be calculated using the flow values from discharges SD 001 and SD 005. The sum of outfalls SD 001 and SD 005 is limited to a daily maximum of 417 pounds/day and shall be reported on the eDMR for the calculation station, SD 009. [Minn. R. 7001]
SD 010	Stormwater, Non-specific Runoff	
		Surface Discharge: Industrial Stormwater Sector G Requirements
	5.21.1	The Permittee shall submit an annual DMR: Due by 21 days after the end of each calendar year following permit issuance. [Minn. R. 7001.0150, Subp. 2(B)]
	5.21.2	**Sampling Location**. [Minn. R. 7001.0150, subp. 2(B)]
	5.21.3	Samples for Station SD 010 shall be taken at the rail loadout ditch. [Minn. R. 7001.0150, subp. 2(B)]
	5.21.4	**Sampling Requirements**. [Minn. R. 7090]
	5.21.5	If the permit allows for discontinuation of benchmark monitoring, the Limits and Monitoring section of this permit will contain phases for those parameters. See the Sector Specific section of this permit for information regarding benchmark monitoring. If Limits and Monitoring section of this permit does not contain phases on benchmark monitoring parameters, the benchmark monitoring is required for the life of the permit. [Minn. R. 7090]

	5.21.6	To end the DMR requirements, the Permittee must notify the MPCA when the benchmark intervention limits are met. Please email the assigned data manager and compliance staff by following the link on the cover page of this permit. [Minn. R. 7090]
SW 001	Stream/River/ Ditch, Downstream	
		Facility Specific Limit and Monitoring Requirements
	5.22.1	The Permittee shall submit a monthly DMR: Due by 21 days after the end of each calendar month following permit issuance. [Minn. R. 7001.0150, Subp. 2(B)]
	5.22.2	Sampling Location. [Minn. R. 7001.0150, Subp. 2(B)]
	5.22.3	Samples for Station SW001 shall be taken at S102: East Branch Beaver River near County Road 4. [Minn. R. 7001.0150, Subp. 2(B)]
	5.22.4	The Permittee shall submit monitoring results in accordance with the limits and monitoring requirements for this station. If conditions are such that no sample can be acquired, the Permittee shall report "No Flow" or "No Discharge" on Discharge Monitoring Report (DMR) and shall add a Comments attachment to the DMR detailing why the sample was not collected. [Minn. R. 7001.0150, Subp. 2(B)]
SW 002	Stream/River/ Ditch, Downstream	
		Facility Specific Limit and Monitoring Requirements
	5.23.1	The Permittee shall submit a monthly DMR: Due by 21 days after the end of each calendar month following permit issuance. [Minn. R. 7001.0150, Subp. 2(B)]
	5.23.2	Sampling Location. [Minn. R. 7001.0150, Subp. 2(B)]
	5.23.3	Samples for Station SW002 shall be taken at S105: Beaver River near County Road 3. [Minn. R. 7001.0150, Subp. 2(B)]
	5.23.4	The Permittee shall submit monitoring results in accordance with the limits and monitoring requirements for this station. If conditions are such that no sample can be acquired, the Permittee shall report "No Flow" or "No Discharge" on Discharge Monitoring Report (DMR) and shall add a Comments attachment to the DMR detailing why the sample was not collected. [Minn. R. 7001.0150, Subp. 2(B)]
SW 003	Stream/River/ Ditch, Downstream	
		Facility Specific Limit and Monitoring Requirements
	5.24.1	The Permittee shall submit a monthly DMR : Due by 21 days after the end of each calendar month following permit issuance. [Minn. R. 7001.0150, Subp. 2(B)]
	5.24.2	Sampling Location. [Minn. R. 7001.0150, Subp. 2(B)]
	5.24.3	Samples for Station SW003 shall be taken at S106: Beaver River at Glenn Avon Falls. [Minn. R. 7001.0150, Subp. 2(B)]
	5.24.4	The Permittee shall submit monitoring results in accordance with the limits and monitoring requirements for this station. If conditions are such that no sample can be acquired, the Permittee shall report "No Flow" or "No Discharge" on Discharge Monitoring Report (DMR) and shall add a Comments attachment to the DMR detailing why the sample was not collected. [Minn. R. 7001.0150, Subp. 2(B)]

SW 004	Stream/River/ Ditch, Upstream	
		Facility Specific Limit and Monitoring Requirements
	5.25.1	The Permittee shall submit a monthly DMR: Due by 21 days after the end of each calendar month following permit issuance. [Minn. R. 7001.0150, Subp. 2(B)]
	5.25.2	Sampling Location. [Minn. R. 7001.0150, Subp. 2(B)]
	5.25.3	Samples for Station SW004 shall be taken at S101: Upstream of Milepost 7 in the East Branch of the Beaver River. [Minn. R. 7001.0150, Subp. 2(B)]
	5.25.4	The Permittee shall submit monitoring results in accordance with the limits and monitoring requirements for this station. If conditions are such that no sample can be acquired, the Permittee shall report "No Flow" or "No Discharge" on Discharge Monitoring Report (DMR) and shall add a Comments attachment to the DMR detailing why the sample was not collected. [Minn. R. 7001.0150, Subp. 2(B)]
SW 005	Lake/Reservoir	
		Facility Specific Limit and Monitoring Requirements
	5.26.1	The Permittee shall submit a monthly DMR: Due by 21 days after the end of each calendar month following permit issuance. [Minn. R. 7001.0150, Subp. 2(B)]
	5.26.2	Sampling Location. [Minn. R. 7001.0150, Subp. 2(B)]
	5.26.3	Samples for Station SW005 shall be taken at S902, the former power plant cooling water intake in Lake Superior. [Minn. R. 7001.0150, Subp. 2(B)]
	5.26.4	The Permittee shall submit monitoring results in accordance with the limits and monitoring requirements for this station. If conditions are such that no sample can be acquired, the Permittee shall report "No Flow" or "No Discharge" on Discharge Monitoring Report (DMR) and shall add a Comments attachment to the DMR detailing why the sample was not collected. [Minn. R. 7001.0150, Subp. 2(B)]
WS 001	Influent Waste	
		Facility Specific Limit and Monitoring Requirements
	5.27.1	The Permittee shall submit a monthly DMR: Due by 21 days after the end of each calendar month following permit issuance. [Minn. R. 7001.0150, Subp. 2(B)]
	5.27.2	Sampling Location. [Minn. R. 7001.0150, Subp. 2(B)]
	5.27.3	Samples for Station WS001 shall be taken at the influent supply tank of the Milepost 7 Wastewater Treatment Plant (S900). [Minn. R. 7001.0150, Subp. 2(B)]
	5.27.4	The Permittee shall submit monitoring results in accordance with the limits and monitoring requirements for this station. If conditions are such that no sample can be acquired, the Permittee shall report "No Flow" or "No Discharge" on Discharge Monitoring Report (DMR) and shall add a Comments attachment to the DMR detailing why the sample was not collected. [Minn. R. 7001.0150, Subp. 2(B)]
WS 014	Internal Waste Stream	
		Facility Specific Limit and Monitoring Requirements
	5.28.1	The Permittee shall submit a monthly DMR: Due by 21 days after the end of each calendar month following permit issuance. [Minn. R. 7001.0150, Subp. 2(B)]
	5.28.2	Sampling Location. [Minn. R. 7001.0150, Subp. 2(B)]
	5.28.3	Samples for Station WS014 shall be taken at a point representative of the effluent from the Fluoride Treatment Plant. [Minn. R. 7001.0150, Subp. 2(B)]

	5.28.4	The Permittee shall submit monitoring results in accordance with the limits and monitoring requirements for this station. If conditions are such that no sample can be acquired, the Permittee shall report "No Flow" or "No Discharge" on Discharge Monitoring Report (DMR) and shall add a Comments attachment to the DMR detailing why the sample was not collected. [Minn. R. 7001.0150, Subp. 2(B)]
WS 015	Limits Calculation	
		Facility Specific Limit and Monitoring Requirements
	5.29.1	The Permittee shall submit a monthly DMR: Due by 21 days after the end of each calendar month following permit issuance. [Minn. R. 7001.0150, Subp. 2(B)]
	5.29.2	Sampling Location. [Minn. R. 7001.0150, Subp. 2(B)]
	5.29.3	Station WS 015 is a limits calculation station. The sum of the annual discharge from SD 001 shall not exceed the annual net precipitation at the facility as calculated in the "Allowable Discharge" section of this permit. Precipitation and evaporation readings for Station WS 015 shall be taken at the Milepost 7 rain gauge and evaporation pan (S004) respectively. [Minn. R. 7001.0150, Subp. 2(B)]
	5.29.4	The Permittee shall submit monitoring results in accordance with the limits and monitoring requirements for this station. If conditions are such that no sample can be acquired, the Permittee shall report "No Flow" or "No Discharge" on Discharge Monitoring Report (DMR) and shall add a Comments attachment to the DMR detailing why the sample was not collected. [Minn. R. 7001.0150, Subp. 2(B)]
WS 016	Internal Waste Stream	
		Facility Specific Limit and Monitoring Requirements
	5.30.1	The Permittee shall submit a monthly DMR: Due by 21 days after the end of each calendar month following permit issuance. [Minn. R. 7001.0150, Subp. 2(B)]
	5.30.2	Sampling Location. [Minn. R. 7001.0150, Subp. 2(B)]
	5.30.3	Samples for Station WS016 shall be taken at a point representative of the ash fill leachate discharge to the Milepost 7 tailings basin. [Minn. R. 7001.0150, Subp. 2(B)]
	5.30.4	The Permittee shall submit monitoring results in accordance with the limits and monitoring requirements for this station. If conditions are such that no sample can be acquired, the Permittee shall report "No Flow" or "No Discharge" on Discharge Monitoring Report (DMR) and shall add a Comments attachment to the DMR detailing why the sample was not collected. [Minn. R. 7001.0150, Subp. 2(B)]
WS 017	Internal Waste Stream	
		Facility Specific Limit and Monitoring Requirements
	5.31.1	The Permittee shall submit a monthly DMR: Due by 21 days after the end of each calendar month following permit issuance. [Minn. R. 7001.0150, Subp. 2(B)]
	5.31.2	Sampling Location. [Minn. R. 7001.0150, Subp. 2(B)]
	5.31.3	Samples for Station WS017 shall be taken at a point representative of Seepage Recovery Pond 1A on the west side of the tailings basin. [Minn. R. 7001.0150, Subp. 2(B)]
	5.31.4	The Permittee shall submit monitoring results in accordance with the limits and monitoring requirements for this station. If conditions are such that no sample can be acquired, the Permittee shall report "No Flow" or "No Discharge" on Discharge Monitoring Report (DMR) and shall add a Comments attachment to the DMR detailing why the sample was not collected. [Minn. R. 7001.0150, Subp. 2(B)]

WS 018	Internal Waste Stream	
		Facility Specific Limit and Monitoring Requirements
	5.32.1	The Permittee shall submit a monthly DMR: Due by 21 days after the end of each calendar month following permit issuance. [Minn. R. 7001.0150, Subp. 2(B)]
	5.32.2	Sampling Location. [Minn. R. 7001.0150, Subp. 2(B)]
	5.32.3	Samples for Station WS 018 shall be taken at a point representative of Seepage Recovery Pond 1B on the east side of the tailings basin. [Minn. R. 7001.0150, Subp. 2(B)]
	5.32.4	The Permittee shall submit monitoring results in accordance with the limits and monitoring requirements for this station. If conditions are such that no sample can be acquired, the Permittee shall report "No Flow" or "No Discharge" on Discharge Monitoring Report (DMR) and shall add a Comments attachment to the DMR detailing why the sample was not collected. [Minn. R. 7001.0150, Subp. 2(B)]
MN0055301	Northshore Mining Co - Silver Bay	
		Groundwater Station General Requirements
	5.33.1	**Special Requirements**. [Minn. R. 7001]
	5.33.2	The Permittee shall abandon groundwater monitoring wells 1, 1A, 2, 2A, 3, 6, 6A, 7, 7A, 7B, 9 and 9A in accordance with Minnesota Water Well Construction Code, Minnesota Rules ch. 4725. The Permittee shall submit the well seal record to MPCA within 18 months after permit issuance. The records shall be submitted to: wq.submittals.mpca@state.mn.us. abandon monitoring well and submit seal record to MPCA: Due by 18 months after permit issuance. [Minn. R. 7001]
	5.33.3	The MPCA may require the Permittee to conduct further evaluations of existing geotechnical information, conduct additional geotechnical investigations and/or groundwater assessments to demonstrate the adequacy of the existing groundwater monitoring program in assessing water quality impacts. The requirement to conduct additional geotechnical evaluations and/or groundwater assessments shall be based upon clear indications of adverse groundwater 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 groundwater 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. [Minn. R. 7001]
	5.33.4	Tailings, wastewater and other wastes shall not be deposited on, in, or next to monitoring wells at the facility. [Minn. R. 7001]
	5.33.5	**Lysimeters**. [Minn. R. 7001]
	5.33.6	Lysimeters shall be evacuated once, one to two days before sampling. [Minn. R. 7001]
	5.33.7	**Monitoring Wells**. [Minn. R. 7001]
	5.33.8	Install, maintain, and seal groundwater monitoring wells according to the Minnesota Rules, ch. 4725. Repair or properly seal and replace damaged or improperly constructed monitoring wells. Information on licensed water well contractors is available from the Minnesota Department of Health. [Minn. R. 4725]
	5.33.9	When new wells are drilled, the Permittee shall submit a detailed well log and a detailed U.S. Geological Survey topographical map identifying the location for each monitoring well at the facility within 30 days after well installation. The Permittee shall retain existing well logs for each monitoring well at the facility for existing active monitoring wells. [Minn. R. 7001]
	5.33.10	Clearly number each monitoring well on the outside of the well with either indelible paint or an inscribed number with either the local name or MPCA station ID. [Minn. R. 7001]
	5.33.11	Sample monitoring wells according to the MPCA publication, "Sampling Procedures for Ground Water Monitoring Wells, July 1997, Reviewed and re-approved September 2006" (wq-gw1-01, 9/06) or any

		updates to this document. A copy of this publication is available on the MPCA website at: http://www.pca.state.mn.us. [Minn. R. 7001]
	5.33.12	Collect grab samples at all groundwater monitoring points (lysimeters or wells) after well stabilization field measurements are conducted. [Minn. R. 7001]
	5.33.13	Prior to well purging and sampling, measure the depth to groundwater to the nearest 0.01 foot below the top of the well casing. Report groundwater elevations to the nearest 0.01 foot above mean sea level. [Minn. R. 7001]
	5.33.14	Temperature, pH, specific conductance shall be reported as the final field measurements from well stabilization. [Minn. R. 7001]
	5.33.15	**Analysis Requirements**. [Minn. R. 7001]
	5.33.16	Temperature, pH, and specific conductance analyses shall be conducted within 15 minutes of sample collection. [Minn. R. 7001]
	5.33.17	The Permittee shall submit monitoring results in accordance with the Limits and Monitoring requirements for this station. If conditions are such that no sample can be acquired, the Permittee shall report "No Flow" or "No Discharge" on the electronic Discharge Monitoring Report (eDMR) and shall add a Comments attachment to the eDMR detailing why the sample was not collected. [Minn. R. 7001.0150, subp. 2(B)]
		Surface Discharge Station General Requirements
	5.34.18	**Sampling Frequency**. [Minn. R. 7001]
	5.34.19	For samples that are required "once per quarter" the permittee may take the sample at any month during the calendar quarter and report the results on the months listed in the limits and monitoring section of this permit. For samples that are required "once per month" and have specific months listed, the samples shall be taken in the month listed in the limits and monitoring section of this permit. <u>Example:</u> SD 001: Frequency: once per quarter Effective period: Mar, Jun, Sep, Dec The samples can be taken at any time during the calendar quarter, and are reported on the March, June, September and December DMRs. SW 001: Frequency: once per month Effective period: April, Jul, Sep, Nov The samples shall be taken in the months of April, July, September and November and reported on the April, July, September and November DMRs. [Minn. R. 7001]
	5.34.20	**Representative Samples**. [Minn. R. 7001]
	5.34.21	Samples and measurements required by this permit shall be representative of the monitored activity. [Minn. R. 7001]
	5.34.22	**Surface Discharge Prohibitions**. [Minn. R. 7001]
	5.34.23	Floating solids or visible foam shall not be discharged in other than trace amounts. [Minn. R. 7001]
	5.34.24	Do not discharge oil or other substances in amounts that create a visible color film. [Minn. R. 7001]
	5.34.25	Install and maintain outlet protection measures at the discharge stations to prevent erosion. [Minn. R. 7001]
	5.34.26	**Winter Sampling Conditions**. [Minn. R. 7001]
	5.34.27	Sample flows at the designated monitoring stations, including when ice removal is required to sample the water. If there is a frozen station throughout a designated sampling month, check the "No Discharge" box on the electronic Discharge Monitoring Report (eDMR) and note the ice conditions in the comments section on the eDMR. [Minn. R. 7001]

	5.34.28	**Mercury Limits and Monitoring Requirements**. [Minn. R. 7001]
	5.34.29	Permittees are required to sample for total suspended solids (TSS) (grab sample) and total/dissolved mercury at the same time. Collect total mercury, dissolved mercury, and TSS (grab sample) samples via grab samples. Record all results on eDMRs. [Minn. R. 7001]
	5.34.30	Analyze total and dissolved mercury samples using the most current versions of EPA Method 1631 with clean techniques method 1669. If the EPA approves and an MPCA-recognized accreditation body certifies another mercury analytical method that has a reportable quantitation level of <0.5 ng/L that allows for low-level sample characterization, the method may be used in place of 1631/1669. [Minn. R. 7001]
	5.34.31	**Nitrogen Limits and Monitoring Requirements**. [Minn. R. 7001]
	5.34.32	Report total nitrogen as the summation of the total kjeldahl nitrogen and total nitrite plus nitrate nitrogen values. [Minn. R. 7001]
	5.34.33	The analysis for ammonia-nitrogen shall use an EPA approved method (under 40 CFR part 136), with a reporting limit of 0.1 mg/L or less. [Minn. R. 7001]
	5.34.34	**Temperature Limits and Monitoring Requirements**. [Minn. R. 7001]
	5.34.35	The SD 003 waste heat rejection rate limits and monitoring requirements are in place as a calculation of acceptable heat transfer to the 1000-ft mixing zone. [Minn. R. 7001]
	5.34.36	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. [Minn. R. 7001]
	5.34.37	The temperature "Difference Between Sample & Reference Point" at SD 003 shall be recorded as the temperature at SD 003 minus temperature at SW 005. [Minn. R. 7001]
	5.34.38	**Analysis Requirements**. [Minn. R. 7001]
	5.34.39	Dissolved Oxygen, pH, specific conductance, temperature, and total residual chlorine analyses shall be conducted within 15 minutes of sample collection. [Minn. R. 7001]
	5.34.40	The Permittee shall submit monitoring results in accordance with the Limits and Monitoring requirements for this station. If conditions are such that no sample can be acquired, the Permittee shall report "No Flow" or "No Discharge" on electronic Discharge Monitoring Report (eDMR) and shall add a comments attachment to the eDMR detailing why the sample was not collected. [Minn. R. 7001.0150, Subp 2(B)]
		Surface Water Station General Requirements
	5.35.41	**Sampling Location**. [Minn. R. 7001]
	5.35.42	All instruments used for field measurements shall be maintained and calibrated to ensure accuracy of measurements. [Minn. R. 7001]
	5.35.43	**Representative Samples**. [Minn. R. 7001]
	5.35.44	Samples and measurements required by this permit shall be representative of the monitored activity. [Minn. R. 7001]
	5.35.45	**Surface Discharge Prohibitions**. [Minn. R. 7001]
	5.35.46	Floating solids or visible foam shall not be discharged in other than trace amounts. [Minn. R. 7001]
	5.35.47	Do not discharge oil or other substances in amounts that create a visible color film. [Minn. R. 7001]
	5.35.48	Install and maintain outlet protection measures at the discharge stations to prevent erosion. [Minn. R. 7001]
	5.35.49	**Winter Sampling Conditions**. [Minn. R. 7001]
	5.35.50	Sample flows at the designated monitoring stations, including when ice removal is required to sample the water. If there is a frozen station throughout a designated sampling month, check the "No

		Discharge" box on the electronic Discharge Monitoring Report (eDMR) and note the ice conditions in Comments on the eDMR. [Minn. R. 7001]
	5.35.51	**Sampling Protocol**. [Minn. R. 7001]
	5.35.52	Take samples at mid-stream, mid-depth. Record location, date, time, and results for each sample on the eDMR form. [Minn. R. 7001]
	5.35.53	To ensure accuracy, maintain and calibrate all instruments used for field measurements. [Minn. R. 7001]
	5.35.54	Preserve sample water according to lab instructions and deliver to a certified lab within the maximum holding times. [Minn. R. 7001]
	5.35.55	**Analysis Requirements**. [Minn. R. 7001]
	5.35.56	Dissolved Oxygen, pH, specific conductance, and temperature analyses shall be conducted within 15 minutes of sample collection. [Minn. R. 7001]
		Waste Stream Station General Requirements
	5.36.57	**Representative Samples**. [Minn. R. 7001]
	5.36.58	Collect grab and composite samples at a point representative of total influent flow to the system. [Minn. R. 7001]
	5.36.59	**Analysis Requirements**. [Minn. R. 7001]
	5.36.60	Temperature, pH, and specific conductance analyses shall be conducted within 15 minutes of sample collection. [Minn. R. 7001]
	5.36.61	The Permittee shall submit monitoring results in accordance with the Limits and Monitoring requirements for this station. If conditions are such that no sample can be acquired, the Permittee shall report "No Flow" or "No Discharge" on the electronic Discharge Monitoring Report (eDMR) and shall add a Comments attachment to the eDMR detailing why the sample was not collected. [Minn. R. 7001.0150, subp. 2(B)]
		Special Requirements
	5.37.62	**Functional Equivalent**. [Minn. R. 7001]
	5.37.63	This permit authorizes a discharge of tailings basin seepage to groundwater not to exceed a seepage rate of 200 gallons per minute. The estimated volume of the seepage discharge to groundwater is reported at GW 026. The water quality of the seepage discharge is reported at SD 005 and via groundwater monitoring wells downgradient of the tailings basin. [Minn. R. 7001]
	5.37.64	Downgradient groundwater monitoring wells as well as surface water monitoring locations (SW 001 and SW 002) have intervention limits applicable to address the potential for sub-surface seepage to reach and/or affect downgradient surface waters. If evidence suggests seepage from the tailings basin is reaching downgradient surface waters, permitting of a functionally equivalent NPDES discharge may be required. [Minn. R. 7001]
	5.37.65	Relief wells at the site intercept and collect water from the ground to seepage collection ponds and limit the volume of uncollected seepage. The MPCA recognizes that reporting the volume of tailings basin seepage to groundwater is an estimation. The Permittee shall estimate the uncollected seepage rate using established methodology which utilizes Darcy's Equation and an estimated cross-sectional area of saturated glacial till, the potential conduit of uncollected seepage. Darcy's Equation: Q = -KA(dh/dl) where: Q = volumetric flow rate, K = hydraulic conductivity (proportionality constant), A = cross-sectional area of rock perpendicular to flow; and dh/dl = hydraulic gradient. [Minn. R. 7001]

	5.37.66	The estimated uncollected seepage through the foundation of the Mile Post 7 Tailings Basin (reported at GW 026) 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 groundwater quality downstream of the tailings dams to ensure that: a. Excessive seepage pressures do not develop in the foundation soils; b. Groundwater quality is not degraded by seepage flows; and c. Surface water quality is not degraded as a result of the discharge of affected groundwater to surface water. If observations indicate high seepage pressures or degradation of water quality in downgradient and downstream monitoring locations, mitigative measures approved by the MPCA shall be undertaken by the Permittee. Any seepage water which reaches surface waters as a result of a release due to seepage recovery failure shall be rapidly sampled in an intensive manner for parameters required at SD 001 to determine both quantitative and qualitative levels of pollutants, and reported immediately to the MPCA. At the request of the MPCA, the Permittee shall also 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. [Minn. R. 7001]
	5.37.67	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. Information regarding what a biological survey is expected to contain will be determined upon notification to the Permittee that a biological survey is required. [Minn. R. 7001]
	5.37.68	Consistent with Minn. R. 7050.0265 and 7060.0500, the disposal system and wastewater discharge shall be designed, constructed, operated and maintained by the Permittee to ensure the maximum practicable extent that the groundwater and surface waters of the state are maintained at their natural quality. The increase in any pollutant in groundwater or surface waters shall not preclude the appropriate beneficial present and future use of the water. [Minn. R. 7001]
	5.37.69	**Intervention Limits**. [Minn. R. 7001]
	5.37.70	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 SW 004 (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 percent) that 95 percent 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 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 the control of the Permittee. The Permittee shall document if/when a surface water quality intervention limit is exceeded and provide an explanation on the monthly DMRs. [Minn. R. 7001]
	5.37.71	The MPCA will use the following criteria in determining whether exceeding a surface receiving water quality intervention limit requires follow-up by the Permittee. However, at no time shall concentrations exceed the applicable water quality standards according to Minn. R. 7050 or levels resulting from application of Best Available Technology. 1. Beaver River chemical parameters. Any one parameter 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 SW 001 and SW 002 (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. [Minn. R. 7001]
	5.37.72	If the above criteria are exceeded, the MPCA, taking into consideration the level of excursions noted, and Minn. R. 7050.0265 (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 any 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 modifications section of this permit. [Minn. R. 7001]
	5.37.73	If an intervention limit for other than the Beaver River stations is exceeded, the Permittee shall: a. Sample the monitoring station again within 7-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. [Minn. R. 7001]
	5.37.74	**Compliance Responsibility**. [Minn. R. 7001]
	5.37.75	The Permittee shall be required to apply the Best Available Technology (BAT) to maintain water quality 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. [Minn. R. 7001]
	5.37.76	The Permittee shall submit an Intervention Limits Exceedance Report with the DMR that identifies when an intervention limit has been exceeded. The report shall describe the evaluations and conclusions, and the schedule of actions taken or planned to prevent the intervention limits from being exceeded. [Minn. R. 7001]
	5.37.77	**Sampling and Analysis**. [Minn. R. 7001]
	5.37.78	Fiber analysis 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. [Minn. R. 7001]
	5.37.79	**Lake Superior South Watershed Total Maximum Daily Load (TMDL)**. [Minn. R. 7001]
	5.37.80	The facility discharges to the Beaver River which is on the impaired waters list for total suspended solids. A total maximum daily load (TMDL) study has been completed for the Lake Superior South Watershed and a waste load allocation (WLA) of 417 pounds/day for total suspended solids has been developed for this facility. The permit contains a daily maximum limit of 417 pounds/day to be applied from April 1 - September 30 of each year. This limit is divided up between outfalls SD 001 and SD 005. The sum of total suspended solids at these outfalls cannot exceed the daily maximum limit of 417 pounds/day and must be reported on the DMR for the calculation station, SD 009. [Minn. R. 7001]
	5.37.81	**Per-and Polyfluoroalkyl Substances (PFAS) Inventory**. [Minn. R. 7001]
	5.37.82	The Permittee shall submit the results of the per- and polyfluoroalkyl substances (PFAS) inventory within 18 months of permit issuance. The intent of the inventory is to establish if PFAS containing materials are used at the facility and if they are being discharged to the environment. The PFAS Inventory shall include: A. Identify all current PFAS containing or potentially PFAS containing materials used at the facility. For each material, describe the material used, location(s) used, time frame used, and identify which PFAS compounds were present or were potentially present. B. List all chemical additives currently used, indicate if they do or do not contain PFAS, identify the PFAS compound(s) in each chemical additive. C. Identify potential pathways for PFAS to enter the environment from the Permittee's current activities at the facility. D. Based on past or current uses of PFAS, identify areas of concern where PFAS may be present at the facility. E. List historic activities that may have contributed PFAS to the environment and include where those activities may have occurred. E. Describe work completed by the Permittee prior to permit issuance to identify and reduce PFAS usage at the facility and the findings of the work. The MPCA reserves the right to modify the permit to include monitoring for PFAS. submit a report: Due by 18 months after permit issuance. [Minn. R. 7001]

		Industrial Process Wastewater
	5.38.83	**Prohibited Discharges. [Minn. R. 7001]**
	5.38.84	This permit does not authorize the discharge of sewage, wash water, scrubber water, spills, oil, hazardous substances, or equipment/vehicle cleaning and maintenance wastewaters to ditches, wetlands or other surface waters of the state. [Minn. R. 7001.1090, subp. 1(A)]
	5.38.85	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. [Minn. R. 7001.1090, subp. 1(A)]
	5.38.86	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. [Minn. R. 7049.140, subp. 2]
	5.38.87	**Toxic Substance Reporting. [Minn. R. 7001]**
	5.38.88	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 Minnesota Rules, pt. 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 Minnesota rules, pt. 7001.1060, subp. 4, 10,000 ug/L; or, E. five times the maximum concentration value identified and reported for that pollutant in the permit application. [Minn. R. 7001.1090, subp. 2]
	5.38.89	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 Minnesota Rules, pt. 7001.1050, subp. 2.J. [Minn. R. 7001.1050, subp. 2(J)]
	5.38.90	**Polychlorinated Biphenyls (PCBs). [Minn. R. 7001]**
	5.38.91	PCBs, including but not limited to those used in electrical transformers and capacitors, shall not be discharged or released to the environment. [Minn. R. 7001.0150, subp. 2]
	5.38.92	**New Proposed Dewatering. [Minn. R. 7001]**
	5.38.93	The Permittee shall obtain a permit modification before discharging from a new dewatering outfall. [Minn. R. 7001.170]
	5.38.94	In addition to the requirements in the Permit Modifications part of the Total Facility Requirements chapter, the Permittee shall submit to the MPCA detailed plans and specifications for the proposed methods of achieving discharge limits for turbidity and total suspended solids, based in part upon representative water quality data for untreated wastewater and a detailed map and diagram description of the proposed design for the flow control structures, and route of the discharge to receiving waters. [Minn. R. 7001.170]
	5.38.95	**Application for Permit Reissuance. [Minn. R. 7001]**
	5.38.96	The permit application 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. [Minn. R. 7001.50]
	5.38.97	The permit application shall include analytical data for the parameters required by EPA Form 2C at monitoring station SD 001. Analysis of all parameters shall comply with their specific 40 CFR Part 136 analytical methodologies or updates to those methodologies. The reporting limits shall meet the minimum levels as defined by this permit and all state and federal regulations. [Minn. R. 7001.50]
	5.38.98	The Permittee shall include, as part of the application for reissuance of this permit: A. A current map of any basins or ponds, showing the cells, and current topographic and water level elevations in the basin; B. An updated water balance for the facility; [Minn. R. 7001.50]
	5.38.99	The permit application shall include low-level detection analytical data for the following parameters at monitoring stations GW 006 and GW 008: 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), Eh, dissolved oxygen, nitrate-nitrite, ammonia, surfactants, total organic amines, gasoline range organics, diesel range organics, and pyrene. [40 CFR 122, Minn. R. 7001.50]
		Industrial Water Treatment: Cooling Process Water
	5.39.100	**Authorization**. [Minn. R. 7001]
	5.39.101	This chapter authorizes the Permittee to discharge once-through excess make-up water generated at the facility, as described in the 'Facility Description' portion of this permit. This activity is limited by the 'Limits and Monitoring' section of this permit, as well as the other terms and conditions of this permit. [40 CFR pt. 122, Minn. R. 7001]
	5.39.102	**Intake Screens**. [Minn. R. 7001]
	5.39.103	Water used to rinse the intake screens shall be free of chlorine and chemical additives. [Minn. R. 7001]
	5.39.104	The Permittee shall dispose of debris collected on the intake screens in a manner that prevents the debris from entering waters of the state. [Minn. R. 7001]
	5.39.105	The Permittee shall comply with the 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. [Minn. R. 7001]
	5.39.106	**316(b) Guidelines**. [Minn. R. 7001]
	5.39.107	At this time, the MPCA has made the determination that the facility does not meet the Applicability Criteria of 40 CFR 125.91 and therefore a best technology available (BTA) determination for impingement and entrainment has not been made. If the Permittee proposes to modify facility operations in a way that will result in the facility meeting the Applicability Criteria, the Permittee shall submit a request for a permit modification along with the applicable permit application materials required by 40 CFR 122.21(r). [Minn. R. 7001]
	5.39.108	In regard to permit application information, Permittees with greater than 125 MGD actual intake flow (AIF) shall reference 40 CFR 122.21(r)(2)-(13); Permittees with less than 125 MGD AIF shall reference 40 CFR 122.21(r)(2)-(8). [Minn. R. 7001]
	5.39.109	Actual Intake Flow (AIF) means the average volume of water withdrawn on an annual basis by the cooling water intake structure over the previous five years. The calculation of actual intake flow includes days of zero flow. AIF does not include flows associated with emergency and fire suppression capacity. [Minn. R. 7001]
	5.39.110	Nothing in this permit authorizes take for the purposes of a facility's compliance with the Endangered Species Act. [Minn. R. 7001]
	5.39.111	The MPCA is authorized to inspect the facility and to request additional information needed for determining permit conditions and requirements. [Minn. R. 7001]
	5.39.112	Records of all submissions that are part of the permit reporting requirements must be retained until the subsequent permit is issued. [Minn. R. 7001]
	5.39.113	Records of all submissions that are part of the permit application must be retained until the subsequent permit is issued. [40 CFR pt. 125]. [Minn. R. 7001]
	5.39.114	All records supporting the MPCA's Determination of BTA for Entrainment under 40 CFR 125.98(f) or (g) must be retained until such time as the MPCA revises the Determination of BTA for Entrainment in the permit. [40 CFR pt. 125]. [Minn. R. 7001]
	5.39.115	**BPJs for the Northshore Mining - Mile Post 7 Surface Water Intake**. [Minn. R. 7001]
	5.39.116	**Intake Structure Compliance**. [Minn. R. 7001]
	5.39.117	The facility must maintain and operate the surface water intake structure with the designed intake trash screen and 3/8" mesh screens at all times. [40 CFR pt. 125, 90]
	5.39.118	The facility must operate the surface water intake structure in a manner that ensures a maximum actual through-screen velocity of 0.5 feet per second (fps) at all times. [40 CFR pt. 125, 90]
	5.39.119	The facility must monitor the velocity at the screen at a minimum frequency of daily. In lieu of velocity

		monitoring at the screen face, the facility may calculate the through-screen velocity using water flow, water depth, and the screen open areas. [40 CFR pt. 125, 90]
	5.39.120	The facility must either conduct visual inspections or employ remote monitoring devices during the period the surface water intake structure is in operation. The facility must conduct such inspections at least weekly to ensure that any technologies operated to comply with this permit are maintained and operated to function as designed. [40 CFR pt. 125, 90]
	5.39.121	The Permittee shall operate the Lake Superior intake water system in a manner to minimize the entrainment and impingement of aquatic life. [Minn. R. 7001]
	5.39.122	**Applicable Effluent Limitations - Thermal Limitation**. [Minn. R. 7001]
	5.39.123	The thermal waste streams shall not impact the safety and propagation of a balanced, indigenous population of shellfish, fish, and wildlife in and on Lake Superior. [Minn. R. 7001]
	5.39.124	In accordance with the Federal Water Pollution Control Act, this permit may be re-opened to insert a restrictive thermal limit or the requirement to conduct a 316(a) study if it has been shown that the thermal component(s) of the surface water discharges affect the safety and propagation of a balanced, indigenous population of shellfish, fish, and wildlife in and on Lake Superior. [40 CFR 316]
		Dredged Material Management
	5.40.125	**Authorization**. [Minn. R. 7001]
	5.40.126	This permit authorizes the Permittee to store and/or beneficially use dredged material from dredging at SD 003 and the harbor in accordance with the provisions of this permit. [Minn. R. 7001]
	5.40.127	This permit authorizes discharges of stormwater originating from storage and beneficial use of dredged material described in the Storage of Dredged Material and Beneficial Use of Dredged Material parts of this chapter, and includes incidental discharges associated with rehandling, off-loading, and transportation activities when managed in accordance with the Rehandling, Off-Loading, and Transportation of Dredged Material part of this chapter. This permit does not authorize other discharges of wastewater. [Minn. R. 7001]
	5.40.128	This permit does not authorize or otherwise regulate dredging activity. However, dredging activity is subject to the water quality standards specified in Minn. R. chs. 7050 and 7060. Initiation of dredge activities shall not commence until the Permittee has obtained all federal, state, and/or local approvals that may be required for a particular project, including, but not limited to, state permits from the Minnesota Department of Natural Resources (DNR) regulating activities in the bed of public waters as defined in Minn. Stat. sec. 103G.245 and Minn. R. 6115.0200, federal permits from the United States Army Corps of Engineers (USACE) for dredge or fill material, and local permits from the appropriate Soil and Water Conservation District, county, or local unit of government (LUG). [Minn. R. 7050, Minn. R. 7060]
	5.40.129	The following activities are not authorized by this permit: A. The discharge of wastewater or stormwater into waters of the state, except as provided by the Authorization part of this chapter. B. The discharge of dredged material or return water to surface water from a storage, disposal, or beneficial use site, including disposal methods such as unconfined disposal, beach nourishment, disposal in wetlands, or other in-water disposal. [33 CFR part 323] C. Permit coverage at sites for which Environmental Assessment Worksheets or Environmental Impact Statements are required, in accordance with Minn. R. ch. 4410, until that environmental review is completed. D. The discharge of sewage, wash water, scrubber water, spills, oil, hazardous substances, or equipment/vehicle cleaning and maintenance wastewaters to ditches, wetlands, or other surface waters of the state. E. The routing of pollutants from the dredging activity or from dredged material storage, disposal, or beneficial use sites to a municipal wastewater treatment system. This activity would need to be authorized by the pretreatment standards of the MPCA and the municipal authority. [Minn. R. 7001]
	5.40.130	Compliance with the terms and conditions of this permit releases the Permittee from the requirement to obtain a separate permit for industrial activities at a storage or beneficial use site that would

		otherwise require the Permittee to obtain an industrial stormwater permit in accordance with the Clean Water Act and MPCA rules, except where the use of dredged material is occurring at a location separate from other activity covered by this permit. The requirement to obtain a construction stormwater permit for land disturbing activities, where otherwise required, is not waived by this permit. [Minn. R. 7001]
	5.40.131	**Rehandling, Off-Loading, and Transportation of Dredged Material**. [Minn. R. 7001]
	5.40.132	Dredged material shall be managed in a manner to minimize the amount of material returned to waters of the state by spillage, erosion, or other discharge during rehandling, off-loading, and transportation activities. [Minn. R. 7001]
	5.40.133	Sites used for rehandling or off-loading of dredged material shall be sloped away from surface water, or otherwise designed to prevent runoff from the area. In cases where the topography prevents the site from being sloped away from surface water, the Permittee shall otherwise manage the area to minimize the amount of material returned to waters of the state by spillage, erosion, or other discharge. [Minn. R. 7001]
	5.40.134	Dredged material hauled on federal, state, or local highways, roads, or streets shall be hauled in such a way as to prevent dredged material from leaking, spilling, or otherwise being deposited in the right-of-way. Dredged material deposited on a public roadway shall be immediately removed and properly disposed. [Minn. R. 7001]
	5.40.135	The Permittee shall minimize vehicle tracking of soil or dredged material onto off-site impervious surfaces at locations where vehicles exit dredging, storage, and beneficial use sites by using best management practices such as stone pads, concrete or steel wash racks, or equivalent systems. [Minn. R. 7001]
	5.40.136	Tracked soil and dredged material shall be removed from impervious surfaces that do not drain back to a storage or beneficial use site within 24 hours of discovery and placed in a storage or beneficial use site. [Minn. R. 7001]
	5.40.137	**Disposal of Dredged Material**. [Minn. R. 7001]
	5.40.138	Disposal of dredged material is not authorized by this permit. [Minn. R. 7001]
	5.40.139	If the proposed dredged material is going directly to a permitted MPCA disposal site, including a landfill, an NPDES/SDS permit for dredged material management is not required. [Minn. R. 7001]
	5.40.140	If the proposed dredged material is going to be stored prior to disposal at a permitted MPCA disposal site, an NPDES/SDS permit for dredged material management may be required. [Minn. R. 7001]
	5.40.141	**Storage of Dredged Material**. [Minn. R. 7001]
	5.40.142	**Authorization**. Prior to the use of a site for storage of dredged material, the Permittee shall obtain written MPCA approval for such use. [Minn. R. 7001]
	5.40.143	**General**. The Permittee shall operate and maintain a dredged material storage site to prevent exceedance of water quality standards specified in Minn. R. chs. 7050 and 7060 by controlling and preventing runoff, including stormwater and snowmelt. [Minn. R. 7001, Minn. R. 7060]
	5.40.144	The Permittee shall limit and control the use of materials at the storage site that may cause exceedances of groundwater standards specified in Minn. R. ch. 7060. These materials include, but are not limited to, detergents and cleaning agents, solvents, chemical dust suppressants, lubricants, fuels, drilling fluids, oils, fertilizers, explosives, and blasting agents. [Minn. R. 7060]
	5.40.145	The following requirements apply to the storage and/or dewatering of dredged material: A. Storage must not exceed one year. Storage or accumulation of dredged material for more than one year constitutes disposal and is not covered by this permit. B. The quantity of dredged material stored at the site must not exceed the quantity of material authorized. C. Manage dredged material in a manner to minimize the amount of material returned to waters of the state by spillage, erosion, or other discharge. Follow best management practices for the management of dredged material outlined in the MPCA guidance, "Best Management Practices for the Management of Dredged Material (wq-gen2-02)." D. Do not remove dikes, berms, or silt fences constructed to contain stockpiles of dredged material until all stockpiled material is removed from the containment area. [Minn. R. 7001]

	5.40.146	**Storage Site Approval**. Submit a storage site plan 30 days prior to the use of a new storage site for MPCA review and approval. [Minn. R. 7001]
	5.40.147	**Storage Site Plan**. A storage site plan shall be prepared and submitted for MPCA review and approval. The storage site plan shall consist of the following: A. The volume calculations for the final permitted capacity. B. A map of the storage site. The map shall include: i. The permitted boundaries; ii. Dimensions; iii. Site contours (at contour intervals of two feet or less); iv. Soil boring locations with surface elevations; and v. Present and planned pertinent features, including but not limited to roads, screening, buffer zones, fencing, gates, shelter and equipment buildings, and surface water diversion and drainage. C. Sediment control measures. D. Site preparation methods. [Minn. R. 7001]
	5.40.148	**Site Selection, Design, and Construction**. [Minn. R. 7001]
	5.40.149	**Locational Prohibitions**. The following locational standards apply to a dredged material storage site: A. Storage along shorelines or within floodplains shall be removed within one year. (Minn. R. 6115.0200, subp. 5(B)(2)(c). B. The storage site shall not be located within a shoreland, or wild and scenic river land use district governed by Minn. R. chs. 6105 and 6120, unless specific approval is granted. C. The site shall not be located within a wetland, unless the Permittee has obtained all federal, state, and/or local approvals that may be required for a particular project. D. The site shall not be located in the designated Karst Region in the Southeastern portion of Minnesota that was subject to the 1993 Administrative Order that required the preparation of a contingency plan. [Minn. R. 7001]
	5.40.150	**Separation Distances**. A minimum separation distance of 50 feet shall be maintained between the boundaries of the storage site and the site property line. [Minn. R. 7001]
	5.40.151	**Design Requirements**. [Minn. R. 7001]
	5.40.152	The following design standards apply to a site used for the storage of dredged material: A. An earthen containment dike, or other MPCA-approved embankment and/or other sediment control measure(s), must be established around the perimeter of the storage site. B. Site preparation must allow for orderly development of the site. Initial site preparations must include clearing and grubbing, topsoil stripping and stockpiling, fill excavation, if appropriate, drainage control structures, and other design features necessary to construct and operate the site. C. Divert surface water runoff around the storage site to prevent erosion and protect the structural integrity of exterior embankments from failure. E. Design slopes and drainageways to prevent erosion. Interrupt slopes longer than 200 feet with drainageways. F. For a storage site that will impound water (e.g., hydraulic dredging) with a constructed dike over 6 feet in height, or that impounds more than 15 acre-feet of water, the system is subject to Minn. R. 6115.0300 to 6115.0520 [state Dam Safety Program]. Contact state Dam Safety Program staff at (651) 296-0521 for more information. [Minn. R. 7001]
	5.40.153	**Site Stabilization**. The Permittee shall stabilize the dredged material storage site before any placement is allowed, as follows: A. The exterior slope of all permanent dikes or berms shall be no steeper than 3 to 1 (horizontal to vertical). The exterior slopes of all permanent dikes or berms shall be seeded and a soil fixative (e.g., mulch, blanket) applied within 72 hours of the completion of any grading work on the slopes. B. If grading work is completed too late in the growing season to seed or plant the desired species, then the Permittee shall propagate an annual cover crop that can be dormant seeded or planted and shall apply a soil fixative to the site. At the very minimum, the Permittee shall apply a soil fixative to the exterior slopes of all permanent dikes or berms prior to the first snowfall. C. Silt fences, if used, shall be properly installed. The silt fences shall be tall enough and installed at a sufficient distance from the base of the dikes/berms or stockpiles to create a reasonable secondary

		containment area. [Minn. R. 7001]
	5.40.154	**Storage Site Construction**. The following requirements apply to construction of new or expanded dredged material storage sites: A. The Permittee must plan for and implement construction practices that minimize erosion and maintain dike integrity. B. The Permittee must establish erosion control measures on all downgradient perimeters prior to the initiation of any upgradient land-disturbing construction activities. C. The Permittee must direct surface runoff around and away from the storage site until stabilizing the site, usually by assuring that vegetative cover is well established. D. The Permittee must design and implement sediment control practices to minimize sediment from entering surface waters. The Permittee may adjust the timing of the installation of sediment control practices to accommodate short-term activities such as equipment access. The Permittee must complete any short-term activity as quickly as possible and must install the sediment control practices immediately after the activity is completed. However, the Permittee must install sediment control practices before the next precipitation event even if the activity is not complete. E. All erosion and sediment control measures must remain in place until the Permittee establishes final stabilization. The Permittee must use permanent cover or final stabilization methods to prevent erosion, such as the placement of riprap, sodding, or permanent seeding or planting. Permanent seeding and planting must have a uniform perennial vegetation cover of at least 70 percent density to constitute final stabilization. F. The Permittee must stabilize the site, as specified in this chapter, before allowing storage at the site. [Minn. R. 7001]
	5.40.155	**Delineation and Identification of Storage Boundary**. The perimeter or outer limit of a dredged material storage site shall be indicated by permanent posts or signage. [Minn. R. 7001]
	5.40.156	**Storage Site Operation and Maintenance**. [Minn. R. 7001]
	5.40.157	**Operation and Maintenance**. The Permittee must operate and maintain at all times the integrity of the dike system, embankment, or other erosion-control equipment in compliance with the design requirements of this chapter. [Minn. R. 7001]
	5.40.158	**Periodic Site Inspections**. The Permittee shall inspect the storage site to ensure integrity of the erosion control measures, system stability, and dredge material containment. At a minimum, the site shall be inspected: A. Prior to the initial placement of any dredged material at the storage site; and B. Within 24 hours of each significant storm event and/or the subsidence of flood events; or C. At least once per month if A or B are not occurring. D. The Permittee must continue inspections required by this part until the storage site is no longer operated. [Minn. R. 7001]
	5.40.159	Nonfunctioning erosion and sediment control measures shall be repaired, replaced, or supplemented with functioning erosion and/or sediment control measures within three days of discovery. [Minn. R. 7001]
	5.40.160	Dikes and berms constructed to contain hydraulically dredged material and the attendant liquid shall be maintained free of all types of animal burrows. Animal burrows shall be backfilled with compacted material within three days of discovery. [Minn. R. 7001]
	5.40.161	Where dredging and beneficial use have been suspended due to frozen ground conditions, the inspections and maintenance shall begin as soon as weather conditions warrant, or prior to resuming dredged material placement in the storage site, whichever occurs first. [Minn. R. 7001]
	5.40.162	**Removal from Storage Sites**. [Minn. R. 7001]
	5.40.163	Dredged material shall be removed from storage in a manner so as to not damage the integrity and effectiveness of the containment area. [Minn. R. 7001]
	5.40.164	The Permittee must manage dredged material removed from a storage site in accordance with this permit. [Minn. R. 7001]
	5.40.165	The Permittee must cease to store dredged material and immediately empty and close the dredged material storage site when: A. The Permittee declares the need for dredged material storage has ended;

		B. An MPCA permit held by the facility expires and the Permittee does not apply for its renewal or the MPCA denies an application for renewal; C. The MPCA revokes the permit for the facility; or D. The MPCA issues an order to cease operations. [Minn. R. 7001]
	5.40.166	**Recordkeeping**. [Minn. R. 7001]
	5.40.167	The Permittee shall record the date of each inspection, any problem identified with the storage site, and the action(s) taken to correct any identified problem. The Permittee shall keep these inspection records onsite indefinitely and available to MPCA staff upon request. [Minn. R. 7001]
	5.40.168	The Permittee shall record the dates dredged material is removed from the storage site, the volume removed, and the method and location of the disposition (disposal or beneficial use) of removed material. This information shall be submitted with the "Dredge Material Annual Report," as specified in the "Annual Report" part of this chapter. [Minn. R. 7001]
	5.40.169	**Beneficial Use of Dredged Material**. [Minn. R. 7001]
	5.40.170	**Authorization**. The Permittee may use dredged material for beneficial purposes. Use of dredged material is subject to this part of the permit. The Permittee shall characterize the sediment prior to dredging to determine its suitability and applicable beneficial use category, as described in this part. [Minn. R. 7001]
	5.40.171	**General**. The Permittee shall operate and maintain a dredged material beneficial use site to prevent exceedance of water quality standards specified in Minn. R. chs. 7050 and 7060 by controlling and preventing runoff, including stormwater and snowmelt. [Minn. R. 7053, Minn. R. 7060]
	5.40.172	Storage of dredged material prior to beneficial use is subject to the storage requirements of this chapter, as applicable. [Minn. R. 7001]
	5.40.173	**Beneficial Use Categories**. The suitability of dredged material for beneficial use is based on comparing pollutant concentrations in the dredged material to Soil Reference Values (SRVs). SRVs are listed in Appendix Tables 1 to 4. Authorized beneficial uses are differentiated by the beneficial use category the material is categorized as. There are three beneficial use categories: Level 1, Level 2, and Level 3. A. The MPCA authorizes Level 1 material for use at sites with residential or recreational land uses. Level 1 material is defined as: i. All pollutants reasonably expected to be present in the dredged material are at or below their respective Residential SRV; or ii. Material that is at least 93% sand, as determined by the grain size analysis described in the Sediment Characterization part of this chapter, and any available laboratory analysis does not show pollutant concentrations above Residential SRVs. B. The MPCA authorizes Level 2 material for use at sites with commercial or industrial land uses. Level 2 material is defined as all pollutants reasonably expected to be present in the dredged material are at or below their respective Industrial SRV. C. The MPCA does not authorize Level 3 material for beneficial use under this permit. Level 3 material is defined as any pollutant reasonably expected to be present in the dredged material is greater than its respective Industrial SRV. [Minn. R. 7001]
	5.40.174	**Sediment Characterization**. [Minn. R. 7001]
	5.40.175	**Characterization Timing**. Sediment shall be characterized prior to dredging in accordance with the terms and conditions of this permit. Recharacterization is not required prior to final disposition except when commingling with other material has occurred at the storage site or if additional analysis is specified by the MPCA. Level 3 material cannot be mixed with lower-level material. [Minn. R. 7001]
	5.40.176	**Sampling Location**. Sample locations shall properly characterize the sediment to be dredged. [Minn. R. 7001]
	5.40.177	**Number of Samples**. Refer to Appendix Table 5 to determine the minimum number of samples required for sediment characterization. The Permittee must collect samples that are representative of the sediment to be dredged and in consideration of current and historical activities surrounding the dredge project site. In some cases, the minimum number of samples may not be adequate to characterize the sediment and additional samples may be required. [Minn. R. 7001]
	5.40.178	**Grain Size Analysis**. If samples are predominantly sand, analysis of the parameters in Appendix Tables 1 to 4 is not required. Predominantly sand is defined as 93% or more of the sediment sample by mass

		is retained on a #200 sieve. To determine whether sediment samples are predominantly sand, the following procedure shall be used when the Permittee intends to potentially exclude samples from additional analysis: A. Conduct a sieve analysis using ASTM Method C-136 for gradation and ASTM Method D-2487 for classification. B. Determine the minimum number of samples required for grain size analysis using Appendix Table 5 based on the total amount of material to be dredged. C. Conduct the analysis using the following US Standard sieves: 1", 1/2", 3/8", #4, #10, #100, and #200. D. Report the results for each of the discrete sample locations as a mass percentage of retained sediments. [Minn. R. 7001]
	5.40.179	**Sample Analysis**. Analyze sediment samples for the baseline parameters listed in Appendix Table 1 when grain size analysis demonstrates a sample is not predominantly sand or when grain size analysis is not completed. Samples requiring analysis must also be analyzed for all parameters listed in Appendix Tables 2 to 4 unless a completed and documented environmental risk assessment determines there is not a reasonable likelihood for a particular parameter to be present. [Minn. R. 7001]
	5.40.180	**Sampling Procedures**. The following measures apply to sediment sampling at dredge project sites: A. Samples shall be managed in accordance with ASTM E1391-03 Standard Guide for Collection, Storage, Characterization, and Manipulation of Sediments for Toxicological Testing and for Selection of Samplers Used to Collect Benthic Invertebrates, or subsequent reapprovals. B. All samples shall be taken with a core sampler or other MPCA-approved method. C. All sampling equipment shall be properly cleaned prior to and following collection of each sample. D. Samples collected for polychlorinated biphenyls (PCBs), pesticides, and other organic analyses shall be collected and processed using metallic (stainless steel preferred) liners, tubs, spoons, and spatulas. Samples collected for other chemical analysis, including heavy metals, shall be collected and processed using nonmetallic liners, tubs, spoons, and spatulas. E. Core samples shall be taken to the proposed dredging depth plus two feet and shall be analyzed from each distinct horizon observed in the material to be dredged. If distinct horizons do not exist, core samples shall be divided into two-foot segments and each segment analyzed for the required parameters. For cores extending into parent material, analysis of only the top two-foot segment of parent material is required. F. Core samples shall be visually inspected for the existence of horizons and a written description of the position, length, odor, texture, and color of each horizon provided to the MPCA. [Minn. R. 7001]
	5.40.181	**Annual Report**. [Minn. R. 7001]
	5.40.182	The Permittee must submit an annual dredged material report: Due annually, by the 1st of February of each year following permit issuance for the previous calendar year. [Minn. R. 7001]
	5.40.183	The Permittee shall provide this report even if no dredging occurred during the previous calendar year. [Minn. R. 7001]
	5.40.184	The "Dredged Material Annual Report" must be on a form provided by the MPCA and must include the following elements: A. Dates of dredging. B. Volume of material placed into storage. C. Any incidents, such as spills, unauthorized discharge, and/or other permit violations that occurred. D. Such information as the MPCA may reasonably require of the Permittee pursuant to Minn. R. ch. 7001 and Minn. Stat. ch. 115 and 116 as amended. E. For storage sites, the following information must also be provided: i. The dates of "Periodic Site Inspections" required by this chapter and the status of erosion control measures at the site; ii. The dates dredged material is removed, the volume removed, and the method and location of the disposition (disposal or beneficial use) of removed material; and

		iii. Water level records for storage of hydraulic dredging projects. G. For beneficial use of dredged material during the previous calendar year, the following information must also be provided: i. A written description of the use of the dredged material; ii. A written determination of the beneficial use category and appropriate Soil Reference Values (SRVs), as described in this chapter; and iii. The results of a comparison of pollutant concentrations in the dredged material to SRVs, as described in this chapter. [Minn. R. 7001]
	5.40.185	Where a spill, unauthorized discharge, and/or other violation occurred during the previous calendar year, a copy of the report generated, or information submitted in accordance with the "Total Facility Requirements" chapter, must be included in the "Dredged Material Annual Report.". [Minn. R. 7001]
	5.40.186	**Definitions**. [Minn. R. 7001]
	5.40.187	"Beach Nourishment" means the placement of dredged material on the beach or in the water starting at or above the Ordinary High Water Level (OHWL) for the purpose of adding to, replenishing, or preventing the erosion of beach material. [State Definitions]
	5.40.188	"Beneficial Use" means the use of dredged material after the material has been dewatered in projects such as, but not limited to, road base, building base or pad, etc. [State Definitions]
	5.40.189	"Best Management Practices" (BMPs) means practices to prevent or reduce pollution of the waters of the state, including schedules of activities, prohibitions of practices, and other management practices and includes treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge, or waste disposal or drainage from material storage, as defined in Minn. R. 7001.1020, subp. 5. [State Definitions]
	5.40.190	"Carriage, or Conveyance, Water" means the water portion of a slurry of water and dredged material. [State Definitions]
	5.40.191	"Construction Activity" means a disturbance to the land that results in a change in the topography, existing soil cover (both vegetative and nonvegetative), or the existing soil topography that may result in accelerated stormwater runoff, leading to soil erosion and movement of soil into waters of the state. Examples can include clearing, grading, filling, and excavating. [State Definitions]
	5.40.192	"Discharges of Dredged Material" means any addition of dredged material into waters of the state and includes discharges of water from dredged material operations including beach nourishment, upland storage, or confined disposal which return to waters of state. Material re-suspended during normal dredging operations is considered "de minimis" and is not a dredged material discharge. [State Definitions]
	5.40.193	"Dredged Material" means any material removed from the bed of any waterway by dredging. [State Definitions]
	5.40.194	"Dredging" means any part of the process of the removal of material from the beds of waterways; transport of the material; dewatering and rehandling of the material; discharge of carriage or interstitial water; and storage and disposal of the material. [State Definitions]
	5.40.195	"Erosion Control" means methods employed to prevent erosion. Examples include soil stabilization practices, horizontal slope grading, temporary or permanent cover, and construction phasing. [State Definitions]
	5.40.196	"Final Stabilization" means that all soil disturbing activities at the site have been completed and that a uniform perennial vegetative cover (a density of 70 percent cover for unpaved areas and areas not covered by permanent structures) has been established or equivalent permanent stabilization measures have been employed. Examples of vegetative cover practices can be found in the 2020 Standard Specifications for Construction located at this website: https://www.dot.state.mn.us/pre-letting/spec/ (Minnesota Department of Transportation, 2020). [State Definitions]
	5.40.197	"Flood Event" means that the surface elevation of a waterbody has risen to a level that causes the inundation or submersion of areas normally above the Ordinary High Water Level. [State Definitions]
	5.40.198	"Grain Size Analysis" means a method to determine particle size distribution of sediment and dredged material. [State Definitions]
	5.40.199	"Groundwater" means water contained below the surface of the earth in the saturated zone including, without limitation, all waters whether under confined, unconfined, or perched conditions, in near-

		surface unconsolidated sediment or regolith, or in rock formations deeper underground. [State Definitions]
	5.40.200	"Hazardous Waste" has the meaning given in Minn. Stat. sec. 116.06, subd. 11. [State Definitions]
	5.40.201	"Impervious Surface" means a constructed hard surface that either prevents or retards the entry of water into the soil and causes water to run off the surface in greater quantities and at an increased rate of flow than prior to development. Examples include rooftops, sidewalks, patios, driveways, parking lots, storage areas, and concrete, asphalt, or gravel roads. [State Definitions]
	5.40.202	"Impoundment" means a natural or artificial body of water or sludge confined by a dam, dike, floodgate, or other barrier. [State Definitions]
	5.40.203	"Interstitial, or Pore, Water" means water contained in the interstices or voids of soil or rock in the dredged material. This water is considered dredged material. [State Definitions]
	5.40.204	"MPCA" means the Minnesota Pollution Control Agency, or Minnesota Pollution Control Agency staff as delegated by the Minnesota Pollution Control Agency. [State Definitions]
	5.40.205	"Ordinary High Water Level (OHWL)" means the boundary of water basins, watercourses, public waters, and public waters wetlands, and shall be an elevation delineating the highest water level which has been maintained for a sufficient period of time to leave evidence upon the landscape, commonly that point where the natural vegetation changes from predominantly aquatic to predominantly terrestrial. For watercourses, the ordinary high water level is the elevation of the top of the bank of the channel. For reservoirs and flowages, the ordinary high water level is the operating elevation of the normal summer pool. (Minn. Stat. sec. 103G.005, subd. 14 and Minn. R. 6120.2500 subp. 11.). [State Definitions]
	5.40.206	"Other Waste" means garbage, municipal refuse, decayed wood, sawdust, shavings, bark, lime, ashes, offal, oil, tar, chemicals, dredgespoil, solid waste, incinerator residue, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, cellar dirt or municipal or agricultural waste, and all other substances not included within the definitions of sewage and industrial waste set forth in Minn. Stat. ch. 115 which may pollute or tend to pollute waters of the state. (Minn. Stat. ch. 115.01, subd. 9). [State Definitions]
	5.40.207	"Permittee" means the entity identified as Permittee on the cover letter authorizing coverage under this permit. [State Definitions]
	5.40.208	"Pollutant" means any sewage, industrial waste, or other wastes, as defined in Minn. Stat. ch. 115, discharged into a disposal system or to waters of the state. [State Definitions]
	5.40.209	"Pollution of water," "water pollution," or "pollute the water" means: A. The discharge of any pollutant into any waters of the state or the contamination of any waters of the state so as to create a nuisance or render such waters unclean, or noxious, or impure so as to be actually or potentially harmful or detrimental or injurious to public health, safety or welfare, to domestic, agricultural, commercial, industrial, recreational or other legitimate uses, or to livestock, animals, birds, fish or other aquatic life; or B. The alteration made or induced by human activity of the chemical, physical, biological, or radiological integrity of waters of the state. (Minn. Stat. sec. 115.01, subd. 13). [State Definitions]
	5.40.210	"Release" means any spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or disposing into the environment which occurred at a point in time or which continues to occur. Release does not include: A. Emissions from the engine exhaust of a motor vehicle, rolling stock, aircraft, watercraft, or pipeline pumping station engine; B. Release of source, by-product, or special nuclear material from a nuclear incident, as those terms are defined in the Atomic Energy Act of 1954, under United States Code, title 42, section 2014, if the release is subject to requirements with respect to financial protection established by the federal Nuclear Regulatory Commission under United States Code, title 42, section 2210; C. Release of source, by-product or special nuclear material from any processing site designated pursuant to the Uranium Mill Tailings Radiation Control Act of 1978, under United States Code, title 42, section 7912(a)(1) or7942(a); or D. Any release resulting from the application of fertilizer or agricultural or silvicultural chemicals, or

		disposal of emptied pesticide containers or residues from a pesticide as defined in Minn. Stat. sec. 18B.01, subd. 18. (Minn. Stat. sec. 115B.02, subd. 15). [State Definitions]
	5.40.211	"Return Water" means the carriage/conveyance or interstitial/pore water that is returned to a receiving water after separation of the dredged material from the water in a rehandling or storage site. [State Definitions]
	5.40.212	"Run-off" means any liquid that drains over land from any part of a facility. [State Definitions]
	5.40.213	"Run-on" means any liquid that drains over land onto any part of a facility. [State Definitions]
	5.40.214	"Sediment" means the unconsolidated inorganic and organic material that is suspended in and being transported by surface water or has settled out and has deposited into beds. [State Definitions]
	5.40.215	"Sediment Control" means methods employed to prevent sediment from leaving the site. Sediment control practices include silt fences, sediment traps, earth dikes, drainage swales, check dams, subsurface drains, pipe slope drains, storm drain inlet protection, and temporary or permanent sedimentation basins. [State Definitions]
	5.40.216	"Significant Storm Event" means a storm event that is greater than 1.0 inches in magnitude and that occurs at least 72 hours from the previously measurable (greater than 1.0-inch rainfall) storm event. The 72-hour storm event interval may be waived where: A. The preceding measurable storm event did not result in a measurable discharge from the facility; or, B. The Permittee documents that less than a 72-hour interval is representative for local storm events during the season when sampling is being conducted. [State Definitions]
	5.40.217	"Stabilized" means staked sod, riprap, wood fiber blanket, or other material that prevents erosion from occurring has covered the exposed ground surface. Grass seed is not stabilization. [State Definitions]
	5.40.218	"Storage Site" means a structure, site, or area for the holding of dredged material for more than 48 hours in quantities equal to or greater than ten cubic yards. Storage could be for dewatering or rehandling. [State Definitions]
	5.40.219	"Surface Water" means all streams, lakes, ponds, marshes, wetlands, reservoirs, springs, rivers, drainage systems, waterways, watercourses, and irrigation systems whether natural or artificial, public or private. [State Definitions]
	5.40.220	"Unconfined Disposal" means the deposition of dredged material in the water on the bed of a waterway. [State Definitions]
	5.40.221	"Upland" means the disposal, storage, or beneficial use of dredged material landward from the ordinary high water level of a waterway or waterbody. [State Definitions]
	5.40.222	"Waters of the State" means all streams, lakes, ponds, marshes, wetlands, watercourses, waterways, wells, springs, reservoirs, aquifers, irrigation systems, drainage systems and all other bodies or accumulations of water, surface or underground, natural or artificial, public or private, which are contained within, flow through, or border upon the state or any portion thereof. [State Definitions]
	5.40.223	"Water table" means the surface of the groundwater at which the pressure is atmospheric. Generally, this is the top of the saturated zone. [State Definitions]
	5.40.224	"Wetlands" means those areas that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas. Constructed wetlands designed for wastewater treatment are not waters of the state. Wetlands shall have the following attributes: A. A predominance of hydric soils; B. Inundated or saturated by surface water or groundwater at a frequency and duration to support a prevalence of hydrophytic vegetation typically adapted for life in a saturated soil condition; and, C. Under normal circumstances support a prevalence of such vegetation. [State Definitions]

		Metallic Mining
	5.41.225	**Mobile and Rail Equipment Service Areas**. [Minn. R. 7001]
	5.41.226	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 in accordance with applicable solid and hazardous waste management rules. These materials shall not be discharged to surface or ground waters of the state. b. The steam-cleaning of mobile equipment and rail equipment, except for limited outdoor cleaning of large drills and shovels, 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, such as those available for brake cleaning and degreasing, 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. Soaps and detergents used in washing shall be biodegradable. d. Mobile and rail equipment maintenance and repairs shall not be conducted in wash bays. e. Hazardous materials shall not be stored or handled in wash bays. f. The Permittee shall inspect wastewater containment systems regularly, and repair any leaks that are detected immediately. g. If the Permittee discovers that recoverable amounts of petroleum products have entered wastewater containment systems, they shall be recovered immediately and reported to the MPCA. h. Spill cleanup procedures shall be posted in mobile and rail equipment maintenance and repair areas. [Minn. R. 7001]
		Steam Electric
	5.42.227	**Applicability**. [Minn. R. 7001]
	5.42.228	The Steam Electric chapter of this permit is applicable upon reinstatement of the Silver Bay Power Plant. [Minn. R. 7001]
	5.42.229	**Special Requirements - Power Plant Reopening**. [Minn. R. 7001]
	5.42.230	Notify MPCA of intent to reinstate the Silver Bay Power Plant, a minimum of 30 days prior to intended start date. The notification shall include, but is not limited to, the following information: a. Description of the pollution control equipment at the Silver Bay Power Plant, including air pollution controls, and potential holding/settling ponds or any other proposed controls. b. Proposed chemical additives for use at the Silver Bay Power Plant (if any), including rates and volumes of use. c. Description of any existing, new, or proposed intake screening at the Silver Bay Power Plant (if any), and how it complies with 316(b) regulations. If the facility will meet the Applicability Criteria of 40 CFR 125, submit the information under 40 CFR 122.21(r)(2) - (8) [or 40 CFR 122.21(r)(2) - (13) if the AIF is greater than 125 mgd]. d. Estimated time frame of construction of any pollution control systems planned for the power plant. e. Estimated power plant production rates. f. Estimated discharge volumes and proposed discharge location(s) of cooling water from the power plant .

		g. Estimated discharge volume and proposed discharge location(s) of processing wastes from the power plant. [Minn. R. 7001]
	5.42.231	The Permittee shall notify MPCA of initiation of construction of any MPCA approved pollution control equipment within 30 days prior to anticipated construction start date. [Minn. R. 7001]
	5.42.232	The permittee is required to initiate monitoring and comply with the requirements of the Phase 1 DMRs for SD 003 upon permit issuance; and the Phase 2 DMRs for SD 003 upon initiation of operation of the Silver Bay Power Plant. [Minn. R. 7001]
		Special Requirements - Mining
	5.43.233	**Annual Report**. [Minn. R. 7001]
	5.43.234	To summarize the status of the tailings basin, the Permittee shall submit an Annual Facility Report. The Annual Report shall include, at a minimum: A. A current map of the tailings basin area that details the dikes, berms, dams, roads, cells, and current topographic and water level elevations; B. The annual net precipitation as determined for the previous calendar year (as described in this chapter); C. The total volume discharged from SD 001 and SD 005 for the previous calendar year; D. The total volume of historical net precipitation (accumulated from 1985-2004) that was discharged in the previous year; E. The total volume of historical net precipitation remaining from the discharge credit described in the "Allowable Discharge" section of this permit; F. Copies of the Permittee's written evaluations and determinations in the Annual Report for the tailings basin to demonstrate that the coarse tailings volume requirements, as described in this chapter, were maintained at the Milepost 7 tailings basin during the previous calendar year and will be maintained for the future; G. The volume of coarse tailings transported to the Peter Mitchell mine; H. Confirmation that a sufficient freeboard capacity has been maintained at the Pump House 2 catchment basin formerly monitored by WS 010; and I. A summary of the impacts of leachate disposal on the operation of the tailings basin. This summary must include the volume of leachate disposed of in the tailings basin during the report year, all monitoring data for the leachate that was disposed, and a summary of any observed changes to the tailings basin effluent that could be attributed to the leachate disposal. submit an annual report: Due annually, by the 1st of March. [Minn. R. 7001]
	5.43.235	**Allowable Discharge**. [Minn. R. 7001]
	5.43.236	The Permittee shall determine the annual net precipitation in the Milepost 7 tailings basin for 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; Ap = area of the E.W. Davis Works plant contributing surface runoff to the collection system routed to the tailings basin; P = total annual precipitation' At = open water area of the tailings basin; and E = annual lake evaporation. The total annual precipitation and annual lake evaporation shall be based on the sum of the data

		reported through station WS015. [Minn. R. 7001]
	5.43.237	Areas for the allowable discharge calculation shall be calculated by considering the following: *Af - Area of tailings basin plus drainage area contributing surface runoff to the tailings basin:* · The watershed net area is delineated based on confining topography and the location of the diversion ditches, where applicable *Ap - Area of the E.W. Davis Works plant contributing surface runoff to the collection system routed to the tailings basin:* · The watershed net area is delineated based on confining topography, drainage ways and culverts as determined for the NSM SWPPP. *At - Open water area of the tailings basin:* · The open water area is determined by LiDAR survey. . [Minn. R. 7001]
	5.43.238	For the DMR reporting requirements at WS 015, the following may apply: Reported evaporation may be estimated from data at measurement stations near the Mile Post 7 Tailings Basin. Reported precipitation may be estimated from data at measurement stations in the Silver Bay Area. Reported flow shall be sources and volumes of non-precipitation inputs to the Mile Post 7 Tailings Basin (for example, water appropriations by the Permittee from Lake Superior). [Minn. R. 7001]
	5.43.239	In addition to the allowable discharge of the difference between net precipitation and evaporation, the Permittee is authorized to discharge the volume of collected seepage returned to the basin from the 1A Pond, 1B Pond, 2/3 Pond and Murphy's Pond at SD 001. Collected seepage is groundwater intercepted by the seepage collection system and is not process wastewater. [Minn. R. 7001]
	5.43.240	The Permittee shall discharge from outfalls SD001 plus SD005 no more than the annual net precipitation in the Milepost 7 tailings basin in any calendar year. In addition to the annual net precipitation, the Permittee is allowed to discharge the volume of net precipitation that has accumulated within the Milepost 7 tailings basin in previous years of basin operation from 1985-2004. It has been determined that the total accumulated water volume, as defined by net precipitation minus the discharged volume, within the Milepost 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 discharged in a controlled manner, distributed over a number of years subsequent to 2004. [Minn. R. 7001]
	5.43.241	The discharge of historical net precipitation will be reviewed prior to any subsequent permit reissuance or modification 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 be modified. [Minn. R. 7001]
	5.43.242	**Five-Year Operations Plan**. [Minn. R. 7001]
	5.43.243	The Permittee is responsible for operating the tailings basin according to the most recent Five-Year Operations Plan (Plan), and any updates or revisions, as approved by the MPCA and in compliance with the terms and conditions of this permit, as follows: 1. The Permittee shall adhere to the Plan as most recently approved by the Minnesota Department of Natural Resources (DNR). 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. 2. No significant alteration, addition, or modification to the Plan as conditionally approved by the DNR

		shall be undertaken by the Permittee without the prior written approval by the MPCA. 3. 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 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. 4. 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, and to develop corrective action. [Minn. R. 7001]
	5.43.244	If conditions significantly different from those assumed in developing the most recently approved Five-Year Operations Plan 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. The Permittee shall submit such modification to the MPCA for approval. [Minn. R. 7001]
	5.43.245	Any changes in the design, construction, and operation of the disposal system shall be consistent with the most recently approved Five-Year Operations Plan. [Minn. R. 7001]
	5.43.246	The Permittee shall submit a copy of Minnesota Department of Natural Resources (DNR) approval of the most recent Five-Year Operations Plan within 30 days of DNR approval. [Minn. R. 7001]
	5.43.247	**Hydraulic Relief Features**. [Minn. R. 7001]
	5.43.248	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 hydraulic relief features addressed in the current Five-Year Operations Plan. [Minn. R. 7001]
	5.43.249	**Tailings Management**. [Minn. R. 7001]
	5.43.250	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. [Minn. R. 7001]
	5.43.251	The transport and use of coarse tailings from the facility is prohibited, with the exception of transport and use at the Peter Mitchell Mine, if it would not be consistent with the current Five-Year Operations Plan. [Minn. R. 7001]
	5.43.252	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 consistent with the current Five-Year Operations Plan. 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 current Five-Year Operations Plan; and c. Tailings used for road construction outside the Mile Post 7 disposal area shall be adequately covered with native soils or other suitable natural or artificial barriers. [Minn. R. 7001]
	5.43.253	Tailings may be used in the present plant area in a bonded condition or used for backfill when suitably covered by artificial or natural barriers. [Minn. R. 7001]
	5.43.254	Except as described in this permit or the current Five-Year Operations Plan , 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. [Minn. R. 7001]
	5.43.255	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 as described in the current Five-Year Operations Plan OR as described within the facility description of this permit. [Minn. R. 7001]
	5.43.256	The Permittee shall maintain a sufficient volume of coarse tailings at the Mile Post 7 tailings basin, on a continuous basis, to provide adequate cover in accordance with the current Five-Year Operations Plan. [Minn. R. 7001]
	5.43.257	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) 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. [Minn. R. 7001]
	5.43.258	**Pipeline Requirements**. [Minn. R. 7001]
	5.43.259	The Permittee shall operate and maintain the tailings transport dual pipeline system and reclaim water pipeline in accordance with the current Five Year Operations Plan and in compliance with the terms of this permit. 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. [Minn. R. 7001]
	5.43.260	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 shall implement the necessary preventive measures to minimize the potential for releases of wastewater from pipelines. The Permittee in particular shall comply with the requirements of the Release, 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. [Minn. R. 7001]
	5.43.261	The Permittee shall visually inspect the routes of pipeline that transport tailings or wastewater as needed to detect any pipeline spills or leaks. Pipeline pressure, flow rate, density and pipe thickness, and initial joint weld thickness near the weld shall be measured as needed to prevent and detect potential leaks from pipelines. Records of these inspections and measurements shall be made available upon request. [Minn. R. 7001]
	5.43.262	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. [Minn. R. 7001]
	5.43.263	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. [Minn. R. 7001]
	5.43.264	The Permittee shall submit a Piping Integrity Plan for the tailings and reclaim lines within 180 days of permit issuance detailing the following:

		A. Maps, drawings, and diagrams along with method for both pipe assessment and restoration of integrity; B. Timeline (maximum of three years for high priority/high risk pipes and maximum of ten years for all other pipes) for assessing condition of all piping conveying wastewater at the facility. C. Timeline (maximum of one year) for restoring integrity of any piping found to have defects allowing either infiltration or exfiltration of water; and D. Method for retaining records of all inspection, maintenance, and associated activities included in the Piping Integrity Plan consistent with the Records requirements of this permit. submit a plan: Due by 180 days after permit issuance. [Minn. R. 7001]
	5.43.265	**Annual Piping Report**. [Minn. R. 7001]
	5.43.266	**Tailings Basin**. [Minn. R. 7001]
	5.43.267	The Permittee shall submit an Annual Piping Report by March 1 of each year. The Permitee shall include findings (e.g. including but not limited to results of televising footage (if televising is conducted)) and summaries of actions taken responsive to the Piping Integrity Plan. The Permittee shall also discuss pipeline operations for the preceding year, and include: 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. 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. This documentation shall be made available to the MPCA upon request. submit an annual report: Due by March 1st of each year (with the Annual Report) following permit issuance. [Minn. R. 7001]
	5.43.268	A 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: 1. a detailed map and diagram description of the proposed design for the flow control structures, and route of the discharge to receiving waters;

		2. a detailed engineering design plans and specifications to ensure compliance with the applicable water quality standards in the downstream waters of the state, including wetlands; 3. a discussion of the need for the proposed discharge in the context of the overall water balance for the facility; 4. information sufficient to demonstrate compliance with the applicable non-degradation and BAT requirements; and 5. the appropriate application fee, according to Minn. R. 7002.0250. [Minn. R. 7001]
	5.43.269	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 water 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 at the permitted discharge locations (SD 001 and SD 005) according to this permit. [Minn. R. 7001]
	5.43.270	Diversion ditches, as described in the current Five-Year Operations Plan, and according to the requirements of this permit, may be used to divert water away from the tailings disposal system. [Minn. R. 7001]
		Industrial Stormwater Sector G: Metal Mining (Ore Mining and Dressing)
	5.44.271	**Authorization**. [Minn. R. 7000]
	5.44.272	This chapter authorizes the Permittee to discharge stormwater associated with industrial activity from industrial activities associated with SIC code(s) 1011 in accordance with the terms and conditions of this chapter and applies to areas where stormwater is not collected and/or reported to a permitted NPDES outfall (SD 001, SD 003 or SD 005). [Minn. R. 7090]
	5.44.273	Discharges of stormwater runoff from the following areas are authorized for active facilities, temporarily inactive facilities, and metallic mining sites undergoing reclamation: A. Discharges from waste rock and overburden piles if the composition is entirely of stormwater and the discharge does not combine with mine drainage; B. Topsoil piles; C. Off-site haul and access roads; D. On-site haul and access roads constructed of waste rock, overburden, or spent ore if discharge composition is entirely stormwater and does not combine with mine drainage; E. On-site haul and access roads not constructed of waste rock, overburden, or spent ore except if the Permittee uses mine drainage for dust control; F. Runoff from tailings dams or dikes not constructed of waste rock or tailings, if composed entirely of stormwater and no process fluids are present; G. Runoff from tailings dams or dikes when constructed of waste rock or tailings if composed entirely of stormwater, no process fluids are present, and if the discharge does not combine with mine drainage; H. Concentration building if composed only of stormwater and there is no contact with material piles; I. Mill site and pellet plant if composed only of stormwater and there is no contact with material piles; J. Office or administrative building and housing if mixed with stormwater from industrial area; K. Chemical storage area; L. Docking facility if no excessive contact with waste product that would otherwise constitute mine drainage; M. Explosive storage; N. Fuel storage areas (oil tanks, coal piles); O. Vehicle and equipment maintenance area and building.' P. Power plant; Q. Truck wash areas if no excessive contact with waste product that would otherwise constitute mine drainage; R. Unreclaimed or disturbed areas outside of active mining area; S. Partially or inadequately reclaimed areas or areas not released from reclamation requirements; and T. Parking areas where there is parking of vehicles/equipment other than an employee or visitor type

		parking area. [Minn. R. 7090]
	5.44.274	**Prohibited Discharges**. [Minn. R. 7000]
	5.44.275	This chapter does not authorize the discharge of stormwater to prohibited waters as defined in Minn. R. 7050.0335. [Minn. R. 7090]
	5.44.276	**Water Quality Standards**. [Minn. R. 7000]
	5.44.277	The Permittee shall operate and maintain the facility and shall control runoff, including stormwater, from the facility to prevent the exceedance of water quality standards specified in Minnesota Rules, chs. 7050 and 7060. [Minn. R. 7050, Minn. R. 7060]
	5.44.278	The Permittee shall limit and control the use of materials at the facility that may cause exceedances of groundwater standards specified in Minnesota Rules, ch. 7060. These materials include, but are not limited to, detergents and cleaning agents, solvents, chemical dust suppressants, lubricants, fuels, drilling fluids, oils, fertilizers, explosives and blasting agents. [Minn. R. 7060]
	5.44.279	**Stormwater Pollution Prevention Plan**. [Minn. R. 7000]
	5.44.280	The Permittee shall develop and implement a Stormwater Pollution Prevention Plan (SWPPP) to address the specific conditions at the facility. The goal of the SWPPP is to eliminate or minimize contact of stormwater with significant materials that may result in pollution of the runoff. If contact cannot be eliminated or reduced, stormwater that has contacted significant material should be treated before it is discharged from the site. Guidance for preparing the SWPPP can be found on the web at: http://www.pca.state.mn.us. [Minn. R. 7090]
	5.44.281	At a minimum, the SWPPP must include: A. A description of the industrial activities conducted at the facility; B. A drainage map (USGS or equivalent) showing: i. Location of all impervious surfaces; ii. Arrows indicating directions of stormwater flow; and iii. Location of all structural and non-structural BMPs. C. An assessment and inventory of all activities or exposed materials that can potentially be sources of pollutants to stormwater discharges; D. A description of all structural and non-structural BMPs the Permittee designs or implements at the facility; E. A list of personnel receiving training to conduct facility inspections; F. Records of all details relating to the monthly visual inspections; G. Information pertaining to maintenance in accordance with Maintenance Requirements section of this permit; H. A spill prevention and response procedure; and I. A Mercury Minimization Plan if the Permittee discovers mercury sources as a result of compliance with the Stormwater Control Measures section of this permit. [Minn. R. 7090]
	5.44.282	In addition to the requirements in the Stormwater Pollution Prevention Plan section of this permit, the Permittee shall also comply with the following: A. Facility Map. The Permittee shall document in the SWPPP the locations of the following (as appropriate): i. Mining or milling site boundaries; ii. Access and haul roads; iii. Outline of the drainage areas of each monitoring location within the facility with indications of the types of discharges from the drainage areas; iv. Location(s) of all permitted discharges covered under an individual NPDES/SDS permit, outdoor equipment storage, fueling, and maintenance areas; v. Materials handling areas; vi. Outdoor manufacturing, outdoor storage, and material disposal areas; vii. Outdoor chemicals and explosives storage areas; viii. Overburden, materials, soils, or waste storage areas; ix. Tailings piles and ponds (including those proposed); x. Heap leach pads; xi. Off-site points of discharge for mine drainage and process water;

		xii. Surface waters; xiii. Boundary of tributary areas that are subject to effluent limitations guidelines; and xiv. Location(s) of sites undergoing reclamation and reclaimed areas. B. Inventory of Exposed Materials. The Permittee shall document in the SWPPP the mining and associated activities that can potentially affect stormwater, including a general description of the location of the site relative to major transportation routes and communities. C. Potential Pollutant Sources. For each area of the mine or mill site where industrial stormwater discharges occur, the Permittee shall identify the types of pollutants (e.g. heavy metals, sediment) likely to be present in significant amounts. The Permittee shall consider the following factors: i. The mineralogy of the ore and waste rock (e.g. acid forming); ii. Toxicity and quantity of chemicals the Permittee uses, produces, or discharges; iii. The likelihood of contact with stormwater; iv. Vegetation of site (if any); and v. History of significant leaks or spills of toxic or hazardous pollutants. Also include a summary of any existing ore or waste rock or overburden characterization data and test results for potential generation of acid rock. If the Permittee acquires any new data due to changes in type of ore the Permittee mines, the Permittee shall update the SWPPP with this information. D. Description of Stormwater Controls. The Permittee shall document all control measures the Permittee implements. If the Permittee implements or plans control measures that are not listed above, the Permittee shall include descriptions of these controls in the SWPPP. [Minn. R. 7090]. [Minn. R. 7090]
	5.44.283	The SWPPP shall be developed and implemented within 180 days after permit issuance and shall be available to the MPCA upon request. [Minn. R. 7090]
	5.44.284	**Stormwater Control Measures**. [Minn. R. 7000]
	5.44.285	Permittee shall design and implement all stormwater control measures, including BMPs, to reduce or eliminate contact or exposure of pollutants to stormwater, to prevent erosion, control sediment and manage runoff, or remove pollutants from stormwater prior to discharge from the facility. [Minn. R. 7090]
	5.44.286	**Good Housekeeping**. [Minn. R. 7000]
	5.44.287	The Permittee shall employ good housekeeping practices to: A. Keep exposed areas that may contribute pollutants to stormwater sufficiently clean to reduce or eliminate contaminated stormwater runoff; and B. Remove and properly dispose of significant materials that have been tracked off-site within 72 hours of discovery In addition, the Permittee shall identify and manage all on-site sources of dust to minimize stormwater contamination from the deposition of dust on areas exposed to precipitation. [Minn. R. 7090]
	5.44.288	**Salt Storage, Use, and Management at the Facility**. [Minn. R. 7000]
	5.44.289	The Permittees should implement the following BMPs if salt piles are present at the facility: A. Cover salt piles or store the salt piles indoors; B. Minimize the use of salt or other de-icing materials by using the proper equipment, material, and application rates; C. Implement practices to reduce exposure resulting from adding or removing material from the salt piles (e.g., sweeping, diversions, containment); and D. Document within the SWPPP the location of any storage piles containing salt stored outside. [Minn. R. 7090]

	5.44.290	**Erosion Prevention & Sediment Control**. [Minn. R. 7000]
	5.44.291	The Permittee shall identify areas at the facility that, due to topography, land disturbance (e.g. construction, grading, landscaping), or other factors, have potential for soil erosion. In those areas, the Permittee shall implement structural, vegetative, and/or stabilization BMPs to prevent or control on-site erosion and reduce sediment loads in stormwater discharges. [Minn. R. 7090]
	5.44.292	**Chemical Additive Use**. [Minn. R. 7000]
	5.44.293	If the Permittee intends to use polymers, flocculants, or other sedimentation treatment chemicals at the facility, the Permittee shall comply with the following minimum requirements: A. The Permittees must use conventional erosion and sediment controls prior to chemical addition to ensure effective treatment; B. Chemicals may only be applied where treated stormwater flows to a sediment control system that allows for filtration or settlement of the floc prior to discharge; C. Chemicals must be selected that are appropriately suited to the types of soils likely to be exposed to stormwater runoff at the facility, and to the expected turbidity, pH, and flow rate of stormwater flowing into the chemical treatment system; and D. Use chemicals in accordance with standard engineering practices, and with dosing specifications and sediment removal design specifications of the manufacturer or chemical supplier. [Minn. R. 7090]
	5.44.294	**Management of Runoff**. [Minn. R. 7000]
	5.44.295	If treatment of stormwater (e.g. chemical or physical systems, oil and water separators, artificial wetlands) is necessary to protect water quality, the Permittee shall describe the type and location of treatment the Permittee uses. Where practical, the Permittee shall use passive and/or active treatment of stormwater runoff. The Permittee may discharge treated runoff as a stormwater source regulated under this permit provided the discharge does not combine with discharges subject to effluent limitation guidelines for the Ore Mining and Dressing Point Source Category (40 CFR pt. 440). [Minn. R. 7000]
	5.44.296	**Facility Inspection Requirements**. [Minn. R. 7000]
	5.44.297	The Permittee shall develop and implement an inspection schedule that includes a minimum of one facility inspection per calendar month. A minimum of one of these inspections must be conducted during a rain or snowmelt runoff event. [Minn. R. 7090]
	5.44.298	All facility inspections must include the following: A. An evaluation of the facility to determine that the SWPPP accurately reflects site conditions. At a minimum, the Permittee shall inspect storage tank areas, waste disposal areas, maintenance areas, loading/unloading areas, and raw material, intermediate product, by-product and final product storage areas; B. An evaluation of all structural and non-structural BMPs to determine effectiveness and proper function; C. An evaluation of the facility to determine whether there are new exposed significant materials or activities at the site since completion of the SWPPP; and D. During an inspection conducted during a runoff event, an evaluation of the stormwater runoff to determine discoloration or if other contaminants are visible in the runoff (e.g. oil & grease). [Minn. R. 7090]
	5.44.299	The Permittee shall document all inspections and the following information must be stored with the SWPPP: A. Inspection date (i.e. mm/dd/yyyy), time, and weather conditions; B. Inspector name; C. Inspection findings; and D. A description of any necessary corrective actions and a schedule for corrective action completion. [Minn. R. 7090]
	5.44.300	The Permittee shall conduct site inspections in accordance with the Stormwater Control Measures section of this permit. If the facility is inactive and unstaffed, temporarily inactive and unstaffed as defined above, or is a site undergoing reclamation, the Permittee does not have to do monthly facility inspections. The Permittee shall inspect the site when the Permittee has reason to believe that severe

		weather or natural disasters may damage stormwater control measures or increase discharges. If circumstances change and the facility becomes active and/or staffed, this exception no longer applies and compliance with the monthly inspection requirements in accordance with the Stormwater Control Measures section of this permit must begin immediately. The MPCA retains the authority to revoke this exception where it is determined that the discharge causes, has a reasonable potential to cause, or contributes to an in-stream excursion above an applicable water quality standard, including designated uses. [Minn. R. 7090]
	5.44.301	If conditions are observed at the site that require changes in the SWPPP, such changes shall be made to the SWPPP prior to submission of the annual report for that calendar year. [Minn. R. 7090]
	5.44.302	If the findings of a site inspection indicate that BMPs are not meeting the objectives as identified above, corrective actions shall be initiated within thirty days and the BMP restored to full operation as soon as conditions allow. [Minn. R. 7090]
	5.44.303	**Maintenance Requirements**. [Minn. R. 7000]
	5.44.304	BMP Maintenance. [Minn. R. 7000]
	5.44.305	The Permittee shall maintain all stormwater BMPs at the facility, to ensure BMP effectiveness. A. The Permittee shall develop a schedule for preventive maintenance of all stormwater BMPs, and store the schedule with the SWPPP; B. If the Permittee identifies BMPs that are not functioning properly, the Permittee shall replace, maintain, or repair the BMPs within 7 calendar days of discovery. If the Permittee cannot complete BMP replacement, maintenance, or repair within 7 calendar days, the Permittee shall implement effective backup BMPs within 48 hours of discovery, and maintain the backup BMPs until the Permittee restores the effectiveness of the original BMPs. The Permittee shall document the justification for an extended replacement, maintenance, or repair schedule of the failed BMPs, and store it with the SWPPP; and C. The Permittee shall record dates of maintenance and repairs. The Permittee shall store these records with the SWPPP. [Minn. R. 7090]
	5.44.306	Equipment Preventive Maintenance. [Minn. R. 7000]
	5.44.307	The Permittee shall develop and implement a preventive maintenance program and store the information with the SWPPP. The program must require regular inspection, maintenance, and repair of industrial equipment and systems. The inspections must identify conditions that could cause breakdowns or failures, which may result in leaks, spills, and other releases (e.g. hydraulic leaks, torn bag-house filters, etc.), and the discharge of pollutants to stormwater. The preventive maintenance program may incorporate, by reference, a separate Operation and Maintenance Manual (or equivalent), as long as it addresses the items the preventive maintenance program requires above. [Minn. R. 7090]
	5.44.308	**Spill Prevention and Response Requirements**. [Minn. R. 7000]
	5.44.309	The Permittee shall develop and implement a spill prevention and response procedure. If the facility already has a separate plan (e.g. Prevention and Response Plan as required by Minn. Stat. ch. 115E, or Spill Prevention Control and Countermeasure (SPCC) Plan as required by Federal Law), that Permittee can incorporate the plan by reference into the SWPPP. [Minn. R. 7090]
	5.44.310	The Permittee shall ensure the use of infiltration is not part of a spill containment plan. This includes spill plans required under Federal Spill Prevention Containment and Control (SPCC) requirements or Minn. Stat. ch. 115E "The Spill Bill.". [Minn. R. 7090]
	5.44.311	The Permittee shall ensure the use of a pond is not part of a spill containment plan, including spill plans required under Federal Spill Prevention Containment and Control (SPCC requirements or Minn. Stat. ch. 115E), unless appropriate controls are in place to contain the spill. If the Permittee uses a pond as part of a spill containment plan, the pond must have a chemically compatible liner for chemical spills that the Permittee expects to enter the pond and must have outlet controls to contain a spill. A plan must also be in place to clean up a spill so that the pond will not continue to be a source of spilled pollutants. The Permittee shall document evaluations with the SWPPP. [Minn. R. 7090]

	5.44.312	**Employee Training Program**. [Minn. R. 7000]
	5.44.313	The Permittee shall develop and implement a training program for employees. Training must cover stormwater control measures, components and goals of the SWPPP, monitoring procedures, and other applicable requirements of the permit. The program must include a training schedule that includes training at least annually. Training must correlate with the job function of the employee. At a minimum, the Permittee shall ensure that the following individuals receive training: A. Employee(s) responsible for writing, revising, and implementing the SWPPP; B. Employee(s) responsible for installing, inspecting, maintaining, and repairing BMPs; C. Employee(s) whose work involves the regulated industrial activity, including but not limited to loading/unloading areas, processing areas, waste and fluid management areas, fueling areas, and vehicle maintenance areas; and D. Employee(s) who conduct stormwater discharge monitoring. [Minn. R. 7090]
	5.44.314	The Permittee shall maintain training records including: A. The trainer's name and trainer's organization (internal or external); B. The names (printed first and last) of the employee(s) and date(s) the employee(s) received training; and C. A detailed description of the training provided to each employee. [Minn. R. 7090]
	5.44.315	The Permittee shall maintain the training records either in the SWPPP, or in a separate record stored with the SWPPP, for at least three years. [Minn. R. 7090]
	5.44.316	The Permittee shall conduct training at active and temporarily inactive sites. The Permittee shall document all training regardless of site type in the facility's SWPPP. [Minn. R. 7090]
	5.44.317	**Other Industry Specific Control Measures**. [Minn. R. 7000]
	5.44.318	When capping is necessary to minimize pollutant discharges in stormwater, Permittees shall identify and documents in the SWPPP the source needing capping and the cap construction material. [Minn. R. 7090]
	5.44.319	**Benchmark Monitoring Requirements**. [Minn. R. 7000]
	5.44.320	The Permittee shall monitor each benchmark monitoring location for all benchmark parameters specified for the facility's SIC code as outlined in the Limits & Monitoring section of this permit. [Minn. R. 7090]
	5.44.321	The Permittee shall monitor each benchmark monitoring location for the parameters and at the frequency identified in the limits and monitoring requirements specified for the Surface Discharge Stormwater, Non-Specific Runoff Station. [Minn. R. 7090]
	5.44.322	Specified parameters shall be sampled on a calendar quarter basis beginning the first full calendar quarter following permit issuance. Each quarterly sample may be collected at any time during the calendar quarter. Quarterly sample results shall be averaged annually and the annual quarterly average shall be reported on the annual electronic Discharge Monitoring Report (eDMR). [Minn. R. 7090]
	5.44.323	The Permittee shall comply with the benchmark monitoring procedures and sample collection methods in accordance with the Benchmark Monitoring Fact Sheet on the following website: https://www.pca.state.mn.us/business-with-us/industrial-stormwater. For the purposes of this permit, Benchmark Monitoring is reflected as intervention limits in the Limits and Monitoring section of this permit. Benchmark Monitoring results shall comply with intervention limits as required. [Minn. R. 7090]
	5.44.324	Benchmark Values Met. [Minn. R. 7000]
	5.44.325	The Permittee may request an elimination in stormwater monitoring once the averaged results from four (4) consecutive quarterly samples are below the benchmark values listed in the Limits & Monitoring Section of this permit. The elimination of stormwater monitoring will be considered only if benchmark values in the stormwater discharge are significantly below the intervention limits listed in the limits and monitoring section of this permit. An elimination of stormwater monitoring requirements is not effective until approved by the MPCA. The Permittee shall be notified in writing if

		a reduction in monitoring has been authorized. [Minn. R. 7090]
	5.44.326	Benchmark Values Exceeded. [Minn. R. 7000]
	5.44.327	An exceedance of an applicable benchmark value does not constitute a violation under this permit. However, the Permittee is required to perform any necessary corrective action(s) to address stormwater control measures, including the maintenance or implementation of BMPs, when an exceedance of an applicable benchmark value occurs. Failure to respond to benchmark value exceedances is a violation of the permit. [Minn. R. 7090]
	5.44.328	The Permittee shall complete the following steps if benchmark monitoring intervention limits are exceeded: A. Collect at least one sample in the following quarter at the benchmark monitoring location(s) where exceedance(s) have occurred. Calculate the average of the four most recent quarters and compare this new average with the applicable benchmark value(s); B. Modify the SWPPP and document all corrective actions necessary to meet the applicable benchmark values, including improvements to BMPs; C. Initiate modifications and upgrade the SWPPP and BMPs immediately, but no later than 14 days beyond discovery of a benchmark value exceedance; and D. Install a new or repair an existing control measure to make it operational as soon as possible. i. If the Permittee is unable to complete the installation or repair within 14 calendar days, the Permittee shall document why it is infeasible within the 14-day timeframe. ii. Identify a schedule for completing the work, and document as soon as practicable after the 14-day timeframe but no longer than 45 days after discovery. Include all documentation within or as an attachment to the SWPPP. [Minn. R. 7090]
	5.44.329	**Records**. [Minn. R. 7000]
	5.44.330	The SWPPP shall be retained for the duration of the permit. A copy of the SWPPP shall remain on the permitted site whenever Permittee staff is on the site and be available upon request. The Permittee shall maintain the following records for the period of permit coverage: A. Dates and findings of inspections; B. Completed corrective actions; C. Documentation of all changes to the SWPPP; and D. A copy of all annual reports. [Minn. R. 7090]
	5.44.331	**Reporting**. [Minn. R. 7000]
	5.44.332	The Permittee shall submit a stormwater annual report: Due annually, by the 31st of March of each year following permit issuance. The Permittee shall submit the Annual Report in a format determined by the MPCA. [Minn. R. 7090]
	5.44.333	The Annual Report must cover those portions of the previous calendar year the Permittee had authorization to discharge industrial stormwater. The Annual Report must include, at a minimum, the following information: A. A summary of inspection dates, findings, and any BMP maintenance the Permittee conducted during the course of the reporting year; B. The results of any inspection requirements involving oil and grease, as described in the Sector-Specific Requirements section of this permit, if applicable; C. A confirmation that the SWPPP accurately reflects facility conditions; D. A confirmation that newly-exposed significant materials (if any) are identified and that the Permittee modifies the SWPPP to address them; E. A confirmation that the Permittee conducts a review of impaired waters and that the Permittee modifies the SWPPP to address applicable permit requirements of the Stormwater Pollution Prevention Plan and Benchmark Monitoring Requirements sections of this permit, if necessary; F. A confirmation that the Permittee meets the review requirements of USEPA-approved TMDLs that may apply to the facility; G. A description of any SWPPP modification the Permittee makes in accordance with the Stormwater Pollution Prevention Plan section of this permit, including any information supporting the use of a monitoring waiver outlined in the Benchmark Monitoring Requirements Section of this permit;

		H. A list of all spills and leaks (as pursuant to Minn. Stat. 115.061) occurring at the facility during the reporting year; and I. If applicable, a summary of all facility mobile industrial activities. At a minimum, the summary must include a description (including SIC code and/or narrative activity), locations of the mobile industrial activity (including latitude and longitude coordinates), and length of time of the mobile industrial activity occurrence(s). [Minn. R. 7090]
	5.44.334	**Industrial Stormwater Ponds and Infiltration Systems**. [Minn. R. 7000]
	5.44.335	**Notification**. [Minn. R. 7000]
	5.44.336	If the Permittee has an industrial stormwater discharge and directly discharges into a regulated Municipal Separate Storm Sewer System (MS4), the Permittee shall notify the MS4 operator that they are discharging industrial stormwater into their storm sewer system. [Minn. R. 7090]
	5.44.337	**No Exposure**. [Minn. R. 7000]
	5.44.338	Sector G industrial facilities may use designed infiltration systems or industrial stormwater ponds for stormwater management. Stormwater ponds/sedimentation basins shall be designed by a registered professional engineer and installed under the direct supervision of a registered professional engineer. If a new stormwater pond/sedimentation basin will be constructed, the Permittee shall follow the guidance located on the website at: https://www.pca.state.mn.us/business-with-us/industrial-stormwater. [Minn. R. 7090]
	5.44.339	"No exposure" means that all industrial materials or activities are protected by a storm resistant shelter to prevent exposure to rain, snow, snowmelt, or runoff. Industrial materials or activities include, but are not limited to, material handling equipment or activities, industrial machinery, raw materials, intermediate products, by-products, final products, or waste products. Material handling activities include the storage, loading and unloading, transportation, or conveyance of any raw material, intermediate product, final product, or waste product. [Minn. R. 7090.80, 9]
	5.44.340	A facility that meets the eligibility requirements for the No Exposure Exclusion requirements outlined below must submit an application through e-Services for No Exposure to the MPCA in accordance with Minn. R. 7090.3060. Directions to acquire a No Exposure Exclusion can be found on the MPCA website at https://www.pca.state.mn.us/business-with-us/industrial-stormwater. [Minn. R. 7090.3060]
	5.44.341	This exclusion is for facilities where all industrial materials or activities are protected by a storm-resistant shelter to prevent exposure to rain, snow, snowmelt, and/or runoff. A facility must meet the following conditions to qualify for this exclusion: A. Eliminate or obtain permit coverage for all prohibited non-stormwater discharges; B. As appropriate, inspect and eliminate all areas of past exposure (e.g., stains or debris resulting from previous runoff and exposure of stormwater to significant materials); C. Eliminate exposure of authorized non-stormwater discharges and all significant materials related to industrial activity (including but not limited to waste materials, dumpsters that are not empty/lidded or at loading docks); D. Eliminate exposure of all industrial activities or authorized non-stormwater discharges coming in contact with stormwater. Ensure that industrial equipment is properly maintained and free of leaks; and E. Eliminate exposure of significant materials through any direct or indirect pathway, such as from industrial activities that generate dust and particulates. [40 CFR 122.26(g), Minn. R. 7090.3060, Minn. R. 7090.3080]
	5.44.342	If a Permittee plans a change that will result in failure to maintain a condition of No Exposure at a facility, the Owner/Operator of a facility shall apply for a permit modification and receive permit authorization for the discharge of industrial stormwater before commencing the change or the facility may apply for coverage under the Industrial Stormwater General Permit. [Minn. R. 7090.3060, Minn. R. 7090.3060, 5]
	5.44.343	**Sector Specific Definitions**. [Minn. R. 7000]
	5.44.344	The following definitions do not supersede the definitions of active and inactive mining facilities established by 40 CFR 122.26(b)(14)(iii): [Minn. R. 7090]

		"Reclamation" means activities undertaken, in compliance with applicable mined land reclamation requirements, following cessation of the activities associated with extraction through production of a salable product, intended to return the land to an appropriate post-mining land use in order to meet applicable Federal and State reclamation requirements. [Minn. R. 7090] Active metal mining facility" means a place where the Permittee conducts work or other activity related to the extraction, removal, or recovery of metal ore. For surface mines, this definition does not include any land where grading has returned the earth to a desired contour and reclamation has begun. This definition is derived from the definition of "active mining area" found at 40 CFR 440.132(a). [Minn. R. 7090] "Inactive metal mining facility" means a site or portion of a site where metal mining and/or milling occurred in the past but is not an active facility as defined above, and where the inactive portion is not covered by an active mining permit issued by the applicable State or Federal agency. An inactive metal mining facility has an identifiable Owner/Operator. [Minn. R. 7090] "Temporarily inactive metal mining facility" means a site or portion of a site where metal mining and/or milling occurred in the past but currently the Permittee is not actively undertaking, and the facility is covered by an active mining permit issued by the applicable State or Federal agency. [Minn. R. 7090]
		Total Facility Requirements (NPDES/SDS)
	5.45.345	**Definitions.** Refer to the Permit User's Manual found on the MPCA's website at https://www.pca.state.mn.us/sites/default/files/wq-wwtp7-09.pdf for standard definitions. [Minn. R. 7001]
	5.45.346	**Incorporation by Reference.** This permit incorporates the following applicable federal and state laws applicable to the Permittee and enforceable parts of this permit: 40 CFR pts. 122.41, 122.42, 136, 403 and 503; Minn. R. chs. 7001, 7041, 7045, 7050, 7052, 7053, 7060, and 7080; and Minn. Stat. chs. 115 and 116. [Minn. R. 7001]
	5.45.347	**Permittee Responsibility.** The Permittee shall perform the actions or conduct the activity authorized by this permit in compliance with the conditions of the permit and, if required, in accordance with the plans and specifications approved by the MPCA. [Minn. R. 7001.0150, subp. 3(E)]
	5.45.348	**Toxic Discharges Prohibited.** Whether or not this permit includes effluent limitations for toxic pollutants, the Permittee shall not discharge a toxic pollutant except according to 40 CFR pts. 400 to 460 and Minn. R. chs. 7050, 7052, 7053 and any other applicable MPCA rules. [Minn. R. 7001.1090, subp. 1(A)]
	5.45.349	**Nuisance Conditions Prohibited.** The Permittee's discharge shall not cause any nuisance conditions including, but not limited to: floating solids, scum and visible oil film, excessive suspended solids, material discoloration, obnoxious odors, gas ebullition, deleterious sludge deposits, undesirable slimes or fungus growths, aquatic habitat degradation, excessive growths of aquatic plants, acutely toxic conditions to aquatic life, or other adverse impact on the receiving water. [Minn. R. 7050.0210, subp. 2]
	5.45.350	**Property Rights.** This permit does not convey a property right or an exclusive privilege. [Minn. R. 7001.0150, subp. 3(C)]
	5.45.351	**Liability Exemption.** 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 its actions, including those activities authorized, directed, or undertaken under this permit. To the extent the State and the MPCA may be liable for the activities of its employees, that liability is explicitly limited to that provided in the Tort Claims Act. [Minn. R. 7001.0150, subp. 3(O)]
	5.45.352	The MPCA's issuance of this permit does not obligate the MPCA to enforce local laws, rules, or plans beyond what Minnesota statutes authorize. [Minn. R. 7001.0150, subp. 3(D)]
	5.45.353	**Liabilities.** 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. [Minn. R. 7001.0150, subp. 3(A)]
	5.45.354	The issuance of this 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. [Minn. R. 7001.0150, subp. 3(B)]
	5.45.355	**Severability.** 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 are held invalid, the application of such provision to other circumstances and the remainder of this permit shall not be affected thereby. [Minn. R. 7001]
	5.45.356	**Compliance with Other Rules and Statutes.** The Permittee shall comply with all applicable air quality, solid waste, and hazardous waste statutes and rules in the operation and maintenance of the facility. [Minn. R. 7001]
	5.45.357	**Inspection and Entry.** When authorized by Minn. Stat. ch. 115.04, 115B.17, subd. 4, and 116.091, and upon presentation of proper credentials, the Permittee shall allow the MPCA, or an authorized employee or agent of the MPCA, to enter at reasonable times upon the property of the Permittee to examine and copy books, papers, records, or memoranda pertaining to the construction, modification, or operation of the facility covered by the permit or pertaining to the activity covered by the permit; and to conduct surveys and investigations, including sampling or monitoring, pertaining to the construction, modification, or operation of the facility covered by the permit or pertaining to the activity covered by the permit. [Minn. R. 7001.0150, subp. 3(I)]
	5.45.358	**Control Users.** The Permittee shall regulate the users of its facility to prevent the introduction of pollutants or materials that may result in the inhibition or disruption of the conveyance system, treatment facility or processes, or disposal system that would contribute to the violation of the conditions of this permit or any federal, state, or local law or regulation. [Minn. R. 7001.0150, subp. 3(F)]
	5.45.359	**Sampling**. [Minn. R. 7001]
	5.45.360	**Representative Sampling.** The Permittee shall conduct samples and measurements required by this permit as specified in this permit and shall be representative of the discharge or monitored activity. [Minn. R. 7001.0150, subp. 2(B)]
	5.45.361	**Additional Sampling.** If the Permittee monitors more frequently than required, they shall report the results and the frequency of monitoring on their eDMR for that reporting period. [Minn. R. 7001.1090, subp. 1(E)]
	5.45.362	**Certified/Accredited Laboratory.** A laboratory accredited by the Minnesota Department of Health [Minn. R. 4740.2010 through Minn. R. 4740.2120] and/or certified by the MPCA [Minn. R. 7001.4310 through Minn. R. 7001.4390] shall conduct analyses required by this permit, unless approved in writing by the MPCA. A certified/accredited laboratory does not need to complete analyses of dissolved oxygen, pH, temperature, specific conductance, and total residual oxidants (chlorine, bromine). Those analyses shall comply with 40 CFR pt. 136. Dissolved oxygen, pH, and total residual oxidants must be performed on-site. Follow the manufacturer's specifications for equipment maintenance and use. [Minn. R. 4740.2010-4740.2120, Minn. R. 7001.4310-7001.4390]
	5.45.363	**Sample Preservation and Procedure.** Sample preservation and test procedures for the analysis of pollutants shall conform to 40 CFR pt. 136 and Minn. R. 7041.3200. [Minn. R. 7001.0150, subp. 2(B), Minn. R. 7041.3200]
	5.45.364	**Equipment Calibration.** The Permittee shall check and/or calibrate flow meters, pumps, flumes, lift stations, or other flow monitoring equipment used for purposes of determining compliance (within plus or minus ten percent of the true flow values) with permit requirements at least twice annually. [Minn. R. 7001.0150, subp. 2(B & C)]
	5.45.365	**Maintain Records.** 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. 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 and time 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. [Minn. R. 7001.0150, subp. 2(C)]
	5.45.366	**Completing Reports.** The Permittee shall submit the results of the required sampling and monitoring activities on the forms provided, specified, or approved by the MPCA. The Permittee shall record the information in the specified areas on those forms and in the units specified. Required forms may include a Sample Values Form. If required, the Permittee shall record individual values for each sample and measurement on the Sample Values Form provided by the MPCA. The Permittee shall submit Sample Values Form with the appropriate eDMRs. The Permittee may design and use their own Sample Values Form; however, the Permittee shall not use their form until the MPCA reviews and approves the form. Note: The Permittee shall also record required summary information on their eDMR. Permittee submitted summary information contained only on the Sample Values Form does not comply with reporting requirements. [Minn. R. 7001.0150, subp. 2(B), Minn. R. 7001.1090, subp. 1(D)]
	5.45.367	**Submitting Reports.** The Permittee shall submit eDMRs, Sample Values Forms, and other supplemental attachment forms via MPCA e-Services after the MPCA approves their authorization request. The Permittee shall electronically submit eDMRs, Sample Values Forms, and other supplemental attachment forms by the 21st day of the month following the sampling period or otherwise as specified in this permit. The Permittee shall complete eDMR submittal on or before 11:59 p.m. of the 21st day of the month following the sampling period or as otherwise specified in this permit. The Permittee shall submit an eDMR for each required station even if no discharge occurred during the reporting period. The Permittee shall submit other reports required by this permit electronically. The Permittee shall submit reports by the date specified in this permit. The Permittee shall submit on or before 11:59 p.m. on the date specified in this permit. Electronically: wq.submittals.mpca@state.mn.us Include Water quality submittals form: www.pca.state.mn.us/sites/default/files/wq-wwprm7-71.docx. [Minn. R. 7001.0150, subp. 2(B), Minn. R. 7001.0150, subp. 3(H)]
	5.45.368	**Incomplete or Incorrect Reports.** The Permittee shall immediately submit an electronically amended report or eDMR to the MPCA upon discovery by the Permittee or notification by the MPCA that it has submitted an incomplete or incorrect report or eDMR. The amended report or eDMR shall contain the missing or corrected data along with a comment on the eDMR explaining the circumstances of the incomplete or incorrect report. If it is impossible to amend the report or eDMR electronically, the Permittee shall immediately notify the MPCA and the MPCA will provide direction for the amendment submittals. [Minn. R. 7001.0150, subp. 3(G)]
	5.45.369	**Required Signatures.** The Permittee or the duly authorized representative of the Permittee shall sign all eDMRs, forms, reports, and other documents submitted to the MPCA per Minn. R. 7001.0150, subp. 2(D). The person or persons who sign the eDMRs, forms, reports, or other documents shall certify that he or she understands and complies with the certification requirements of Minn. R. chs. 7001.0070 and 7001.0540, including the penalties for submitting false information. A registered professional engineer shall certify technical documents, such as design drawings and specifications, and engineering studies submitted as part of a permit application or by permit conditions. [Minn. R. 7001.0540]
	5.45.370	**Reporting Limit (RL).** The Permittee shall report monitoring results below the 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 Permittee shall report the concentration as "< 0.1 mg/L." The Permittee shall not use "non-detected," "undetected," "below detection limit," or "zero" when reporting results. The MPCA considers these terms as permit reporting violations. Where sample values are less than the RL and the permit requires reporting of an average, the Permittee shall calculate the average as follows: A. If some values are less than (<) the RL, substitute zero for all non-detectable values to use in the average calculation; B. If all values are less than (<) the RL, calculate the average and report as < the RL average concentration; and C. To calculate a mass loading with a less than (<) the RL concentration, use the RL value in the calculation and then add the "<" to the product of the concentration and the volume. [Minn. R. 7001.0150, subp. 2(B)]
	5.45.371	**Records.** 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. [Minn. R. 7001.0150, subp. 3(H)]
	5.45.372	**Confidential Information.** Except for data determined to be confidential according to Minn. Stat. ch. 116.075, subd. 2, all reports required by this permit are available for public inspection. The MPCA does not consider effluent data confidential. To request the MPCA maintain data as confidential, the Permittee shall follow Minn. R. 7000.1300. [Minn. R. 7000.1300]
	5.45.373	**Noncompliance and Enforcement**. [Minn. R. 7001]
	5.45.374	**Subject to Enforcement Action and Penalties.** Noncompliance with a term or condition of this permit subjects the Permittee to penalties provided by federal and state law set forth in section 309 of the Clean Water Act; United States Code, title 33, section 1319, as amended; and in Minn. Stat. ch. 115.071 and 116.072, including monetary penalties, imprisonment, or both. [Minn. R. 7001.1090, subp. 1(B)]
	5.45.375	**Criminal Activity.** The Permittee shall not knowingly make a false statement, representation, or certification in a record or other document submitted to the MPCA. A person who falsifies a report or document submitted to the MPCA, or tampers with, or knowingly renders inaccurate a monitoring device or method that requires maintenance under this permit is subject to criminal and civil penalties provided by federal and state law. [Minn. R. 7001.0150, subp. 3(G), Minn. R. 7001.1090, subp. 1(G & H), Minn. Stat. ch. 609.671, subd. 1]
	5.45.376	**Noncompliance Defense.** 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 this permit. [40 CFR 122.41(c)]
	5.45.377	**Effluent Violations.** If sampling by the Permittee indicates a violation of any discharge limitation specified in this permit, the Permittee shall immediately make every effort to verify the violation by collecting additional samples, if appropriate, investigate the cause of the violation, and take action to prevent future violations. If the Permittee discovers that noncompliance with a condition of the permit occurred and that the noncompliance could endanger human health, public drinking water supplies, or the environment, the Permittee shall within 24 hours of the discovery of the noncompliance orally notify the Commissioner and submit a written description of the noncompliance within five days of the discovery. If the Permittee discovers other noncompliance that does not explicitly endanger human health, public drinking water supplies, or the environment, the Permittee shall report the description of noncompliance within 30 days of the discovery. If no eDMR is required within 30 days, the Permittee shall submit a written report including the description of noncompliance 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. [Minn. R. 7001.0150, subp. 3(K)]
	5.45.378	**Upset Defense.** In the event of temporary noncompliance with applicable effluent limitation(s) 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 MPCA 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 reasonable 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 Commissioner of the upset in accordance with Minn. R. 7001.1090, subp. 1(I); and F. That the Permittee implemented the remedial measures required by Minn. R. 7001.0150, subp. 3(J). [Minn. R. 7001.1090]
	5.45.379	**Release**. [Minn. R. 7001]
	5.45.380	**Unauthorized Releases of Wastewater Prohibited.** This permit prohibits overflows, discharges, spills, or other releases of wastewater or materials to the environment, whether intentional or not, except for discharges from outfalls specifically authorized by this permit. The MPCA will consider the Permittee's compliance with permit requirements, frequency of release, quantity, type, location, and other relevant factors when determining appropriate action. [40 CFR 122.41, Minn. Stat. ch. 115.061]
	5.45.381	**Discovery of a Release.** Upon discovery of a release, the Permittee shall: A. Take all reasonable steps to immediately end the release; B. Notify the Minnesota Department of Public Safety Duty Officer at 800-422-0798 or 651-649-5451 (metro area) immediately upon discovery of the release. The Permittee may contact the MPCA during business hours at 800-657-3864 or 651-296-6300 (metro area); and C. Recover as rapidly and as thoroughly as possible all substances and materials released or immediately take other action as may be reasonably possible to minimize or abate pollution to waters of the state or potential impacts to human health caused thereby. If the Permittee cannot immediately or completely recover the released materials or substances, the Permittee shall contact the MPCA. If directed by the MPCA, the Permittee shall consult with other local, state, or federal agencies (such as the Minnesota Department of Natural Resources and/or the Wetland Conservation Act authority) for implementation of additional clean up or remediation activities in wetland or other sensitive areas. [Minn. R. 7001.1090]
	5.45.382	**Sampling of a Release.** Upon discovery of a release, the Permittee shall: A. Collect representative samples of the release. The Permittee shall sample the release for permitted effluent parameters and other parameters of concern immediately following discovery of the release. The Permittee may contact the MPCA during business hours to discuss the sampling parameters and protocol. In addition, the Permittee shall collect fecal coliform bacteria samples where the Permittee determines that the release contains or may contain sewage. If the Permittee cannot immediately stop the release, the Permittee shall consult with the MPCA regarding additional sampling requirements. The Permittee shall collect samples at least, but not limited to, two times per week for as long as the release continues; and B. Submit the sampling results on the Release Report located on the MPCA's website at https://www.pca.state.mn.us/business-with-us/discharge-monitoring-reports. The Permittee shall submit the Release Report to the MPCA with the next eDMR or within 30 days, whichever is sooner. [Minn. R. 7001.1090]
	5.45.383	**Bypass**. [Minn. R. 7001]

	5.45.384	**Anticipated Bypass.** The Permittee may allow any bypass to occur that does not cause effluent limitation exceedances, but only if the bypass is for essential maintenance to assure efficient operation of the facility. The Permittee shall submit prior notice to the MPCA at least ten days before the date of the bypass, if possible. The notice of the need for an anticipated bypass shall include the following information: A. The proposed date and estimated duration of the bypass; B. The alternatives to bypassing; and C. A proposal for effluent sampling during the bypass. Any bypass wastewater shall enter waters of the state from outfalls specifically authorized by this permit. Therefore, the Permittee shall collect samples at the frequency and location identified in this permit or two times per week for as long as the bypass continues, whichever is more frequent. [40 CFR 122.41(m)(2 & 3), Minn. R. 7001.1090, subp. 1(J)]
	5.45.385	This permit prohibits all other bypasses. The MPCA may take enforcement action against the Permittee for a bypass, unless the specific conditions described in Minn. R. 7001.1090 subp. 1(K) and 40 CFR 122.41(m)(4)(i) are met. In the event of an unanticipated bypass, the Permittee shall: A. Take all reasonable steps to immediately end the bypass; B. Notify the Minnesota Department of Public Safety Duty Officer at 800-422-0798 or 651-649-5451 (metro area) immediately upon commencement of the bypass. The Permittee may contact the MPCA during business hours at 800-657-3864 or 651-296-6300 (metro area); C. Immediately take action as may be reasonably possible to minimize or abate pollution to waters of the state or potential impacts to human health caused thereby. If directed by the MPCA, the Permittee shall consult with other local, state, or federal agencies for implementation of abatement, clean up, or remediation activities; and D. Only allow bypass wastewater as specified in this section to enter waters of the state from outfalls specifically authorized by this permit. The Permittee shall collect samples at the frequency and location identified in this permit or two times per week for as long as the bypass continues, whichever is more frequent. The Permittee shall also follow the reporting requirements for effluent violations as specified in this permit. [40 CFR 122.41(m)(4)i, Minn. R. 7001.1090, subp. 1(K), Minn. Stat. ch. 115.061]
	5.45.386	**Operation and Maintenance**. [Minn. R. 7001]
	5.45.387	The Permittee shall at all times properly operate and maintain the facilities and systems of treatment and control, and the appurtenances related to them which are installed or used by the Permittee to achieve compliance with the conditions of the permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance procedures. The Permittee shall install and maintain appropriate backup or auxiliary facilities if they are necessary to achieve compliance with the conditions of the permit and, for all permits other than hazardous waste facility permits, if these backup or auxiliary facilities are technically and economically feasible. [Minn. R. 7001.0150, subp. 3(F)]
	5.45.388	In the event of a reduction or loss of effective treatment of wastewater at the facility, the Permittee shall control production or curtail 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 they restore facility treatment processes or until the Permittee provides an alternative method of treatment. [Minn. R. 7001.1090, subp. 1(C)]
	5.45.389	**Solids Management.** The Permittee shall properly store, transport, and manage biosolids, septage, sediments, residual solids, filter backwash, screenings, oil, grease, and other substances so that pollutants do not enter surface waters or groundwaters of the state. The Permittee shall manage solids in accordance with local, state, and federal requirements. [40 CFR 503, Minn. R. 7041]
	5.45.390	**Scheduled Maintenance.** The Permittee shall schedule maintenance of the treatment works during non-critical water quality periods (i.e. low flow periods) to prevent water quality degradation, except where the facility requires emergency maintenance to prevent a condition that would be detrimental

		to water quality or human health. [Minn. R. 7001.0150, subp. 2(B), Minn. R. 7001.0150, subp. 3(F)]
	5.45.391	**Control Tests.** The Permittee shall conduct in-plant control tests at a frequency adequate to ensure compliance with the conditions of this permit. [Minn. R. 7001.0150, subp. 2(B), Minn. R. 7001.0150, subp. 3(F)]
	5.45.392	**Changes to the Facility or Permit**. [Minn. R. 7001]
	5.45.393	**Permit Modifications.** Except as provided under Minn. Stat. ch. 115.07, subd. 1 and 3, no person required by statute or rule to obtain a permit may construct, install, modify, or operate the facility to be permitted, nor shall a person commence an activity for which a permit is required by statute or rule until the MPCA issues a written permit for the facility or activity. Permittees that propose to make changes to the facility or discharge that requires permit modification shall follow Minn. R. 7001.0190. If the Permittee cannot determine whether the proposed changes require a permit modification, the Permittee shall contact the MPCA prior to any action. The MPCA recommends that Permittees submit the application for permit modification to the MPCA at least 180 days prior to the planned change. [Minn. R. 7001.0030]
	5.45.394	This permit does not require plans, specifications, and MPCA approval when maintenance dictates the need for installation of new equipment, provided the equipment is the same design size and has the same design intent. For instance, Permittees can replace a broken pipe, lift station pump, aerator, or blower with the same design-sized equipment without MPCA approval. If this permit does not expressly authorize the Permittee proposed construction, the MPCA may require a permit modification. If the proposed construction project requires an Environmental Assessment Worksheet under Minn. R. 4410, no construction shall begin until the MPCA issues a negative declaration and the Permittee receives or implements all approvals. [Minn. R. 7001.0030]
	5.45.395	**Report Changes.** The Permittee shall give advance notice as soon as possible to the MPCA of any substantial changes in operational procedures, activities that may alter the nature or frequency of the discharge, and/or material factors that may affect compliance with the conditions of this permit. [Minn. R. 7001.0150, subp. 3(M)]
	5.45.396	**Chemical Additives.** 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, in quantities or concentrations that have the potential to change the characteristics, nature, and/or quality of the discharge. The Permittee shall request approval for an increase or new use of a chemical additive at least 60 days, or as soon as possible, before the proposed increase or new use. The Permittee shall include at least the following information for the proposed additive as instructed in the chemical additive approvals section on the MPCA's website at https://www.pca.state.mn.us/business-with-us/wastewater-permit-additional-guidance-and-information: A. The process for which the additive will be used; B. Safety Data Sheet (SDS) which shall include aquatic toxicity, human health, and environmental fate information for the proposed additive. The aquatic toxicity information shall include at minimum the results of: a) a 48-hour LC50 or EC50 acute study for a North American freshwater planktonic crustacean (either Ceriodaphnia or Daphnia sp.) and b) a 96-hour LC50 acute study for rainbow trout, bluegill, or fathead minnow or another North American freshwater aquatic species other than a planktonic crustacean; C. A complete product use and instruction label; D. The commercial and chemical names and Chemical Abstract Survey (CAS) number for all ingredients in the additive (If the SDS does not include information on chemical composition, including percentages for each ingredient totaling to 100%, the Permittee shall contact the supplier to have this information provided); and E. The proposed method of application, application frequency, concentration, and daily average and maximum rates of use.

		Upon review of the information submitted regarding the proposed chemical additive, the MPCA may require additional information be submitted for consideration. This permit may be modified to restrict the use or discharge of a chemical additive and include additional influent and effluent monitoring requirements. Approval for the use of an additive shall not justify the exceedance of any effluent limitation nor shall it be used as a defense against pollutant levels in the discharge causing or contributing to the violation of a water quality standard. [Minn. R. 7001.0170]
	5.45.397	**MPCA Initiated Permit Modification, Suspension, or Revocation.** The MPCA may modify or revoke and reissue this permit pursuant to Minn. R. 7001.0170. The MPCA may revoke without reissuance of this permit pursuant to Minn. R. 7001.0180. [Minn. R. 7001.0170, Minn. R. 7001.0180]
	5.45.398	**Total Maximum Daily Load (TMDL) Impacts.** The MPCA may require facilities that discharge to an impaired surface water, watershed, or drainage basin to comply with additional permits or permit requirements. These requirements can include additional restriction or relaxation of limits and monitoring as authorized by the CWA 303(d)(4)(A) and 40 CFR ch. 122.44(l)(2)(i), necessary to ensure consistency with the assumptions and requirements of any applicable EPA approved wasteload allocations resulting from TMDL studies. [40 CFR 122.44(I)(2)(i)]
	5.45.399	**Permit Transfer.** This permit is not transferable to any person without the express written approval of the MPCA after compliance with the requirements of Minn. R. 7001.0190. A person who receives permit transference shall comply with the conditions of this permit. [Minn. R. 7001.0150, subp. 3(N)]
	5.45.400	**Facility Closure.** The Permittee is responsible for closure and post-closure care of the facility. The Permittee shall notify the MPCA of a significant reduction or cessation of the activities described in this permit at least 180 days before the reduction or cessation. The MPCA may require the Permittee to provide a Facility Closure Plan to the MPCA for approval. The MPCA may require a permit modification or reissuance for facility closure that could result in a potential long-term water quality concern, such as the ongoing discharge of wastewater to surface or groundwater. The MPCA may require the Permittee to establish and maintain financial assurance to ensure performance of certain obligations under this permit, including closure, post-closure care, and remedial action at the facility. If the MPCA requires financial assurance, the MPCA shall approve the amount and type of financial assurance, and proposed modifications to previously MPCA-approved financial assurance. [Minn. Stat. ch. 116.07, subd. 4]
	5.45.401	**Permit Reissuance.** If the Permittee desires to continue permit coverage beyond the date of permit expiration, the Permittee shall submit an application for permit reissuance: Due by 180 days prior to permit expiration. [Minn. R. 7001.0040]
	5.45.402	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 in writing at least 180 days before permit expiration. 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 any 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; or 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. [Minn. R. 7001.0040, Minn. R. 7001.0160]

7. Submittal action summary

GW 001	**Well, Downgradient**	
		Facility Specific Limit and Monitoring Requirements
	6.1.1	The Permittee shall submit a monthly DMR: Due by 21 days after the end of each calendar month following permit issuance. [Minn. R. 7001.0150, Subp. 2(B)]
GW 002	**Well, Downgradient**	
		Facility Specific Limit and Monitoring Requirements
	6.2.1	The Permittee shall submit a monthly DMR: Due by 21 days after the end of each calendar month following permit issuance. [Minn. R. 7001.0150, Subp. 2(B)]
GW 004	**Well, Upgradient**	
		Facility Specific Limit and Monitoring Requirements
	6.3.1	The Permittee shall submit a monthly DMR: Due by 21 days after the end of each calendar month following permit issuance. [Minn. R. 7001.0150, Subp. 2(B)]
GW 005	**Well, Upgradient**	
		Facility Specific Limit and Monitoring Requirements
	6.4.1	The Permittee shall submit a monthly DMR: Due by 21 days after the end of each calendar month following permit issuance. [Minn. R. 7001.0150, Subp. 2(B)]
GW 006	**Well, Upgradient**	
		Facility Specific Limit and Monitoring Requirements
	6.5.1	The Permittee shall submit a monthly DMR: Due by 21 days after the end of each calendar month following permit issuance. [Minn. R. 7001.0150, Subp. 2(B)]
GW 007	**Well, Upgradient**	
		Facility Specific Limit and Monitoring Requirements
	6.6.1	The Permittee shall submit a monthly DMR: Due by 21 days after the end of each calendar month following permit issuance. [Minn. R. 7001.0150, Subp. 2(B)]
GW 008	**Well, Downgradient**	
		Facility Specific Limit and Monitoring Requirements
	6.7.1	The Permittee shall submit a monthly DMR: Due by 21 days after the end of each calendar month following permit issuance. [Minn. R. 7001.0150, Subp. 2(B)]

GW 009	**Well, Downgradient**	
		Facility Specific Limit and Monitoring Requirements
	6.8.1	The Permittee shall submit a monthly DMR: Due by 21 days after the end of each calendar month following permit issuance. [Minn. R. 7001.0150, Subp. 2(B)]
GW 010	**Well, Downgradient**	
		Facility Specific Limit and Monitoring Requirements
	6.9.1	The Permittee shall submit a monthly DMR: Due by 21 days after the end of each calendar month following permit issuance. [Minn. R. 7001.0150, Subp. 2(B)]
GW 011	**Well, Downgradient**	
		Facility Specific Limit and Monitoring Requirements
	6.10.1	The Permittee shall submit a monthly DMR: Due by 21 days after the end of each calendar month following permit issuance. [Minn. R. 7001.0150, Subp. 2(B)]
GW 012	**Well, Downgradient**	
		Facility Specific Limit and Monitoring Requirements
	6.11.1	The Permittee shall submit a monthly DMR: Due by 21 days after the end of each calendar month following permit issuance. [Minn. R. 7001.0150, Subp. 2(B)]
GW 013	**Well, Downgradient**	
		Facility Specific Limit and Monitoring Requirements
	6.12.1	The Permittee shall submit a monthly DMR: Due by 21 days after the end of each calendar month following permit issuance. [Minn. R. 7001.0150, Subp. 2(B)]
GW 026	**Limits Calculation**	
		Facility Specific Limit and Monitoring Requirements
	6.13.1	The Permittee shall submit a monthly DMR: Due by 21 days after the end of each calendar month following permit issuance. [Minn. R. 7001.0150, Subp. 2(B)]
SD 001	**Effluent To Surface Water**	
		Facility Specific Limit and Monitoring Requirements
	6.14.1	The Permittee shall submit a monthly DMR: Due by 21 days after the end of each calendar month following permit issuance. [Minn. R. 7001.0150, Subp. 2(B)]
		Chronic Toxicity Requirements
	6.15.2	The Permittee shall submit annual chronic toxicity test battery results: Due annually, by the 30th of September thereafter. [Minn. R. 7001]

SD 002	**Effluent To Surface Water**	
		Facility Specific Limit and Monitoring Requirements
	6.16.1	The Permittee shall submit a monthly DMR: Due by 21 days after the end of each calendar month following permit issuance. [Minn. R. 7001.0150, Subp. 2(B)]
SD 003	**Effluent To Surface Water**	
		Facility Specific Limit and Monitoring Requirements
	6.17.1	The Permittee shall submit a monthly DMR: Due by 21 days after the end of each calendar month following permit issuance. [Minn. R. 7001.0150, Subp. 2(B)]
SD 005	**Effluent To Surface Water**	
		Facility Specific Limit and Monitoring Requirements
	6.18.1	The Permittee shall submit a monthly DMR: Due by 21 days after the end of each calendar month following permit issuance. [Minn. R. 7001.0150, Subp. 2(B)]
SD 009	**Limits Calculation**	
		Facility Specific Limit and Monitoring Requirements
	6.19.1	The Permittee shall submit a monthly DMR: Due by 21 days after the end of each calendar month following permit issuance. [Minn. R. 7001.0150, Subp. 2(B)]
SD 010	**Stormwater, Non-specific Runoff**	
		Surface Discharge: Industrial Stormwater Sector G Requirements
	6.20.1	The Permittee shall submit an annual DMR: Due by 21 days after the end of each calendar year following permit issuance. [Minn. R. 7001.0150, Subp. 2(B)]
SW 001	**Stream/River/ Ditch, Downstream**	
		Facility Specific Limit and Monitoring Requirements
	6.21.1	The Permittee shall submit a monthly DMR: Due by 21 days after the end of each calendar month following permit issuance. [Minn. R. 7001.0150, Subp. 2(B)]
SW 002	**Stream/River/ Ditch, Downstream**	
		Facility Specific Limit and Monitoring Requirements
	6.22.1	The Permittee shall submit a monthly DMR: Due by 21 days after the end of each calendar month following permit issuance. [Minn. R. 7001.0150, Subp. 2(B)]

SW 003	**Stream/River/ Ditch, Downstream**	
		Facility Specific Limit and Monitoring Requirements
	6.23.1	The Permittee shall submit a monthly DMR: Due by 21 days after the end of each calendar month following permit issuance. [Minn. R. 7001.0150, Subp. 2(B)]
SW 004	**Stream/River/ Ditch, Upstream**	
		Facility Specific Limit and Monitoring Requirements
	6.24.1	The Permittee shall submit a monthly DMR: Due by 21 days after the end of each calendar month following permit issuance. [Minn. R. 7001.0150, Subp. 2(B)]
SW 005	**Lake/Reservoi r**	
		Facility Specific Limit and Monitoring Requirements
	6.25.1	The Permittee shall submit a monthly DMR: Due by 21 days after the end of each calendar month following permit issuance. [Minn. R. 7001.0150, Subp. 2(B)]
WS 001	**Influent Waste**	
		Facility Specific Limit and Monitoring Requirements
	6.26.1	The Permittee shall submit a monthly DMR: Due by 21 days after the end of each calendar month following permit issuance. [Minn. R. 7001.0150, Subp. 2(B)]
WS 014	**Internal Waste Stream**	
		Facility Specific Limit and Monitoring Requirements
	6.27.1	The Permittee shall submit a monthly DMR: Due by 21 days after the end of each calendar month following permit issuance. [Minn. R. 7001.0150, Subp. 2(B)]
WS 015	**Limits Calculation**	
		Facility Specific Limit and Monitoring Requirements
	6.28.1	The Permittee shall submit a monthly DMR: Due by 21 days after the end of each calendar month following permit issuance. [Minn. R. 7001.0150, Subp. 2(B)]
WS 016	**Internal Waste Stream**	
		Facility Specific Limit and Monitoring Requirements
	6.29.1	The Permittee shall submit a monthly DMR: Due by 21 days after the end of each calendar month following permit issuance. [Minn. R. 7001.0150, Subp. 2(B)]

WS 017	**Internal Waste Stream**	
		Facility Specific Limit and Monitoring Requirements
	6.30.1	The Permittee shall submit a monthly DMR: Due by 21 days after the end of each calendar month following permit issuance. [Minn. R. 7001.0150, Subp. 2(B)]
WS 018	**Internal Waste Stream**	
		Facility Specific Limit and Monitoring Requirements
	6.31.1	The Permittee shall submit a monthly DMR: Due by 21 days after the end of each calendar month following permit issuance. [Minn. R. 7001.0150, Subp. 2(B)]
MN0055301	**Northshore Mining Co - Silver Bay**	
		Groundwater Station General Requirements
	6.32.1	The Permittee shall abandon groundwater monitoring wells 1, 1A, 2, 2A, 3, 6, 6A, 7, 7A, 7B, 9 and 9A in accordance with Minnesota Water Well Construction Code, Minnesota Rules ch. 4725. The Permittee shall submit the well seal record to MPCA within 18 months after permit issuance. The records shall be submitted to: wq.submittals.mpca@state.mn.us. abandon monitoring well and submit seal record to MPCA: Due by 18 months after permit issuance. [Minn. R. 7001]
		Special Requirements
	6.33.2	The Permittee shall submit the results of the per- and polyfluoroalkyl substances (PFAS) inventory within 18 months of permit issuance. The intent of the inventory is to establish if PFAS containing materials are used at the facility and if they are being discharged to the environment. The PFAS Inventory shall include: A. Identify all current PFAS containing or potentially PFAS containing materials used at the facility. For each material, describe the material used, location(s) used, time frame used, and identify which PFAS compounds were present or were potentially present. B. List all chemical additives currently used, indicate if they do or do not contain PFAS, identify the PFAS compound(s) in each chemical additive. C. Identify potential pathways for PFAS to enter the environment from the Permittee's current activities at the facility. D. Based on past or current uses of PFAS, identify areas of concern where PFAS may be present at the facility. E. List historic activities that may have contributed PFAS to the environment and include where those activities may have occurred. E. Describe work completed by the Permittee prior to permit issuance to identify and reduce PFAS usage at the facility and the findings of the work. The MPCA reserves the right to modify the permit to include monitoring for PFAS. submit a report: Due by 18 months after permit issuance. [Minn. R. 7001]
		Dredged Material Management
	6.34.3	The Permittee must submit an annual dredged material report : Due annually, by the 1st of February of each year following permit issuance for the previous calendar year. [Minn. R. 7001]

		Special Requirements - Mining
	6.35.4	To summarize the status of the tailings basin, the Permittee shall submit an Annual Facility Report. The Annual Report shall include, at a minimum: A. A current map of the tailings basin area that details the dikes, berms, dams, roads, cells, and current topographic and water level elevations; B. The annual net precipitation as determined for the previous calendar year (as described in this chapter); C. The total volume discharged from SD 001 and SD 005 for the previous calendar year; D. The total volume of historical net precipitation (accumulated from 1985-2004) that was discharged in the previous year; E. The total volume of historical net precipitation remaining from the discharge credit described in the "Allowable Discharge" section of this permit; F. Copies of the Permittee's written evaluations and determinations in the Annual Report for the tailings basin to demonstrate that the coarse tailings volume requirements, as described in this chapter, were maintained at the Milepost 7 tailings basin during the previous calendar year and will be maintained for the future; G. The volume of coarse tailings transported to the Peter Mitchell mine; H. Confirmation that a sufficient freeboard capacity has been maintained at the Pump House 2 catchment basin formerly monitored by WS 010; and I. A summary of the impacts of leachate disposal on the operation of the tailings basin. This summary must include the volume of leachate disposed of in the tailings basin during the report year, all monitoring data for the leachate that was disposed, and a summary of any observed changes to the tailings basin effluent that could be attributed to the leachate disposal. submit an annual report: Due annually, by the 1st of March. [Minn. R. 7001]
	6.35.5	The Permittee shall submit a Piping Integrity Plan for the tailings and reclaim lines within 180 days of permit issuance detailing the following: A. Maps, drawings, and diagrams along with method for both pipe assessment and restoration of integrity; B. Timeline (maximum of three years for high priority/high risk pipes and maximum of ten years for all other pipes) for assessing condition of all piping conveying wastewater at the facility. C. Timeline (maximum of one year) for restoring integrity of any piping found to have defects allowing either infiltration or exfiltration of water; and D. Method for retaining records of all inspection, maintenance, and associated activities included in the Piping Integrity Plan consistent with the Records requirements of this permit. submit a plan: Due by 180 days after permit issuance. [Minn. R. 7001]
	6.35.6	The Permittee shall submit an Annual Piping Report by March 1 of each year. The Permitee shall include findings (e.g. including but not limited to results of televising footage (if televising is conducted)) and summaries of actions taken responsive to the Piping Integrity Plan. The Permittee shall also discuss pipeline operations for the preceding year, and include: 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. 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. This documentation shall be made available to the MPCA upon request. submit an annual report: Due by March 1st of each year (with the Annual Report) following permit issuance. [Minn. R. 7001]
		Industrial Stormwater Sector G: Metal Mining (Ore Mining and Dressing)
	6.36.7	The Permittee shall submit a stormwater annual report: Due annually, by the 31st of March of each year following permit issuance. The Permittee shall submit the Annual Report in a format determined by the MPCA. [Minn. R. 7090]
		Total Facility Requirements (NPDES/SDS)
	6.37.8	**Permit Reissuance.** If the Permittee desires to continue permit coverage beyond the date of permit expiration, the Permittee shall submit an application for permit reissuance: Due by 180 days prior to permit expiration. [Minn. R. 7001.0040]

8. Limits and monitoring

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

		Discharge limitations							Monitoring requirements			
Subject item	**Parameter**	**Quantity /Loading avg.**	**Quantity /Loading max.**	**Quantity /Loading units**	**Quality /Conc. min.**	**Quality /Conc. avg.**	**Quality /Conc. max.**	**Quality/ Conc. units**	**Frequency**	**Sample type**	**Effective period**	**Notes**
GW 001 Ground Water Monitoring Well #5	Alkalinity, Total						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	May, Jul, Oct	
GW 001 Ground Water Monitoring Well #5	Boron, Dissolved (as B)						600 calendar month maximum	micrograms per liter	once per month	Grab	May, Jul, Oct	
GW 001 Ground Water Monitoring Well #5	Calcium, Total (as Ca)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	May, Jul, Oct	
GW 001 Ground Water Monitoring Well #5	Chloride, Total						Monitor only. calendar month max intervention limit	milligrams per liter	once per month	Grab	May, Jul, Oct	The intervention limit for total chloride is 250 mg/L.
GW 001 Ground Water Monitoring Well #5	Elevation of GW Relative to Mean Sea Level		Monitor only. calendar month maximum	feet					once per month	Measurement	May, Jul, Oct	
GW 001 Ground Water Monitoring Well #5	Fluoride, Total (as F)						4.0 calendar month maximum	milligrams per liter	once per month	Grab	May, Jul, Oct	
GW 001 Ground Water Monitoring Well #5	Fluoride, Total (as F)						Monitor only. calendar month max intervention limit	milligrams per liter	once per month	Grab	May, Jul, Oct	The intervention limit for total fluoride is 1.0 mg/L.

		Discharge limitations							Monitoring requirements			
Subject item	**Parameter**	**Quantity /Loading avg.**	**Quantity /Loading max.**	**Quantity /Loading units**	**Quality /Conc. min.**	**Quality /Conc. avg.**	**Quality /Conc. max.**	**Quality/ Conc. units**	**Frequency**	**Sample type**	**Effective period**	**Notes**
GW 001 Ground Water Monitoring Well #5	Iron, Total (as Fe)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	May, Jul, Oct	
GW 001 Ground Water Monitoring Well #5	Magnesium, Total (as Mg)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	May, Jul, Oct	
GW 001 Ground Water Monitoring Well #5	Manganese, Total (as Mn)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	May, Jul, Oct	
GW 001 Ground Water Monitoring Well #5	Nitrite Plus Nitrate, Total (as N)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	May, Jul, Oct	
GW 001 Ground Water Monitoring Well #5	pH				Monitor only. calendar month minimum		Monitor only. calendar month maximum	standard units	once per month	Grab	May, Jul, Oct	
GW 001 Ground Water Monitoring Well #5	Potassium, Total (as K)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	May, Jul, Oct	
GW 001 Ground Water Monitoring Well #5	Redox (oxidation reduction potential)						Monitor only. calendar month maximum	millivolts	once per month	Grab	May, Jul, Oct	
GW 001 Ground Water Monitoring Well #5	Sodium, Total (as Na)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	May, Jul, Oct	

		Discharge limitations							Monitoring requirements			
Subject item	**Parameter**	**Quantity /Loading avg.**	**Quantity /Loading max.**	**Quantity /Loading units**	**Quality /Conc. min.**	**Quality /Conc. avg.**	**Quality /Conc. max.**	**Quality/ Conc. units**	**Frequency**	**Sample type**	**Effective period**	**Notes**
GW 001 Ground Water Monitoring Well #5	Solids, Total Dissolved (TDS)						Monitor only. calendar month max intervention limit	milligrams per liter	once per month	Grab	May, Jul, Oct	The intervention limit for total dissolved solids is 500 mg/L.
GW 001 Ground Water Monitoring Well #5	Specific Conductance						Monitor only. calendar month maximum	micromhos per cm	once per month	Grab	May, Jul, Oct	
GW 001 Ground Water Monitoring Well #5	Sulfate, Total (as SO4)						Monitor only. calendar month max intervention limit	milligrams per liter	once per month	Grab	May, Jul, Oct	The intervention limit for total sulfate is 250 mg/L.
GW 001 Ground Water Monitoring Well #5	Temperature, Water (C)						Monitor only. calendar month maximum	degrees Celsius	once per month	Measurement, Instantaneous	May, Jul, Oct	
GW 002 Ground Water Monitoring Well #5A	Alkalinity, Total						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	May, Jul, Oct	
GW 002 Ground Water Monitoring Well #5A	Boron, Dissolved (as B)						600 calendar month maximum	micrograms per liter	once per month	Grab	May, Jul, Oct	
GW 002 Ground Water Monitoring Well #5A	Calcium, Total (as Ca)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	May, Jul, Oct	

		Discharge limitations							Monitoring requirements			
Subject item	**Parameter**	**Quantity /Loading avg.**	**Quantity /Loading max.**	**Quantity /Loading units**	**Quality /Conc. min.**	**Quality /Conc. avg.**	**Quality /Conc. max.**	**Quality/ Conc. units**	**Frequency**	**Sample type**	**Effective period**	**Notes**
GW 002 Ground Water Monitoring Well #5A	Chloride, Total						Monitor only. calendar month max intervention limit	milligrams per liter	once per month	Grab	May, Jul, Oct	The intervention limit for total chloride is 250 mg/L.
GW 002 Ground Water Monitoring Well #5A	Elevation of GW Relative to Mean Sea Level		Monitor only. calendar month maximum	feet					once per month	Measurement	May, Jul, Oct	
GW 002 Ground Water Monitoring Well #5A	Fluoride, Total (as F)						4.0 calendar month maximum	milligrams per liter	once per month	Grab	May, Jul, Oct	
GW 002 Ground Water Monitoring Well #5A	Fluoride, Total (as F)						Monitor only. calendar month max intervention limit	milligrams per liter	once per month	Grab	May, Jul, Oct	The intervention limit for total fluoride is 1.0 mg/L.
GW 002 Ground Water Monitoring Well #5A	Iron, Total (as Fe)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	May, Jul, Oct	
GW 002 Ground Water Monitoring Well #5A	Magnesium, Total (as Mg)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	May, Jul, Oct	
GW 002 Ground Water Monitoring Well #5A	Manganese, Total (as Mn)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	May, Jul, Oct	

		Discharge limitations							Monitoring requirements			
Subject item	**Parameter**	**Quantity /Loading avg.**	**Quantity /Loading max.**	**Quantity /Loading units**	**Quality /Conc. min.**	**Quality /Conc. avg.**	**Quality /Conc. max.**	**Quality/ Conc. units**	**Frequency**	**Sample type**	**Effective period**	**Notes**
GW 002 Ground Water Monitoring Well #5A	Nitrite Plus Nitrate, Total (as N)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	May, Jul, Oct	
GW 002 Ground Water Monitoring Well #5A	pH				Monitor only. calendar month minimum		Monitor only. calendar month maximum	standard units	once per month	Grab	May, Jul, Oct	
GW 002 Ground Water Monitoring Well #5A	Potassium, Total (as K)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	May, Jul, Oct	
GW 002 Ground Water Monitoring Well #5A	Redox (oxidation reduction potential)						Monitor only. calendar month maximum	millivolts	once per month	Grab	May, Jul, Oct	
GW 002 Ground Water Monitoring Well #5A	Sodium, Total (as Na)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	May, Jul, Oct	
GW 002 Ground Water Monitoring Well #5A	Solids, Total Dissolved (TDS)						Monitor only. calendar month max intervention limit	milligrams per liter	once per month	Grab	May, Jul, Oct	The intervention limit for total dissolved solids is 500 mg/L.
GW 002 Ground Water Monitoring Well #5A	Specific Conductance						Monitor only. calendar month maximum	micromhos per cm	once per month	Grab	May, Jul, Oct	
GW 002 Ground Water Monitoring Well #5A	Sulfate, Total (as SO4)						Monitor only. calendar month max intervention limit	milligrams per liter	once per month	Grab	May, Jul, Oct	The intervention limit for total sulfate is 250 mg/L.

		Discharge limitations							Monitoring requirements			
Subject item	**Parameter**	**Quantity /Loading avg.**	**Quantity /Loading max.**	**Quantity /Loading units**	**Quality /Conc. min.**	**Quality /Conc. avg.**	**Quality /Conc. max.**	**Quality/ Conc. units**	**Frequency**	**Sample type**	**Effective period**	**Notes**
GW 002 Ground Water Monitoring Well #5A	Temperature, Water (C)						Monitor only. calendar month maximum	degrees Celsius	once per month	Measurement, Instantaneous	May, Jul, Oct	
GW 004 Ground Water Monitoring Well #10	Alkalinity, Total						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	May, Jul, Oct	
GW 004 Ground Water Monitoring Well #10	Boron, Dissolved (as B)						Monitor only. calendar month maximum	micrograms per liter	once per month	Grab	May, Jul, Oct	
GW 004 Ground Water Monitoring Well #10	Calcium, Total (as Ca)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	May, Jul, Oct	
GW 004 Ground Water Monitoring Well #10	Chloride, Total						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	May, Jul, Oct	
GW 004 Ground Water Monitoring Well #10	Elevation of GW Relative to Mean Sea Level		Monitor only. calendar month maximum	feet					once per month	Measurement	May, Jul, Oct	
GW 004 Ground Water Monitoring Well #10	Fluoride, Total (as F)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	May, Jul, Oct	
GW 004 Ground Water Monitoring Well #10	Iron, Total (as Fe)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	May, Jul, Oct	

		Discharge limitations							Monitoring requirements			
Subject item	**Parameter**	**Quantity /Loading avg.**	**Quantity /Loading max.**	**Quantity /Loading units**	**Quality /Conc. min.**	**Quality /Conc. avg.**	**Quality /Conc. max.**	**Quality/ Conc. units**	**Frequency**	**Sample type**	**Effective period**	**Notes**
GW 004 Ground Water Monitoring Well #10	Magnesium, Total (as Mg)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	May, Jul, Oct	
GW 004 Ground Water Monitoring Well #10	Manganese, Total (as Mn)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	May, Jul, Oct	
GW 004 Ground Water Monitoring Well #10	Nitrite Plus Nitrate, Total (as N)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	May, Jul, Oct	
GW 004 Ground Water Monitoring Well #10	pH				Monitor only. calendar month minimum		Monitor only. calendar month maximum	standard units	once per month	Grab	May, Jul, Oct	
GW 004 Ground Water Monitoring Well #10	Potassium, Total (as K)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	May, Jul, Oct	
GW 004 Ground Water Monitoring Well #10	Redox (oxidation reduction potential)						Monitor only. calendar month maximum	millivolts	once per month	Grab	May, Jul, Oct	
GW 004 Ground Water Monitoring Well #10	Sodium, Total (as Na)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	May, Jul, Oct	
GW 004 Ground Water Monitoring Well #10	Solids, Total Dissolved (TDS)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	May, Jul, Oct	

		Discharge limitations							Monitoring requirements			
Subject item	**Parameter**	**Quantity /Loading avg.**	**Quantity /Loading max.**	**Quantity /Loading units**	**Quality /Conc. min.**	**Quality /Conc. avg.**	**Quality /Conc. max.**	**Quality/ Conc. units**	**Frequency**	**Sample type**	**Effective period**	**Notes**
GW 004 Ground Water Monitoring Well #10	Specific Conductance						Monitor only. calendar month maximum	micromhos per cm	once per month	Grab	May, Jul, Oct	
GW 004 Ground Water Monitoring Well #10	Sulfate, Total (as SO4)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	May, Jul, Oct	
GW 004 Ground Water Monitoring Well #10	Temperature, Water (C)						Monitor only. calendar month maximum	degrees Celsius	once per month	Measurement, Instantaneous	May, Jul, Oct	
GW 005 Ground Water Monitoring Well #10A	Alkalinity, Total						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	May, Jul, Oct	
GW 005 Ground Water Monitoring Well #10A	Boron, Dissolved (as B)						Monitor only. calendar month maximum	micrograms per liter	once per month	Grab	May, Jul, Oct	
GW 005 Ground Water Monitoring Well #10A	Calcium, Total (as Ca)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	May, Jul, Oct	
GW 005 Ground Water Monitoring Well #10A	Chloride, Total						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	May, Jul, Oct	
GW 005 Ground Water Monitoring Well #10A	Elevation of GW Relative to Mean Sea Level		Monitor only. calendar month maximum	feet					once per month	Measurement	May, Jul, Oct	

		Discharge limitations							Monitoring requirements			
Subject item	**Parameter**	**Quantity /Loading avg.**	**Quantity /Loading max.**	**Quantity /Loading units**	**Quality /Conc. min.**	**Quality /Conc. avg.**	**Quality /Conc. max.**	**Quality/ Conc. units**	**Frequency**	**Sample type**	**Effective period**	**Notes**
GW 005 Ground Water Monitoring Well #10A	Fluoride, Total (as F)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	May, Jul, Oct	
GW 005 Ground Water Monitoring Well #10A	Iron, Total (as Fe)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	May, Jul, Oct	
GW 005 Ground Water Monitoring Well #10A	Magnesium, Total (as Mg)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	May, Jul, Oct	
GW 005 Ground Water Monitoring Well #10A	Manganese, Total (as Mn)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	May, Jul, Oct	
GW 005 Ground Water Monitoring Well #10A	Nitrite Plus Nitrate, Total (as N)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	May, Jul, Oct	
GW 005 Ground Water Monitoring Well #10A	pH				Monitor only. calendar month minimum		Monitor only. calendar month maximum	standard units	once per month	Grab	May, Jul, Oct	
GW 005 Ground Water Monitoring Well #10A	Potassium, Total (as K)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	May, Jul, Oct	
GW 005 Ground Water Monitoring Well #10A	Redox (oxidation reduction potential)						Monitor only. calendar month maximum	millivolts	once per month	Grab	May, Jul, Oct	

		Discharge limitations							Monitoring requirements			
Subject item	**Parameter**	**Quantity /Loading avg.**	**Quantity /Loading max.**	**Quantity /Loading units**	**Quality /Conc. min.**	**Quality /Conc. avg.**	**Quality /Conc. max.**	**Quality/ Conc. units**	**Frequency**	**Sample type**	**Effective period**	**Notes**
GW 005 Ground Water Monitoring Well #10A	Sodium, Total (as Na)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	May, Jul, Oct	
GW 005 Ground Water Monitoring Well #10A	Solids, Total Dissolved (TDS)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	May, Jul, Oct	
GW 005 Ground Water Monitoring Well #10A	Specific Conductance						Monitor only. calendar month maximum	micromhos per cm	once per month	Grab	May, Jul, Oct	
GW 005 Ground Water Monitoring Well #10A	Sulfate, Total (as SO4)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	May, Jul, Oct	
GW 005 Ground Water Monitoring Well #10A	Temperature, Water (C)						Monitor only. calendar month maximum	degrees Celsius	once per month	Measurement, Instantaneous	May, Jul, Oct	
GW 006 Ground Water Monitoring Well #11	Alkalinity, Total						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	May, Jul, Oct	
GW 006 Ground Water Monitoring Well #11	Boron, Dissolved (as B)						Monitor only. calendar month maximum	micrograms per liter	once per month	Grab	May, Jul, Oct	
GW 006 Ground Water Monitoring Well #11	Calcium, Total (as Ca)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	May, Jul, Oct	

		Discharge limitations							Monitoring requirements			
Subject item	**Parameter**	**Quantity /Loading avg.**	**Quantity /Loading max.**	**Quantity /Loading units**	**Quality /Conc. min.**	**Quality /Conc. avg.**	**Quality /Conc. max.**	**Quality/ Conc. units**	**Frequency**	**Sample type**	**Effective period**	**Notes**
GW 006 Ground Water Monitoring Well #11	Chloride, Total						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	May, Jul, Oct	
GW 006 Ground Water Monitoring Well #11	Elevation of GW Relative to Mean Sea Level		Monitor only. calendar month maximum	feet					once per month	Measurement	May, Jul, Oct	
GW 006 Ground Water Monitoring Well #11	Fluoride, Total (as F)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	May, Jul, Oct	
GW 006 Ground Water Monitoring Well #11	Iron, Total (as Fe)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	May, Jul, Oct	
GW 006 Ground Water Monitoring Well #11	Magnesium, Total (as Mg)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	May, Jul, Oct	
GW 006 Ground Water Monitoring Well #11	Manganese, Total (as Mn)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	May, Jul, Oct	
GW 006 Ground Water Monitoring Well #11	Nitrite Plus Nitrate, Total (as N)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	May, Jul, Oct	
GW 006 Ground Water Monitoring Well #11	pH				Monitor only. calendar month minimum		Monitor only. calendar month maximum	standard units	once per month	Grab	May, Jul, Oct	

		Discharge limitations							Monitoring requirements			
Subject item	**Parameter**	**Quantity /Loading avg.**	**Quantity /Loading max.**	**Quantity /Loading units**	**Quality /Conc. min.**	**Quality /Conc. avg.**	**Quality /Conc. max.**	**Quality/ Conc. units**	**Frequency**	**Sample type**	**Effective period**	**Notes**
GW 006 Ground Water Monitoring Well #11	Potassium, Total (as K)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	May, Jul, Oct	
GW 006 Ground Water Monitoring Well #11	Redox (oxidation reduction potential)						Monitor only. calendar month maximum	millivolts	once per month	Grab	May, Jul, Oct	
GW 006 Ground Water Monitoring Well #11	Sodium, Total (as Na)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	May, Jul, Oct	
GW 006 Ground Water Monitoring Well #11	Solids, Total Dissolved (TDS)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	May, Jul, Oct	
GW 006 Ground Water Monitoring Well #11	Specific Conductance						Monitor only. calendar month maximum	micromhos per cm	once per month	Grab	May, Jul, Oct	
GW 006 Ground Water Monitoring Well #11	Sulfate, Total (as SO4)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	May, Jul, Oct	
GW 006 Ground Water Monitoring Well #11	Temperature, Water (C)						Monitor only. calendar month maximum	degrees Celsius	once per month	Measurement, Instantaneous	May, Jul, Oct	
GW 007 Ground Water Monitoring Well #11A	Alkalinity, Total						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	May, Jul, Oct	

		Discharge limitations							Monitoring requirements			
Subject item	**Parameter**	**Quantity /Loading avg.**	**Quantity /Loading max.**	**Quantity /Loading units**	**Quality /Conc. min.**	**Quality /Conc. avg.**	**Quality /Conc. max.**	**Quality/ Conc. units**	**Frequency**	**Sample type**	**Effective period**	**Notes**
GW 007 Ground Water Monitoring Well #11A	Boron, Dissolved (as B)						Monitor only. calendar month maximum	micrograms per liter	once per month	Grab	May, Jul, Oct	
GW 007 Ground Water Monitoring Well #11A	Calcium, Total (as Ca)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	May, Jul, Oct	
GW 007 Ground Water Monitoring Well #11A	Chloride, Total						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	May, Jul, Oct	
GW 007 Ground Water Monitoring Well #11A	Elevation of GW Relative to Mean Sea Level		Monitor only. calendar month maximum	feet					once per month	Measurement	May, Jul, Oct	
GW 007 Ground Water Monitoring Well #11A	Fluoride, Total (as F)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	May, Jul, Oct	
GW 007 Ground Water Monitoring Well #11A	Iron, Total (as Fe)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	May, Jul, Oct	
GW 007 Ground Water Monitoring Well #11A	Magnesium, Total (as Mg)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	May, Jul, Oct	
GW 007 Ground Water Monitoring Well #11A	Manganese, Total (as Mn)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	May, Jul, Oct	

		Discharge limitations							Monitoring requirements			
Subject item	**Parameter**	**Quantity /Loading avg.**	**Quantity /Loading max.**	**Quantity /Loading units**	**Quality /Conc. min.**	**Quality /Conc. avg.**	**Quality /Conc. max.**	**Quality/ Conc. units**	**Frequency**	**Sample type**	**Effective period**	**Notes**
GW 007 Ground Water Monitoring Well #11A	Nitrite Plus Nitrate, Total (as N)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	May, Jul, Oct	
GW 007 Ground Water Monitoring Well #11A	pH				Monitor only. calendar month minimum		Monitor only. calendar month maximum	standard units	once per month	Grab	May, Jul, Oct	
GW 007 Ground Water Monitoring Well #11A	Potassium, Total (as K)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	May, Jul, Oct	
GW 007 Ground Water Monitoring Well #11A	Redox (oxidation reduction potential)						Monitor only. calendar month maximum	millivolts	once per month	Grab	May, Jul, Oct	
GW 007 Ground Water Monitoring Well #11A	Sodium, Total (as Na)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	May, Jul, Oct	
GW 007 Ground Water Monitoring Well #11A	Solids, Total Dissolved (TDS)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	May, Jul, Oct	
GW 007 Ground Water Monitoring Well #11A	Specific Conductance						Monitor only. calendar month maximum	micromhos per cm	once per month	Grab	May, Jul, Oct	
GW 007 Ground Water Monitoring Well #11A	Sulfate, Total (as SO4)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	May, Jul, Oct	

		Discharge limitations							Monitoring requirements			
Subject item	**Parameter**	**Quantity /Loading avg.**	**Quantity /Loading max.**	**Quantity /Loading units**	**Quality /Conc. min.**	**Quality /Conc. avg.**	**Quality /Conc. max.**	**Quality/ Conc. units**	**Frequency**	**Sample type**	**Effective period**	**Notes**
GW 007 Ground Water Monitoring Well #11A	Temperature, Water (C)						Monitor only. calendar month maximum	degrees Celsius	once per month	Measurement, Instantaneous	May, Jul, Oct	
GW 008 Ground Water Monitoring Well #12	Alkalinity, Total						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	May, Jul, Oct	
GW 008 Ground Water Monitoring Well #12	Boron, Dissolved (as B)						Monitor only. calendar month maximum	micrograms per liter	once per month	Grab	May, Jul, Oct	
GW 008 Ground Water Monitoring Well #12	Calcium, Total (as Ca)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	May, Jul, Oct	
GW 008 Ground Water Monitoring Well #12	Chloride, Total						Monitor only. calendar month max intervention limit	milligrams per liter	once per month	Grab	May, Jul, Oct	The intervention limit for total chloride is 250 mg/L.
GW 008 Ground Water Monitoring Well #12	Elevation of GW Relative to Mean Sea Level		Monitor only. calendar month maximum	feet					once per month	Measurement	May, Jul, Oct	
GW 008 Ground Water Monitoring Well #12	Fluoride, Total (as F)						4.0 calendar month maximum	milligrams per liter	once per month	Grab	May, Jul, Oct	

		Discharge limitations							Monitoring requirements			
Subject item	**Parameter**	**Quantity /Loading avg.**	**Quantity /Loading max.**	**Quantity /Loading units**	**Quality /Conc. min.**	**Quality /Conc. avg.**	**Quality /Conc. max.**	**Quality/ Conc. units**	**Frequency**	**Sample type**	**Effective period**	**Notes**
GW 008 Ground Water Monitoring Well #12	Fluoride, Total (as F)						Monitor only. calendar month max intervention limit	milligrams per liter	once per month	Grab	May, Jul, Oct	The intervention limit for total fluoride is 1.2 mg/L.
GW 008 Ground Water Monitoring Well #12	Iron, Total (as Fe)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	May, Jul, Oct	
GW 008 Ground Water Monitoring Well #12	Magnesium, Total (as Mg)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	May, Jul, Oct	
GW 008 Ground Water Monitoring Well #12	Manganese, Total (as Mn)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	May, Jul, Oct	
GW 008 Ground Water Monitoring Well #12	Nitrite Plus Nitrate, Total (as N)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	May, Jul, Oct	
GW 008 Ground Water Monitoring Well #12	pH				Monitor only. calendar month minimum		Monitor only. calendar month maximum	standard units	once per month	Grab	May, Jul, Oct	
GW 008 Ground Water Monitoring Well #12	Potassium, Total (as K)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	May, Jul, Oct	
GW 008 Ground Water Monitoring Well #12	Redox (oxidation reduction potential)						Monitor only. calendar month maximum	millivolts	once per month	Grab	May, Jul, Oct	

		Discharge limitations							Monitoring requirements			
Subject item	**Parameter**	**Quantity /Loading avg.**	**Quantity /Loading max.**	**Quantity /Loading units**	**Quality /Conc. min.**	**Quality /Conc. avg.**	**Quality /Conc. max.**	**Quality/ Conc. units**	**Frequency**	**Sample type**	**Effective period**	**Notes**
GW 008 Ground Water Monitoring Well #12	Sodium, Total (as Na)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	May, Jul, Oct	
GW 008 Ground Water Monitoring Well #12	Solids, Total Dissolved (TDS)						Monitor only. calendar month max intervention limit	milligrams per liter	once per month	Grab	May, Jul, Oct	The intervention limit for total dissolved solids is 500 mg/L.
GW 008 Ground Water Monitoring Well #12	Specific Conductance						Monitor only. calendar month maximum	micromhos per cm	once per month	Grab	May, Jul, Oct	
GW 008 Ground Water Monitoring Well #12	Sulfate, Total (as SO4)						Monitor only. calendar month max intervention limit	milligrams per liter	once per month	Grab	May, Jul, Oct	The intervention limit for total sulfate is 250 mg/L.
GW 008 Ground Water Monitoring Well #12	Temperature, Water (C)						Monitor only. calendar month maximum	degrees Celsius	once per month	Measurement, Instantaneous	May, Jul, Oct	
GW 009 Ground Water Monitoring Well #12A	Alkalinity, Total						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	May, Jul, Oct	
GW 009 Ground Water Monitoring Well #12A	Boron, Dissolved (as B)						600 calendar month maximum	micrograms per liter	once per month	Grab	May, Jul, Oct	
GW 009 Ground Water Monitoring Well #12A	Calcium, Total (as Ca)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	May, Jul, Oct	

		Discharge limitations							Monitoring requirements			
Subject item	**Parameter**	**Quantity /Loading avg.**	**Quantity /Loading max.**	**Quantity /Loading units**	**Quality /Conc. min.**	**Quality /Conc. avg.**	**Quality /Conc. max.**	**Quality/ Conc. units**	**Frequency**	**Sample type**	**Effective period**	**Notes**
GW 009 Ground Water Monitoring Well #12A	Chloride, Total						Monitor only. calendar month max intervention limit	milligrams per liter	once per month	Grab	May, Jul, Oct	The intervention limit for total chloride is 250 mg/L.
GW 009 Ground Water Monitoring Well #12A	Elevation of GW Relative to Mean Sea Level		Monitor only. calendar month maximum	feet					once per month	Measurement	May, Jul, Oct	
GW 009 Ground Water Monitoring Well #12A	Fluoride, Total (as F)						4.0 calendar month maximum	milligrams per liter	once per month	Grab	May, Jul, Oct	
GW 009 Ground Water Monitoring Well #12A	Fluoride, Total (as F)						Monitor only. calendar month max intervention limit	milligrams per liter	once per month	Grab	May, Jul, Oct	The intervention limit for total fluoride is 1.0 mg/L.
GW 009 Ground Water Monitoring Well #12A	Iron, Total (as Fe)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	May, Jul, Oct	
GW 009 Ground Water Monitoring Well #12A	Magnesium, Total (as Mg)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	May, Jul, Oct	
GW 009 Ground Water Monitoring Well #12A	Manganese, Total (as Mn)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	May, Jul, Oct	

		Discharge limitations							Monitoring requirements			
Subject item	**Parameter**	**Quantity /Loading avg.**	**Quantity /Loading max.**	**Quantity /Loading units**	**Quality /Conc. min.**	**Quality /Conc. avg.**	**Quality /Conc. max.**	**Quality/ Conc. units**	**Frequency**	**Sample type**	**Effective period**	**Notes**
GW 009 Ground Water Monitoring Well #12A	Nitrite Plus Nitrate, Total (as N)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	May, Jul, Oct	
GW 009 Ground Water Monitoring Well #12A	pH				Monitor only. calendar month minimum		Monitor only. calendar month maximum	standard units	once per month	Grab	May, Jul, Oct	
GW 009 Ground Water Monitoring Well #12A	Potassium, Total (as K)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	May, Jul, Oct	
GW 009 Ground Water Monitoring Well #12A	Redox (oxidation reduction potential)						Monitor only. calendar month maximum	millivolts	once per month	Grab	May, Jul, Oct	
GW 009 Ground Water Monitoring Well #12A	Sodium, Total (as Na)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	May, Jul, Oct	
GW 009 Ground Water Monitoring Well #12A	Solids, Total Dissolved (TDS)						Monitor only. calendar month max intervention limit	milligrams per liter	once per month	Grab	May, Jul, Oct	The intervention limit for total dissolved solids is 500 mg/L.
GW 009 Ground Water Monitoring Well #12A	Specific Conductance						Monitor only. calendar month maximum	micromhos per cm	once per month	Grab	May, Jul, Oct	
GW 009 Ground Water Monitoring Well #12A	Sulfate, Total (as SO4)						Monitor only. calendar month max intervention limit	milligrams per liter	once per month	Grab	May, Jul, Oct	The intervention limit for total sulfate is 250 mg/L.

		Discharge limitations							Monitoring requirements			
Subject item	**Parameter**	**Quantity /Loading avg.**	**Quantity /Loading max.**	**Quantity /Loading units**	**Quality /Conc. min.**	**Quality /Conc. avg.**	**Quality /Conc. max.**	**Quality/ Conc. units**	**Frequency**	**Sample type**	**Effective period**	**Notes**
GW 009 Ground Water Monitoring Well #12A	Temperature, Water (C)						Monitor only. calendar month maximum	degrees Celsius	once per month	Measurement, Instantaneous	May, Jul, Oct	
GW 010 Ground Water Monitoring Well #12Bb	Alkalinity, Total						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	May, Jul, Oct	
GW 010 Ground Water Monitoring Well #12Bb	Boron, Dissolved (as B)						600 calendar month maximum	micrograms per liter	once per month	Grab	May, Jul, Oct	
GW 010 Ground Water Monitoring Well #12Bb	Calcium, Total (as Ca)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	May, Jul, Oct	
GW 010 Ground Water Monitoring Well #12Bb	Chloride, Total						Monitor only. calendar month max intervention limit	milligrams per liter	once per month	Grab	May, Jul, Oct	The intervention limit for total chloride is 250 mg/L.
GW 010 Ground Water Monitoring Well #12Bb	Elevation of GW Relative to Mean Sea Level		Monitor only. calendar month maximum	feet					once per month	Measurement	May, Jul, Oct	
GW 010 Ground Water Monitoring Well #12Bb	Fluoride, Total (as F)						4.0 calendar month maximum	milligrams per liter	once per month	Grab	May, Jul, Oct	

		Discharge limitations							Monitoring requirements			
Subject item	**Parameter**	**Quantity /Loading avg.**	**Quantity /Loading max.**	**Quantity /Loading units**	**Quality /Conc. min.**	**Quality /Conc. avg.**	**Quality /Conc. max.**	**Quality/ Conc. units**	**Frequency**	**Sample type**	**Effective period**	**Notes**
GW 010 Ground Water Monitoring Well #12Bb	Fluoride, Total (as F)						Monitor only. calendar month max intervention limit	milligrams per liter	once per month	Grab	May, Jul, Oct	The intervention limit for total fluoride is 1.0 mg/L.
GW 010 Ground Water Monitoring Well #12Bb	Iron, Total (as Fe)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	May, Jul, Oct	
GW 010 Ground Water Monitoring Well #12Bb	Magnesium, Total (as Mg)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	May, Jul, Oct	
GW 010 Ground Water Monitoring Well #12Bb	Manganese, Total (as Mn)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	May, Jul, Oct	
GW 010 Ground Water Monitoring Well #12Bb	Nitrite Plus Nitrate, Total (as N)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	May, Jul, Oct	
GW 010 Ground Water Monitoring Well #12Bb	pH				Monitor only. calendar month minimum		Monitor only. calendar month maximum	standard units	once per month	Grab	May, Jul, Oct	
GW 010 Ground Water Monitoring Well #12Bb	Potassium, Total (as K)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	May, Jul, Oct	
GW 010 Ground Water Monitoring Well #12Bb	Redox (oxidation reduction potential)						Monitor only. calendar month maximum	millivolts	once per month	Grab	May, Jul, Oct	

		Discharge limitations							Monitoring requirements			
Subject item	**Parameter**	**Quantity /Loading avg.**	**Quantity /Loading max.**	**Quantity /Loading units**	**Quality /Conc. min.**	**Quality /Conc. avg.**	**Quality /Conc. max.**	**Quality/ Conc. units**	**Frequency**	**Sample type**	**Effective period**	**Notes**
GW 010 Ground Water Monitoring Well #12Bb	Sodium, Total (as Na)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	May, Jul, Oct	
GW 010 Ground Water Monitoring Well #12Bb	Solids, Total Dissolved (TDS)						Monitor only. calendar month max intervention limit	milligrams per liter	once per month	Grab	May, Jul, Oct	The intervention limit for total dissolved solids is 500 mg/L.
GW 010 Ground Water Monitoring Well #12Bb	Specific Conductance						Monitor only. calendar month maximum	micromhos per cm	once per month	Grab	May, Jul, Oct	
GW 010 Ground Water Monitoring Well #12Bb	Sulfate, Total (as SO4)						Monitor only. calendar month max intervention limit	milligrams per liter	once per month	Grab	May, Jul, Oct	The intervention limit for total sulfate is 250 mg/L.
GW 010 Ground Water Monitoring Well #12Bb	Temperature, Water (C)						Monitor only. calendar month maximum	degrees Celsius	once per month	Measurement, Instantaneous	May, Jul, Oct	
GW 011 Ground Water Monitoring Well #13	Alkalinity, Total						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	May, Jul, Oct	
GW 011 Ground Water Monitoring Well #13	Boron, Dissolved (as B)						600 calendar month maximum	micrograms per liter	once per month	Grab	May, Jul, Oct	
GW 011 Ground Water Monitoring Well #13	Calcium, Total (as Ca)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	May, Jul, Oct	

		Discharge limitations							Monitoring requirements			
Subject item	**Parameter**	**Quantity /Loading avg.**	**Quantity /Loading max.**	**Quantity /Loading units**	**Quality /Conc. min.**	**Quality /Conc. avg.**	**Quality /Conc. max.**	**Quality/ Conc. units**	**Frequency**	**Sample type**	**Effective period**	**Notes**
GW 011 Ground Water Monitoring Well #13	Chloride, Total						Monitor only. calendar month max intervention limit	milligrams per liter	once per month	Grab	May, Jul, Oct	The intervention limit for total chloride is 250 mg/L.
GW 011 Ground Water Monitoring Well #13	Elevation of GW Relative to Mean Sea Level		Monitor only. calendar month maximum	feet					once per month	Measurement	May, Jul, Oct	
GW 011 Ground Water Monitoring Well #13	Fluoride, Total (as F)						Monitor only. calendar month max intervention limit	milligrams per liter	once per month	Grab	May, Jul, Oct	The intervention limit for total fluoride is 1.5 mg/L.
GW 011 Ground Water Monitoring Well #13	Fluoride, Total (as F)						4.0 calendar month maximum	milligrams per liter	once per month	Grab	May, Jul, Oct	
GW 011 Ground Water Monitoring Well #13	Iron, Total (as Fe)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	May, Jul, Oct	
GW 011 Ground Water Monitoring Well #13	Magnesium, Total (as Mg)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	May, Jul, Oct	
GW 011 Ground Water Monitoring Well #13	Manganese, Total (as Mn)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	May, Jul, Oct	

		Discharge limitations							Monitoring requirements			
Subject item	**Parameter**	**Quantity /Loading avg.**	**Quantity /Loading max.**	**Quantity /Loading units**	**Quality /Conc. min.**	**Quality /Conc. avg.**	**Quality /Conc. max.**	**Quality/ Conc. units**	**Frequency**	**Sample type**	**Effective period**	**Notes**
GW 011 Ground Water Monitoring Well #13	Nitrite Plus Nitrate, Total (as N)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	May, Jul, Oct	
GW 011 Ground Water Monitoring Well #13	pH				Monitor only. calendar month minimum		Monitor only. calendar month maximum	standard units	once per month	Grab	May, Jul, Oct	
GW 011 Ground Water Monitoring Well #13	Potassium, Total (as K)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	May, Jul, Oct	
GW 011 Ground Water Monitoring Well #13	Redox (oxidation reduction potential)						Monitor only. calendar month maximum	millivolts	once per month	Grab	May, Jul, Oct	
GW 011 Ground Water Monitoring Well #13	Sodium, Total (as Na)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	May, Jul, Oct	
GW 011 Ground Water Monitoring Well #13	Solids, Total Dissolved (TDS)						Monitor only. calendar month max intervention limit	milligrams per liter	once per month	Grab	May, Jul, Oct	The intervention limit for total dissolved solids is 500 mg/L.
GW 011 Ground Water Monitoring Well #13	Specific Conductance						Monitor only. calendar month maximum	micromhos per cm	once per month	Grab	May, Jul, Oct	
GW 011 Ground Water Monitoring Well #13	Sulfate, Total (as SO4)						Monitor only. calendar month max intervention limit	milligrams per liter	once per month	Grab	May, Jul, Oct	The intervention limit for total sulfate is 250 mg/L.

		Discharge limitations							Monitoring requirements			
Subject item	**Parameter**	**Quantity /Loading avg.**	**Quantity /Loading max.**	**Quantity /Loading units**	**Quality /Conc. min.**	**Quality /Conc. avg.**	**Quality /Conc. max.**	**Quality/ Conc. units**	**Frequency**	**Sample type**	**Effective period**	**Notes**
GW 011 Ground Water Monitoring Well #13	Temperature, Water (C)						Monitor only. calendar month maximum	degrees Celsius	once per month	Measurement, Instantaneous	May, Jul, Oct	
GW 012 Ground Water Monitoring Well #13A	Alkalinity, Total						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	May, Jul, Oct	
GW 012 Ground Water Monitoring Well #13A	Boron, Dissolved (as B)						600 calendar month maximum	micrograms per liter	once per month	Grab	May, Jul, Oct	
GW 012 Ground Water Monitoring Well #13A	Calcium, Total (as Ca)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	May, Jul, Oct	
GW 012 Ground Water Monitoring Well #13A	Chloride, Total						Monitor only. calendar month max intervention limit	milligrams per liter	once per month	Grab	May, Jul, Oct	The intervention limit for total chloride is 250 mg/L.
GW 012 Ground Water Monitoring Well #13A	Elevation of GW Relative to Mean Sea Level		Monitor only. calendar month maximum	feet					once per month	Measurement	May, Jul, Oct	
GW 012 Ground Water Monitoring Well #13A	Fluoride, Total (as F)						4.0 calendar month maximum	milligrams per liter	once per month	Grab	May, Jul, Oct	

		Discharge limitations							Monitoring requirements			
Subject item	**Parameter**	**Quantity /Loading avg.**	**Quantity /Loading max.**	**Quantity /Loading units**	**Quality /Conc. min.**	**Quality /Conc. avg.**	**Quality /Conc. max.**	**Quality/ Conc. units**	**Frequency**	**Sample type**	**Effective period**	**Notes**
GW 012 Ground Water Monitoring Well #13A	Fluoride, Total (as F)						Monitor only. calendar month max intervention limit	milligrams per liter	once per month	Grab	May, Jul, Oct	The intervention limit for total fluoride is 1.5 mg/L.
GW 012 Ground Water Monitoring Well #13A	Iron, Total (as Fe)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	May, Jul, Oct	
GW 012 Ground Water Monitoring Well #13A	Magnesium, Total (as Mg)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	May, Jul, Oct	
GW 012 Ground Water Monitoring Well #13A	Manganese, Total (as Mn)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	May, Jul, Oct	
GW 012 Ground Water Monitoring Well #13A	Nitrite Plus Nitrate, Total (as N)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	May, Jul, Oct	
GW 012 Ground Water Monitoring Well #13A	pH				Monitor only. calendar month minimum		Monitor only. calendar month maximum	standard units	once per month	Grab	May, Jul, Oct	
GW 012 Ground Water Monitoring Well #13A	Potassium, Total (as K)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	May, Jul, Oct	
GW 012 Ground Water Monitoring Well #13A	Redox (oxidation reduction potential)						Monitor only. calendar month maximum	millivolts	once per month	Grab	May, Jul, Oct	

		Discharge limitations						Monitoring requirements				
Subject item	**Parameter**	**Quantity /Loading avg.**	**Quantity /Loading max.**	**Quantity /Loading units**	**Quality /Conc. min.**	**Quality /Conc. avg.**	**Quality /Conc. max.**	**Quality/ Conc. units**	**Frequency**	**Sample type**	**Effective period**	**Notes**
GW 012 Ground Water Monitoring Well #13A	Sodium, Total (as Na)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	May, Jul, Oct	
GW 012 Ground Water Monitoring Well #13A	Solids, Total Dissolved (TDS)						Monitor only. calendar month max intervention limit	milligrams per liter	once per month	Grab	May, Jul, Oct	The intervention limit for total dissolved solids is 500 mg/L.
GW 012 Ground Water Monitoring Well #13A	Specific Conductance						Monitor only. calendar month maximum	micromhos per cm	once per month	Grab	May, Jul, Oct	
GW 012 Ground Water Monitoring Well #13A	Sulfate, Total (as SO4)						Monitor only. calendar month max intervention limit	milligrams per liter	once per month	Grab	May, Jul, Oct	The intervention limit for total sulfate is 250 mg/L.
GW 012 Ground Water Monitoring Well #13A	Temperature, Water (C)						Monitor only. calendar month maximum	degrees Celsius	once per month	Measurement, Instantaneous	May, Jul, Oct	
GW 013 Ground Water Monitoring Well #5Bb	Alkalinity, Total						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	May, Jul, Oct	
GW 013 Ground Water Monitoring Well #5Bb	Boron, Dissolved (as B)						600 calendar month maximum	micrograms per liter	once per month	Grab	May, Jul, Oct	
GW 013 Ground Water Monitoring Well #5Bb	Calcium, Total (as Ca)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	May, Jul, Oct	

		Discharge limitations							Monitoring requirements			
Subject item	**Parameter**	**Quantity /Loading avg.**	**Quantity /Loading max.**	**Quantity /Loading units**	**Quality /Conc. min.**	**Quality /Conc. avg.**	**Quality /Conc. max.**	**Quality/ Conc. units**	**Frequency**	**Sample type**	**Effective period**	**Notes**
GW 013 Ground Water Monitoring Well #5Bb	Chloride, Total						Monitor only. calendar month max intervention limit	milligrams per liter	once per month	Grab	May, Jul, Oct	The intervention limit for total chloride is 250 mg/L.
GW 013 Ground Water Monitoring Well #5Bb	Elevation of GW Relative to Mean Sea Level		Monitor only. calendar month maximum	feet					once per month	Measurement	May, Jul, Oct	
GW 013 Ground Water Monitoring Well #5Bb	Fluoride, Total (as F)						4.0 calendar month maximum	milligrams per liter	once per month	Grab	May, Jul, Oct	
GW 013 Ground Water Monitoring Well #5Bb	Fluoride, Total (as F)						Monitor only. calendar month max intervention limit	milligrams per liter	once per month	Grab	May, Jul, Oct	The intervention limit for total fluoride is 1.0 mg/L.
GW 013 Ground Water Monitoring Well #5Bb	Iron, Total (as Fe)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	May, Jul, Oct	
GW 013 Ground Water Monitoring Well #5Bb	Magnesium, Total (as Mg)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	May, Jul, Oct	
GW 013 Ground Water Monitoring Well #5Bb	Manganese, Total (as Mn)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	May, Jul, Oct	

		Discharge limitations							Monitoring requirements			
Subject item	**Parameter**	**Quantity /Loading avg.**	**Quantity /Loading max.**	**Quantity /Loading units**	**Quality /Conc. min.**	**Quality /Conc. avg.**	**Quality /Conc. max.**	**Quality/ Conc. units**	**Frequency**	**Sample type**	**Effective period**	**Notes**
GW 013 Ground Water Monitoring Well #5Bb	Nitrite Plus Nitrate, Total (as N)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	May, Jul, Oct	
GW 013 Ground Water Monitoring Well #5Bb	pH				Monitor only. calendar month minimum		Monitor only. calendar month maximum	standard units	once per month	Grab	May, Jul, Oct	
GW 013 Ground Water Monitoring Well #5Bb	Potassium, Total (as K)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	May, Jul, Oct	
GW 013 Ground Water Monitoring Well #5Bb	Redox (oxidation reduction potential)						Monitor only. calendar month maximum	millivolts	once per month	Grab	May, Jul, Oct	
GW 013 Ground Water Monitoring Well #5Bb	Sodium, Total (as Na)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	May, Jul, Oct	
GW 013 Ground Water Monitoring Well #5Bb	Solids, Total Dissolved (TDS)						Monitor only. calendar month max intervention limit	milligrams per liter	once per month	Grab	May, Jul, Oct	The intervention limit for total dissolved solids is 500 mg/L.
GW 013 Ground Water Monitoring Well #5Bb	Specific Conductance						Monitor only. calendar month maximum	micromhos per cm	once per month	Grab	May, Jul, Oct	
GW 013 Ground Water Monitoring Well #5Bb	Sulfate, Total (as SO4)						Monitor only. calendar month max intervention limit	milligrams per liter	once per month	Grab	May, Jul, Oct	The intervention limit for total sulfate is 250 mg/L.

		Discharge limitations						Monitoring requirements				
Subject item	**Parameter**	**Quantity /Loading avg.**	**Quantity /Loading max.**	**Quantity /Loading units**	**Quality /Conc. min.**	**Quality /Conc. avg.**	**Quality /Conc. max.**	**Quality/ Conc. units**	**Frequency**	**Sample type**	**Effective period**	**Notes**
GW 013 Ground Water Monitoring Well #5Bb	Temperature, Water (C)						Monitor only. calendar month maximum	degrees Celsius	once per month	Measurement, Instantaneous	May, Jul, Oct	
GW 026 Tailings Basin Seepage to Groundwater	Flow		Monitor only. calendar month total	million gallons					once per month	Calculation	Jan-Dec	
GW 026 Tailings Basin Seepage to Groundwater	Flow		Monitor only. calendar year to date total	million gallons		Monitor only. calendar month average	Monitor only. calendar month maximum	million gallons per day	once per month	Calculation	Jan-Dec	
SD 001 Mile Post 7 Pipe Outfall 010	Alkalinity, Total						Monitor only. calendar quarter maximum	milligrams per liter	once per quarter	Grab	Mar, Jun, Sep, Dec	
SD 001 Mile Post 7 Pipe Outfall 010	Calcium, Total (as Ca)						Monitor only. calendar quarter maximum	milligrams per liter	once per quarter	Grab	Mar, Jun, Sep, Dec	
SD 001 Mile Post 7 Pipe Outfall 010	Cations, Total						Monitor only. calendar quarter maximum	milliequivalents per liter	once per quarter	Calculation	Mar, Jun, Sep, Dec	
SD 001 Mile Post 7 Pipe Outfall 010	Chloride, Total						Monitor only. calendar quarter maximum	milligrams per liter	once per quarter	Grab	Mar, Jun, Sep, Dec	
SD 001 Mile Post 7 Pipe Outfall 010	Copper, Total (as Cu)						Monitor only. calendar year maximum	micrograms per liter	once per year	Grab	Aug	

		Discharge limitations							Monitoring requirements			
Subject item	**Parameter**	**Quantity /Loading avg.**	**Quantity /Loading max.**	**Quantity /Loading units**	**Quality /Conc. min.**	**Quality /Conc. avg.**	**Quality /Conc. max.**	**Quality/ Conc. units**	**Frequency**	**Sample type**	**Effective period**	**Notes**
SD 001 Mile Post 7 Pipe Outfall 010	Fibers, Ambiguous						Monitor only. calendar quarter maximum	million fibers per liter	once per quarter	Grab	Mar, Jun, Sep, Dec	
SD 001 Mile Post 7 Pipe Outfall 010	Fibers, Amphibole						6.8 daily maximum	million fibers per liter	once per quarter	Grab	Mar, Jun, Sep, Dec	
SD 001 Mile Post 7 Pipe Outfall 010	Fibers, Chrysotile						Monitor only. calendar quarter maximum	million fibers per liter	once per quarter	Grab	Mar, Jun, Sep, Dec	
SD 001 Mile Post 7 Pipe Outfall 010	Fibers, Non-Amphibole Non Chrysotile						Monitor only. calendar quarter maximum	million fibers per liter	once per quarter	Grab	Mar, Jun, Sep, Dec	
SD 001 Mile Post 7 Pipe Outfall 010	Fibers, Total						Monitor only. calendar quarter maximum	million fibers per liter	once per quarter	Grab	Mar, Jun, Sep, Dec	
SD 001 Mile Post 7 Pipe Outfall 010	Flow		Monitor only. calendar month total	million gallons		Monitor only. calendar month average	Monitor only. daily maximum	million gallons per day	once per day	Measurement, Continuous	Jan-Dec	
SD 001 Mile Post 7 Pipe Outfall 010	Fluoride, Total (as F)					4.8 calendar month average	5.8 daily maximum	milligrams per liter	twice per month	Grab	Jan-Dec	
SD 001 Mile Post 7 Pipe Outfall 010	Iron, Dissolved (as Fe)					1.0 calendar month average	2.0 daily maximum	milligrams per liter	once per month	Grab	Jan-Dec	

		Discharge limitations							Monitoring requirements			
Subject item	**Parameter**	**Quantity /Loading avg.**	**Quantity /Loading max.**	**Quantity /Loading units**	**Quality /Conc. min.**	**Quality /Conc. avg.**	**Quality /Conc. max.**	**Quality/ Conc. units**	**Frequency**	**Sample type**	**Effective period**	**Notes**
SD 001 Mile Post 7 Pipe Outfall 010	Iron, Total (as Fe)						Monitor only. calendar quarter maximum	milligrams per liter	once per quarter	Grab	Mar, Jun, Sep, Dec	
SD 001 Mile Post 7 Pipe Outfall 010	Magnesium, Total (as Mg)						Monitor only. calendar quarter maximum	milligrams per liter	once per quarter	Grab	Mar, Jun, Sep, Dec	
SD 001 Mile Post 7 Pipe Outfall 010	Manganese, Total (as Mn)						Monitor only. calendar quarter maximum	milligrams per liter	once per quarter	Grab	Mar, Jun, Sep, Dec	
SD 001 Mile Post 7 Pipe Outfall 010	Mercury, Dissolved (as Hg)						Monitor only. calendar quarter maximum	nanograms per liter	once per quarter	Grab	Mar, Jun, Sep, Dec	
SD 001 Mile Post 7 Pipe Outfall 010	Mercury, Total (as Hg)						Monitor only. calendar quarter maximum	nanograms per liter	once per quarter	Grab	Mar, Jun, Sep, Dec	
SD 001 Mile Post 7 Pipe Outfall 010	Molybdenum, Total (as Mo)						Monitor only. calendar month maximum	micrograms per liter	once per month	Grab	Jan-Dec	
SD 001 Mile Post 7 Pipe Outfall 010	Nitrite Plus Nitrate, Total (as N)						Monitor only. calendar quarter maximum	milligrams per liter	once per quarter	Grab	Mar, Jun, Sep, Dec	
SD 001 Mile Post 7 Pipe Outfall 010	Nitrogen, Kjeldahl, Total						Monitor only. calendar quarter maximum	milligrams per liter	once per quarter	Grab	Mar, Jun, Sep, Dec	

		Discharge limitations							Monitoring requirements			
Subject item	**Parameter**	**Quantity /Loading avg.**	**Quantity /Loading max.**	**Quantity /Loading units**	**Quality /Conc. min.**	**Quality /Conc. avg.**	**Quality /Conc. max.**	**Quality/ Conc. units**	**Frequency**	**Sample type**	**Effective period**	**Notes**
SD 001 Mile Post 7 Pipe Outfall 010	Nitrogen, Total (as N)						Monitor only. calendar quarter maximum	milligrams per liter	once per quarter	Calculation	Mar, Jun, Sep, Dec	
SD 001 Mile Post 7 Pipe Outfall 010	Organics, Diesel Range as diesel, Total						Monitor only. calendar quarter maximum	micrograms per liter	once per quarter	Grab	Mar, Jun, Sep, Dec	
SD 001 Mile Post 7 Pipe Outfall 010	pH				6.5 calendar month minimum		8.5 calendar month maximum	standard units	once per month	Grab	Jan-Dec	
SD 001 Mile Post 7 Pipe Outfall 010	Phosphorus, Total (as P)						Monitor only. calendar year maximum	milligrams per liter	once per year	Grab	Aug	
SD 001 Mile Post 7 Pipe Outfall 010	Potassium, Total (as K)						Monitor only. calendar quarter maximum	milligrams per liter	once per quarter	Grab	Mar, Jun, Sep, Dec	
SD 001 Mile Post 7 Pipe Outfall 010	Redox (oxidation reduction potential)						Monitor only. calendar quarter maximum	millivolts	once per quarter	Grab	Mar, Jun, Sep, Dec	
SD 001 Mile Post 7 Pipe Outfall 010	Sodium, % Total Cations in meq/L						Monitor only. calendar quarter maximum	percent	once per quarter	Calculation	Mar, Jun, Sep, Dec	
SD 001 Mile Post 7 Pipe Outfall 010	Sodium, Total (as Na)						Monitor only. calendar quarter maximum	milligrams per liter	once per quarter	Grab	Mar, Jun, Sep, Dec	
SD 001 Mile Post 7 Pipe Outfall 010	Solids, Total Dissolved (TDS)						Monitor only. calendar quarter maximum	milligrams per liter	once per quarter	Grab	Mar, Jun, Sep, Dec	

		Discharge limitations							Monitoring requirements			
Subject item	**Parameter**	**Quantity /Loading avg.**	**Quantity /Loading max.**	**Quantity /Loading units**	**Quality /Conc. min.**	**Quality /Conc. avg.**	**Quality /Conc. max.**	**Quality/ Conc. units**	**Frequency**	**Sample type**	**Effective period**	**Notes**
SD 001 Mile Post 7 Pipe Outfall 010	Solids, Total Suspended (TSS)					20 calendar month average	30 calendar month maximum	milligrams per liter	once per month	Grab	Jan-Dec	
SD 001 Mile Post 7 Pipe Outfall 010	Solids, Total Suspended (TSS), grab (Mercury)						Monitor only. calendar quarter maximum	milligrams per liter	once per quarter	Grab	Mar, Jun, Sep, Dec	
SD 001 Mile Post 7 Pipe Outfall 010	Specific Conductance						Monitor only. calendar quarter maximum	micromhos per cm	once per quarter	Grab	Mar, Jun, Sep, Dec	
SD 001 Mile Post 7 Pipe Outfall 010	Sulfate, Total (as SO4)						Monitor only. calendar month maximum	milligrams per liter	once per quarter	Grab	Mar, Jun, Sep, Dec	
SD 001 Mile Post 7 Pipe Outfall 010	Turbidity					3.0 calendar month average	Monitor only. daily maximum	nephelometric turbidity units (NTU)	once per week	Measurement, Continuous	Jan-Dec	
SD 002 MP7 Water Treatment Plant effluent (filter effluent at WTP)	Turbidity					3.0 calendar month average	Monitor only. instantaneous maximum intervention	nephelometric turbidity units (NTU)	once per day	Measurement, Continuous	Jan-Dec	The intervention limit for turbidity is 0.4 NTU.
SD 002 MP7 Water Treatment Plant effluent (filter effluent at WTP)	Turbidity						0.4 instantaneous maximum intervention	nephelometric turbidity units (NTU)			Jan-Dec	
SD 003 Power Plant NCCW Pipe Outfall 020 Phase 2	Copper, Total (as Cu)						Monitor only. calendar month maximum	micrograms per liter	once per year	Grab	Aug	

		Discharge limitations							Monitoring requirements			
Subject item	**Parameter**	**Quantity /Loading avg.**	**Quantity /Loading max.**	**Quantity /Loading units**	**Quality /Conc. min.**	**Quality /Conc. avg.**	**Quality /Conc. max.**	**Quality/ Conc. units**	**Frequency**	**Sample type**	**Effective period**	**Notes**
SD 003 Power Plant NCCW Pipe Outfall 020 Phase 1	Flow		Monitor only. calendar month total	million gallons		Monitor only. calendar month average	Monitor only. daily maximum	million gallons per day	once per day	Measurement, Continuous	Jan-Dec	
SD 003 Power Plant NCCW Pipe Outfall 020 Phase 2	Flow		Monitor only. calendar month total	million gallons		Monitor only. calendar month average	Monitor only. daily maximum	million gallons per day	once per day	Measurement, Continuous	Jan-Dec	
SD 003 Power Plant NCCW Pipe Outfall 020 Phase 2	Lead, Total (as Pb)						Monitor only. calendar month maximum	micrograms per liter	once per year	Grab	Aug	
SD 003 Power Plant NCCW Pipe Outfall 020 Phase 1	pH				6.0 calendar month minimum		9.0 calendar month maximum	standard units	twice per month	Grab	Jan-Dec	
SD 003 Power Plant NCCW Pipe Outfall 020 Phase 2	pH				6.0 calendar month minimum		9.0 calendar month maximum	standard units	twice per month	Grab	Jan-Dec	
SD 003 Power Plant NCCW Pipe Outfall 020 Phase 2	Plant Capacity Factor, Percent of Capacity					Monitor only. calendar month average	Monitor only. daily maximum	percent	once per day	Calculation	Jan-Dec	
SD 003 Power Plant NCCW Pipe Outfall 020 Phase 2	Temperature Difference Between Sample & Reference Point in C					Monitor only. calendar month average	Monitor only. calendar month maximum	degrees Celsius	once per month	Calculation	Jan-Dec	

		Discharge limitations							Monitoring requirements			
Subject item	**Parameter**	**Quantity /Loading avg.**	**Quantity /Loading max.**	**Quantity /Loading units**	**Quality /Conc. min.**	**Quality /Conc. avg.**	**Quality /Conc. max.**	**Quality/ Conc. units**	**Frequency**	**Sample type**	**Effective period**	**Notes**
SD 003 Power Plant NCCW Pipe Outfall 020 Phase 1	Temperature, Water (C)					Monitor only. calendar month average	Monitor only. daily maximum	degrees Celsius	once per day	Measurement, Continuous	Jan-Dec	
SD 003 Power Plant NCCW Pipe Outfall 020 Phase 2	Temperature, Water (C)					Monitor only. calendar month average	Monitor only. daily maximum	degrees Celsius	once per day	Measurement, Continuous	Jan-Dec	
SD 003 Power Plant NCCW Pipe Outfall 020 Phase 2	Waste Heat Rejection Rate	636 calendar month average	795 daily maximum	million Btu per hour					once per day	Calculation	Jan-Dec	
SD 005 SRD-2 Relief Well R-12, -13, seep flows	Alkalinity, Total						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	May, Jul, Oct	
SD 005 SRD-2 Relief Well R-12, -13, seep flows	Boron, Total (as B)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	May, Jul, Oct	
SD 005 SRD-2 Relief Well R-12, -13, seep flows	Calcium, Total (as Ca)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	May, Jul, Oct	
SD 005 SRD-2 Relief Well R-12, -13, seep flows	Cations, Total						Monitor only. calendar month maximum	milliequivalents per liter	once per month	Calculation	May, Jul, Oct	
SD 005 SRD-2 Relief Well R-12, -13, seep flows	Chloride, Total						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	May, Jul, Oct	

		Discharge limitations							Monitoring requirements			
Subject item	**Parameter**	**Quantity /Loading avg.**	**Quantity /Loading max.**	**Quantity /Loading units**	**Quality /Conc. min.**	**Quality /Conc. avg.**	**Quality /Conc. max.**	**Quality/ Conc. units**	**Frequency**	**Sample type**	**Effective period**	**Notes**
SD 005 SRD-2 Relief Well R-12, -13, seep flows	Flow		Monitor only. calendar month total	million gallons		Monitor only. calendar month average	Monitor only. calendar month maximum	million gallons per day	once per month	Measurement, Instantaneous	May, Jul, Oct	
SD 005 SRD-2 Relief Well R-12, -13, seep flows	Fluoride, Total (as F)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	May, Jul, Oct	
SD 005 SRD-2 Relief Well R-12, -13, seep flows	Iron, Dissolved (as Fe)					1.0 calendar month average	2.0 calendar month maximum	milligrams per liter	once per month	Grab	May, Jul, Oct	
SD 005 SRD-2 Relief Well R-12, -13, seep flows	Iron, Total (as Fe)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	May, Jul, Oct	
SD 005 SRD-2 Relief Well R-12, -13, seep flows	Magnesium, Total (as Mg)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	May, Jul, Oct	
SD 005 SRD-2 Relief Well R-12, -13, seep flows	Manganese, Total (as Mn)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	May, Jul, Oct	
SD 005 SRD-2 Relief Well R-12, -13, seep flows	Molybdenum, Total (as Mo)						Monitor only. calendar month maximum	micrograms per liter	once per month	Grab	May, Jul, Oct	
SD 005 SRD-2 Relief Well R-12, -13, seep flows	Nitrite Plus Nitrate, Total (as N)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	May, Jul, Oct	

		Discharge limitations							Monitoring requirements			
Subject item	**Parameter**	**Quantity /Loading avg.**	**Quantity /Loading max.**	**Quantity /Loading units**	**Quality /Conc. min.**	**Quality /Conc. avg.**	**Quality /Conc. max.**	**Quality/ Conc. units**	**Frequency**	**Sample type**	**Effective period**	**Notes**
SD 005 SRD-2 Relief Well R-12, -13, seep flows	Nitrogen, Kjeldahl, Total						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	May, Jul, Oct	
SD 005 SRD-2 Relief Well R-12, -13, seep flows	Nitrogen, Total (as N)						Monitor only. calendar month maximum	milligrams per liter	once per month	Calculation	May, Jul, Oct	
SD 005 SRD-2 Relief Well R-12, -13, seep flows	pH				6.0 calendar month minimum		9.0 calendar month maximum	standard units	once per month	Grab	May, Jul, Oct	
SD 005 SRD-2 Relief Well R-12, -13, seep flows	Potassium, Total (as K)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	May, Jul, Oct	
SD 005 SRD-2 Relief Well R-12, -13, seep flows	Redox (oxidation reduction potential)						Monitor only. calendar month maximum	millivolts	once per month	Grab	May, Jul, Oct	
SD 005 SRD-2 Relief Well R-12, -13, seep flows	Sodium, % Total Cations in meq/L						Monitor only. calendar month maximum	percent	once per month	Calculation	May, Jul, Oct	
SD 005 SRD-2 Relief Well R-12, -13, seep flows	Sodium, Total (as Na)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	May, Jul, Oct	
SD 005 SRD-2 Relief Well R-12, -13, seep flows	Solids, Total Dissolved (TDS)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	May, Jul, Oct	

		Discharge limitations							Monitoring requirements			
Subject item	**Parameter**	**Quantity /Loading avg.**	**Quantity /Loading max.**	**Quantity /Loading units**	**Quality /Conc. min.**	**Quality /Conc. avg.**	**Quality /Conc. max.**	**Quality/ Conc. units**	**Frequency**	**Sample type**	**Effective period**	**Notes**
SD 005 SRD-2 Relief Well R-12, -13, seep flows	Solids, Total Suspended (TSS)					20 calendar month average	30 calendar month maximum	milligrams per liter	once per month	Grab	May, Jul, Oct	
SD 005 SRD-2 Relief Well R-12, -13, seep flows	Specific Conductance						Monitor only. calendar month maximum	micromhos per cm	once per month	Grab	May, Jul, Oct	
SD 005 SRD-2 Relief Well R-12, -13, seep flows	Sulfate, Total (as SO4)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	May, Jul, Oct	
SD 005 SRD-2 Relief Well R-12, -13, seep flows	Turbidity						Monitor only. calendar month maximum	nephelometric turbidity units (NTU)	once per month	Grab	May, Jul, Oct	
SD 009 Calculation Station - TSS	Solids, Total Suspended (TSS)		417 calendar month maximum	pounds per day					once per month	Grab	Apr-Sep	
SD 010 ISW Benchmark Monitoring - Rail Loadout Ditch	Antimony, Total (as Sb)					Monitor only. calendar year average intervention-qtr		milligrams per liter	once per quarter	Grab	Jan-Dec	The intervention limit is 0.18 mg/L. If this limit is exceeded, the Permittee shall refer to the Industrial Stormwater Sector G: Metal Mining (Ore Mining and Dressing) section of this permit.

		Discharge limitations							Monitoring requirements			
Subject item	**Parameter**	**Quantity /Loading avg.**	**Quantity /Loading max.**	**Quantity /Loading units**	**Quality /Conc. min.**	**Quality /Conc. avg.**	**Quality /Conc. max.**	**Quality/ Conc. units**	**Frequency**	**Sample type**	**Effective period**	**Notes**
SD 010 ISW Benchmark Monitoring - Rail Loadout Ditch	Arsenic, Total (as As)					Monitor only. calendar year average intervention-qtr		milligrams per liter	once per quarter	Grab	Jan-Dec	The intervention limit is 0.68 mg/L. If this limit is exceeded, the Permittee shall refer to the Industrial Stormwater Sector G: Metal Mining (Ore Mining and Dressing) section of this permit.
SD 010 ISW Benchmark Monitoring - Rail Loadout Ditch	Cadmium, Total (as Cd)					Monitor only. calendar year average intervention-qtr		milligrams per liter	once per quarter	Grab	Jan-Dec	The intervention limit is 0.0078 mg/L. If this limit is exceeded, the Permittee shall refer to the Industrial Stormwater Sector G: Metal Mining (Ore Mining and Dressing) section of this permit.
SD 010 ISW Benchmark Monitoring - Rail Loadout Ditch	Copper, Total (as Cu)					Monitor only. calendar year average intervention-qtr		milligrams per liter	once per quarter	Grab	Jan-Dec	The intervention limit is 0.028 mg/L. If this limit is exceeded, the Permittee shall refer to the Industrial Stormwater Sector G: Metal Mining (Ore Mining and Dressing) section of this permit.

		Discharge limitations							Monitoring requirements			
Subject item	**Parameter**	**Quantity /Loading avg.**	**Quantity /Loading max.**	**Quantity /Loading units**	**Quality /Conc. min.**	**Quality /Conc. avg.**	**Quality /Conc. max.**	**Quality/ Conc. units**	**Frequency**	**Sample type**	**Effective period**	**Notes**
SD 010 ISW Benchmark Monitoring - Rail Loadout Ditch	Iron, Total (as Fe)					Monitor only. calendar year average intervention-qtr		milligrams per liter	once per quarter	Grab	Jan-Dec	The intervention limit is 1.0 mg/L. If this limit is exceeded, the Permittee shall refer to the Industrial Stormwater Sector G: Metal Mining (Ore Mining and Dressing) section of this permit.
SD 010 ISW Benchmark Monitoring - Rail Loadout Ditch	Lead, Total (as Pb)					Monitor only. calendar year average intervention-qtr		milligrams per liter	once per quarter	Grab	Jan-Dec	The intervention limit is 0.164 mg/L. If this limit is exceeded, the Permittee shall refer to the Industrial Stormwater Sector G: Metal Mining (Ore Mining and Dressing) section of this permit.
SD 010 ISW Benchmark Monitoring - Rail Loadout Ditch	Nickel, Total (as Ni)					Monitor only. calendar year average intervention-qtr		milligrams per liter	once per quarter	Grab	Jan-Dec	The intervention limit is 0.938 mg/L. If this limit is exceeded, the Permittee shall refer to the Industrial Stormwater Sector G: Metal Mining (Ore Mining and Dressing) section of this permit.

		Discharge limitations							Monitoring requirements			
Subject item	**Parameter**	**Quantity /Loading avg.**	**Quantity /Loading max.**	**Quantity /Loading units**	**Quality /Conc. min.**	**Quality /Conc. avg.**	**Quality /Conc. max.**	**Quality/ Conc. units**	**Frequency**	**Sample type**	**Effective period**	**Notes**
SD 010 ISW Benchmark Monitoring - Rail Loadout Ditch	pH				Monitor only. calendar year minimum intervention-qtr		Monitor only. calendar year maximum intervention-qtr	standard units	once per quarter	Grab	Jan-Dec	The intervention limit is 9.0 mg/L. If this limit is exceeded, the Permittee shall refer to the Industrial Stormwater Sector G: Metal Mining (Ore Mining and Dressing) section of this permit.The intervention limit is 6.0 mg/L. If this limit is exceeded, the Permittee shall refer to the Industrial Stormwater Sector G: Metal Mining (Ore Mining and Dressing) section of this permit.
SD 010 ISW Benchmark Monitoring - Rail Loadout Ditch	Selenium, Total (as Se)					Monitor only. calendar year average intervention-qtr		milligrams per liter	once per quarter	Grab	Jan-Dec	The intervention limit is 0.04 mg/L. If this limit is exceeded, the Permittee shall refer to the Industrial Stormwater Sector G: Metal Mining (Ore Mining and Dressing) section of this permit.

		Discharge limitations							Monitoring requirements			
Subject item	**Parameter**	**Quantity /Loading avg.**	**Quantity /Loading max.**	**Quantity /Loading units**	**Quality /Conc. min.**	**Quality /Conc. avg.**	**Quality /Conc. max.**	**Quality/ Conc. units**	**Frequency**	**Sample type**	**Effective period**	**Notes**
SD 010 ISW Benchmark Monitoring - Rail Loadout Ditch	Silver, Total (as Ag)					Monitor only. calendar year average intervention-qtr		milligrams per liter	once per quarter	Grab	Jan-Dec	The intervention limit is 0.0041 mg/L. If this limit is exceeded, the Permittee shall refer to the Industrial Stormwater Sector G: Metal Mining (Ore Mining and Dressing) section of this permit.
SD 010 ISW Benchmark Monitoring - Rail Loadout Ditch	Solids, Total Suspended (TSS)					Monitor only. calendar year average intervention-qtr		milligrams per liter	once per quarter	Grab	Jan-Dec	The intervention limit is 100 mg/L. If this limit is exceeded, the Permittee shall refer to the Industrial Stormwater Sector G: Metal Mining (Ore Mining and Dressing) section of this permit.
SD 010 ISW Benchmark Monitoring - Rail Loadout Ditch	Zinc, Total (as Zn)					Monitor only. calendar year average intervention-qtr		milligrams per liter	once per quarter	Grab	Jan-Dec	The intervention limit is 0.234 mg/L. If this limit is exceeded, the Permittee shall refer to the Industrial Stormwater Sector G: Metal Mining (Ore Mining and Dressing) section of this permit.
SW 001 Station 102 Co. Rd 4 E. Branch Beaver R.	Alkalinity, Total						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	Apr, Jul, Sep, Nov	

		Discharge limitations							Monitoring requirements			
Subject item	**Parameter**	**Quantity /Loading avg.**	**Quantity /Loading max.**	**Quantity /Loading units**	**Quality /Conc. min.**	**Quality /Conc. avg.**	**Quality /Conc. max.**	**Quality/ Conc. units**	**Frequency**	**Sample type**	**Effective period**	**Notes**
SW 001 Station 102 Co. Rd 4 E. Branch Beaver R.	Calcium, Total (as Ca)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	Apr, Jul, Sep, Nov	
SW 001 Station 102 Co. Rd 4 E. Branch Beaver R.	Chloride, Total						Monitor only. calendar month max intervention limit	milligrams per liter	once per month	Grab	Apr, Jul, Sep, Nov	The intervention limit for total chloride is 1.8 mg/L.
SW 001 Station 102 Co. Rd 4 E. Branch Beaver R.	Fibers, Ambiguous						Monitor only. calendar year maximum	million fibers per liter	once per month	Grab	Apr	
SW 001 Station 102 Co. Rd 4 E. Branch Beaver R.	Fibers, Amphibole						Monitor only. calendar year maximum intervention	million fibers per liter	once per year	Grab	Apr	The intervention limit for Amphibole Fibers is 3.3 MF/L.
SW 001 Station 102 Co. Rd 4 E. Branch Beaver R.	Fibers, Chrysotile						Monitor only. calendar year maximum	million fibers per liter	once per year	Grab	Apr	
SW 001 Station 102 Co. Rd 4 E. Branch Beaver R.	Fibers, Non-Amphibole Non Chrysotile						Monitor only. calendar year maximum	million fibers per liter	once per year	Grab	Apr	

		Discharge limitations							Monitoring requirements			
Subject item	**Parameter**	**Quantity /Loading avg.**	**Quantity /Loading max.**	**Quantity /Loading units**	**Quality /Conc. min.**	**Quality /Conc. avg.**	**Quality /Conc. max.**	**Quality/ Conc. units**	**Frequency**	**Sample type**	**Effective period**	**Notes**
SW 001 Station 102 Co. Rd 4 E. Branch Beaver R.	Fibers, Total						Monitor only. calendar year maximum	million fibers per liter	once per year	Grab	Apr	
SW 001 Station 102 Co. Rd 4 E. Branch Beaver R.	Flow, Stream, Instantaneous						Monitor only. instantaneous maximum	cubic feet per second	once per month	Measurement, Instantaneous	Apr, Jul, Sep, Nov	
SW 001 Station 102 Co. Rd 4 E. Branch Beaver R.	Fluoride, Total (as F)						Monitor only. calendar month max intervention limit	milligrams per liter	once per month	Grab	Apr, Jul, Sep, Nov	The intervention limit for total fluoride is 0.5 mg/L.
SW 001 Station 102 Co. Rd 4 E. Branch Beaver R.	Hardness, Carbonate (as CaCo3)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	Apr, Jul, Sep, Nov	
SW 001 Station 102 Co. Rd 4 E. Branch Beaver R.	Iron, Total (as Fe)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	Apr, Jul, Sep, Nov	
SW 001 Station 102 Co. Rd 4 E. Branch Beaver R.	Magnesium, Total (as Mg)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	Apr, Jul, Sep, Nov	

		Discharge limitations						Monitoring requirements				
Subject item	**Parameter**	**Quantity /Loading avg.**	**Quantity /Loading max.**	**Quantity /Loading units**	**Quality /Conc. min.**	**Quality /Conc. avg.**	**Quality /Conc. max.**	**Quality/ Conc. units**	**Frequency**	**Sample type**	**Effective period**	**Notes**
SW 001 Station 102 Co. Rd 4 E. Branch Beaver R.	Manganese, Total (as Mn)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	Apr, Jul, Sep, Nov	
SW 001 Station 102 Co. Rd 4 E. Branch Beaver R.	Nitrogen, Nitrate, Total (as N)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	Apr, Jul, Sep, Nov	
SW 001 Station 102 Co. Rd 4 E. Branch Beaver R.	pH						Monitor only. calendar month max intervention limit	standard units	once per month	Grab	Apr, Jul, Sep, Nov	The intervention limit for pH is 7.8 SU.
SW 001 Station 102 Co. Rd 4 E. Branch Beaver R.	Potassium, Total (as K)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	Apr, Jul, Sep, Nov	
SW 001 Station 102 Co. Rd 4 E. Branch Beaver R.	Redox (oxidation reduction potential)						Monitor only. calendar month maximum	millivolts	once per month	Grab	Apr, Jul, Sep, Nov	
SW 001 Station 102 Co. Rd 4 E. Branch Beaver R.	Sodium, Total (as Na)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	Apr, Jul, Sep, Nov	

		Discharge limitations						Monitoring requirements				
Subject item	**Parameter**	**Quantity /Loading avg.**	**Quantity /Loading max.**	**Quantity /Loading units**	**Quality /Conc. min.**	**Quality /Conc. avg.**	**Quality /Conc. max.**	**Quality/ Conc. units**	**Frequency**	**Sample type**	**Effective period**	**Notes**
SW 001 Station 102 Co. Rd 4 E. Branch Beaver R.	Solids, Total Dissolved (TDS)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	Apr, Jul, Sep, Nov	
SW 001 Station 102 Co. Rd 4 E. Branch Beaver R.	Specific Conductance						Monitor only. calendar month maximum	micromhos per cm	once per month	Grab	Apr, Jul, Sep, Nov	
SW 001 Station 102 Co. Rd 4 E. Branch Beaver R.	Sulfate, Total (as SO4)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	Apr, Jul, Sep, Nov	
SW 001 Station 102 Co. Rd 4 E. Branch Beaver R.	Turbidity						Monitor only. calendar month maximum	nephelometric turbidity units (NTU)	once per month	Grab	Apr, Jul, Sep, Nov	
SW 002 Station 105 County Road 3 Beaver River	Alkalinity, Total						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	Apr, Jul, Sep, Nov	
SW 002 Station 105 County Road 3 Beaver River	Calcium, Total (as Ca)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	Apr, Jul, Sep, Nov	
SW 002 Station 105 County Road 3 Beaver River	Chloride, Total						Monitor only. calendar month max intervention limit	milligrams per liter	once per month	Grab	Apr, Jul, Sep, Nov	The intervention limit for total chloride is 1.7 mg/L.

		Discharge limitations						Monitoring requirements				
Subject item	**Parameter**	**Quantity /Loading avg.**	**Quantity /Loading max.**	**Quantity /Loading units**	**Quality /Conc. min.**	**Quality /Conc. avg.**	**Quality /Conc. max.**	**Quality/ Conc. units**	**Frequency**	**Sample type**	**Effective period**	**Notes**
SW 002 Station 105 County Road 3 Beaver River	Fibers, Ambiguous						Monitor only. calendar year maximum	million fibers per liter	once per year	Grab	Apr	
SW 002 Station 105 County Road 3 Beaver River	Fibers, Amphibole						Monitor only. calendar year maximum intervention	million fibers per liter	once per year	Grab	Apr	The intervention limit for Amphibole Fibers is 3.3 MF/L.
SW 002 Station 105 County Road 3 Beaver River	Fibers, Chrysotile						Monitor only. calendar year maximum	million fibers per liter	once per year	Grab	Apr	
SW 002 Station 105 County Road 3 Beaver River	Fibers, Non-Amphibole Non Chrysotile						Monitor only. calendar year maximum	million fibers per liter	once per year	Grab	Apr	
SW 002 Station 105 County Road 3 Beaver River	Fibers, Total						Monitor only. calendar year maximum	million fibers per liter	once per year	Grab	Apr	
SW 002 Station 105 County Road 3 Beaver River	Flow, Stream, Instantaneous						Monitor only. instantaneous maximum	cubic feet per second	once per month	Measurement, Instantaneous	Apr, Jul, Sep, Nov	
SW 002 Station 105 County Road 3 Beaver River	Fluoride, Total (as F)						Monitor only. calendar month max intervention limit	milligrams per liter	once per month	Grab	Apr, Jul, Sep, Nov	The intervention limit for total fluoride is 0.5 mg/L.
SW 002 Station 105 County Road 3 Beaver River	Hardness, Carbonate (as CaCo3)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	Apr, Jul, Sep, Nov	

		Discharge limitations						Monitoring requirements				
Subject item	**Parameter**	**Quantity /Loading avg.**	**Quantity /Loading max.**	**Quantity /Loading units**	**Quality /Conc. min.**	**Quality /Conc. avg.**	**Quality /Conc. max.**	**Quality/ Conc. units**	**Frequency**	**Sample type**	**Effective period**	**Notes**
SW 002 Station 105 County Road 3 Beaver River	Iron, Total (as Fe)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	Apr, Jul, Sep, Nov	
SW 002 Station 105 County Road 3 Beaver River	Magnesium, Total (as Mg)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	Apr, Jul, Sep, Nov	
SW 002 Station 105 County Road 3 Beaver River	Manganese, Total (as Mn)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	Apr, Jul, Sep, Nov	
SW 002 Station 105 County Road 3 Beaver River	Nitrogen, Nitrate, Total (as N)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	Apr, Jul, Sep, Nov	
SW 002 Station 105 County Road 3 Beaver River	pH						Monitor only. calendar month max intervention limit	standard units	once per month	Grab	Apr, Jul, Sep, Nov	The intervention limit for pH is 7.7 SU.
SW 002 Station 105 County Road 3 Beaver River	Potassium, Total (as K)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	Apr, Jul, Sep, Nov	
SW 002 Station 105 County Road 3 Beaver River	Redox (oxidation reduction potential)						Monitor only. calendar month maximum	millivolts	once per month	Grab	Apr, Jul, Sep, Nov	
SW 002 Station 105 County Road 3 Beaver River	Sodium, Total (as Na)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	Apr, Jul, Sep, Nov	

		Discharge limitations							Monitoring requirements			
Subject item	**Parameter**	**Quantity /Loading avg.**	**Quantity /Loading max.**	**Quantity /Loading units**	**Quality /Conc. min.**	**Quality /Conc. avg.**	**Quality /Conc. max.**	**Quality/ Conc. units**	**Frequency**	**Sample type**	**Effective period**	**Notes**
SW 002 Station 105 County Road 3 Beaver River	Solids, Total Dissolved (TDS)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	Apr, Jul, Sep, Nov	
SW 002 Station 105 County Road 3 Beaver River	Specific Conductance						Monitor only. calendar month maximum	micromhos per cm	once per month	Grab	Apr, Jul, Sep, Nov	
SW 002 Station 105 County Road 3 Beaver River	Sulfate, Total (as SO4)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	Apr, Jul, Sep, Nov	
SW 002 Station 105 County Road 3 Beaver River	Turbidity						Monitor only. calendar month maximum	nephelometric turbidity units (NTU)	once per month	Grab	Apr, Jul, Sep, Nov	
SW 003 Station 106 Glenn Avon Falls, Beaver R.	Alkalinity, Total						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	Apr, Jul, Sep, Nov	
SW 003 Station 106 Glenn Avon Falls, Beaver R.	Calcium, Total (as Ca)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	Apr, Jul, Sep, Nov	
SW 003 Station 106 Glenn Avon Falls, Beaver R.	Cations, Total						Monitor only. calendar month maximum	milliequivalents per liter	once per month	Calculation	Apr, Jul, Sep, Nov	

		Discharge limitations							Monitoring requirements			
Subject item	**Parameter**	**Quantity /Loading avg.**	**Quantity /Loading max.**	**Quantity /Loading units**	**Quality /Conc. min.**	**Quality /Conc. avg.**	**Quality /Conc. max.**	**Quality/ Conc. units**	**Frequency**	**Sample type**	**Effective period**	**Notes**
SW 003 Station 106 Glenn Avon Falls, Beaver R.	Chloride, Total						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	Apr, Jul, Sep, Nov	
SW 003 Station 106 Glenn Avon Falls, Beaver R.	Fibers, Ambiguous						Monitor only. calendar year maximum	million fibers per liter	once per year	Grab	Apr	
SW 003 Station 106 Glenn Avon Falls, Beaver R.	Fibers, Amphibole						Monitor only. calendar year maximum	million fibers per liter	once per year	Grab	Apr	
SW 003 Station 106 Glenn Avon Falls, Beaver R.	Fibers, Chrysotile						Monitor only. calendar year maximum	million fibers per liter	once per year	Grab	Apr	
SW 003 Station 106 Glenn Avon Falls, Beaver R.	Fibers, Non-Amphibole Non Chrysotile						Monitor only. calendar year maximum	million fibers per liter	once per year	Grab	Apr	
SW 003 Station 106 Glenn Avon Falls, Beaver R.	Fibers, Total						Monitor only. calendar year maximum	million fibers per liter	once per year	Grab	Apr	

		Discharge limitations							Monitoring requirements			
Subject item	**Parameter**	**Quantity /Loading avg.**	**Quantity /Loading max.**	**Quantity /Loading units**	**Quality /Conc. min.**	**Quality /Conc. avg.**	**Quality /Conc. max.**	**Quality/ Conc. units**	**Frequency**	**Sample type**	**Effective period**	**Notes**
SW 003 Station 106 Glenn Avon Falls, Beaver R.	Flow, Stream, Instantaneous						Monitor only. instantaneous maximum	cubic feet per second	once per month	Measurement, Instantaneous	Apr, Jul, Sep, Nov	
SW 003 Station 106 Glenn Avon Falls, Beaver R.	Fluoride, Total (as F)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	Apr, Jul, Sep, Nov	
SW 003 Station 106 Glenn Avon Falls, Beaver R.	Hardness, Carbonate (as CaCo3)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	Apr, Jul, Sep, Nov	
SW 003 Station 106 Glenn Avon Falls, Beaver R.	Iron, Total (as Fe)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	Apr, Jul, Sep, Nov	
SW 003 Station 106 Glenn Avon Falls, Beaver R.	Magnesium, Total (as Mg)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	Apr, Jul, Sep, Nov	
SW 003 Station 106 Glenn Avon Falls, Beaver R.	Manganese, Total (as Mn)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	Apr, Jul, Sep, Nov	

		Discharge limitations							Monitoring requirements			
Subject item	**Parameter**	**Quantity /Loading avg.**	**Quantity /Loading max.**	**Quantity /Loading units**	**Quality /Conc. min.**	**Quality /Conc. avg.**	**Quality /Conc. max.**	**Quality/ Conc. units**	**Frequency**	**Sample type**	**Effective period**	**Notes**
SW 003 Station 106 Glenn Avon Falls, Beaver R.	Nitrogen, Nitrate, Total (as N)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	Apr, Jul, Sep, Nov	
SW 003 Station 106 Glenn Avon Falls, Beaver R.	pH				Monitor only. instantaneous minimum		Monitor only. instantaneous maximum	standard units	once per month	Grab	Apr, Jul, Sep, Nov	
SW 003 Station 106 Glenn Avon Falls, Beaver R.	Potassium, Total (as K)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	Apr, Jul, Sep, Nov	
SW 003 Station 106 Glenn Avon Falls, Beaver R.	Redox (oxidation reduction potential)						Monitor only. calendar month maximum	millivolts	once per month	Grab	Apr, Jul, Sep, Nov	
SW 003 Station 106 Glenn Avon Falls, Beaver R.	Sodium, % Total Cations in meq/L						Monitor only. calendar month maximum	percent	once per month	Calculation	Apr, Jul, Sep, Nov	
SW 003 Station 106 Glenn Avon Falls, Beaver R.	Sodium, Total (as Na)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	Apr, Jul, Sep, Nov	

		Discharge limitations							Monitoring requirements			
Subject item	**Parameter**	**Quantity /Loading avg.**	**Quantity /Loading max.**	**Quantity /Loading units**	**Quality /Conc. min.**	**Quality /Conc. avg.**	**Quality /Conc. max.**	**Quality/ Conc. units**	**Frequency**	**Sample type**	**Effective period**	**Notes**
SW 003 Station 106 Glenn Avon Falls, Beaver R.	Solids, Total Dissolved (TDS)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	Apr, Jul, Sep, Nov	
SW 003 Station 106 Glenn Avon Falls, Beaver R.	Specific Conductance						Monitor only. calendar month maximum	micromhos per cm	once per month	Grab	Apr, Jul, Sep, Nov	
SW 003 Station 106 Glenn Avon Falls, Beaver R.	Sulfate, Total (as SO4)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	Apr, Jul, Sep, Nov	
SW 003 Station 106 Glenn Avon Falls, Beaver R.	Turbidity						Monitor only. calendar month maximum	nephelometric turbidity units (NTU)	once per month	Grab	Apr, Jul, Sep, Nov	
SW 004 Station 101, E. Br. Beaver R. upstream	Alkalinity, Total						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	Apr, Jul, Sep, Nov	
SW 004 Station 101, E. Br. Beaver R. upstream	Calcium, Total (as Ca)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	Apr, Jul, Sep, Nov	
SW 004 Station 101, E. Br. Beaver R. upstream	Chloride, Total						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	Apr, Jul, Sep, Nov	

		Discharge limitations							Monitoring requirements			
Subject item	**Parameter**	**Quantity /Loading avg.**	**Quantity /Loading max.**	**Quantity /Loading units**	**Quality /Conc. min.**	**Quality /Conc. avg.**	**Quality /Conc. max.**	**Quality/ Conc. units**	**Frequency**	**Sample type**	**Effective period**	**Notes**
SW 004 Station 101, E. Br. Beaver R. upstream	Fibers, Ambiguous						Monitor only. calendar year maximum	million fibers per liter	once per month	Grab	Apr	
SW 004 Station 101, E. Br. Beaver R. upstream	Fibers, Amphibole						Monitor only. calendar year maximum intervention	million fibers per liter	once per month	Grab	Apr	
SW 004 Station 101, E. Br. Beaver R. upstream	Fibers, Chrysotile						Monitor only. calendar year maximum	million fibers per liter	once per year	Grab	Apr	
SW 004 Station 101, E. Br. Beaver R. upstream	Fibers, Non-Amphibole Non Chrysotile						Monitor only. calendar year maximum	million fibers per liter	once per year	Grab	Apr	
SW 004 Station 101, E. Br. Beaver R. upstream	Fibers, Total						Monitor only. calendar year maximum	million fibers per liter	once per year	Grab	Apr	
SW 004 Station 101, E. Br. Beaver R. upstream	Flow, Stream, Instantaneous						Monitor only. instantaneous maximum	cubic feet per second	once per month	Measurement, Instantaneous	Apr, Jul, Sep, Nov	
SW 004 Station 101, E. Br. Beaver R. upstream	Fluoride, Total (as F)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	Apr, Jul, Sep, Nov	
SW 004 Station 101, E. Br. Beaver R. upstream	Hardness, Carbonate (as CaCo3)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	Apr, Jul, Sep, Nov	

		Discharge limitations							Monitoring requirements			
Subject item	**Parameter**	**Quantity /Loading avg.**	**Quantity /Loading max.**	**Quantity /Loading units**	**Quality /Conc. min.**	**Quality /Conc. avg.**	**Quality /Conc. max.**	**Quality/ Conc. units**	**Frequency**	**Sample type**	**Effective period**	**Notes**
SW 004 Station 101, E. Br. Beaver R. upstream	Iron, Total (as Fe)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	Apr, Jul, Sep, Nov	
SW 004 Station 101, E. Br. Beaver R. upstream	Magnesium, Total (as Mg)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	Apr, Jul, Sep, Nov	
SW 004 Station 101, E. Br. Beaver R. upstream	Manganese, Total (as Mn)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	Apr, Jul, Sep, Nov	
SW 004 Station 101, E. Br. Beaver R. upstream	Nitrogen, Nitrate, Total (as N)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	Apr, Jul, Sep, Nov	
SW 004 Station 101, E. Br. Beaver R. upstream	pH				Monitor only. instantaneous minimum		Monitor only. instantaneous maximum	standard units	once per month	Grab	Apr, Jul, Sep, Nov	
SW 004 Station 101, E. Br. Beaver R. upstream	Potassium, Total (as K)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	Apr, Jul, Sep, Nov	
SW 004 Station 101, E. Br. Beaver R. upstream	Redox (oxidation reduction potential)						Monitor only. calendar month maximum	millivolts	once per month	Grab	Apr, Jul, Sep, Nov	
SW 004 Station 101, E. Br. Beaver R. upstream	Sodium, Total (as Na)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	Apr, Jul, Sep, Nov	

		Discharge limitations							Monitoring requirements			
Subject item	**Parameter**	**Quantity /Loading avg.**	**Quantity /Loading max.**	**Quantity /Loading units**	**Quality /Conc. min.**	**Quality /Conc. avg.**	**Quality /Conc. max.**	**Quality/ Conc. units**	**Frequency**	**Sample type**	**Effective period**	**Notes**
SW 004 Station 101, E. Br. Beaver R. upstream	Solids, Total Dissolved (TDS)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	Apr, Jul, Sep, Nov	
SW 004 Station 101, E. Br. Beaver R. upstream	Specific Conductance						Monitor only. calendar month maximum	micromhos per cm	once per month	Grab	Apr, Jul, Sep, Nov	
SW 004 Station 101, E. Br. Beaver R. upstream	Sulfate, Total (as SO4)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	Apr, Jul, Sep, Nov	
SW 004 Station 101, E. Br. Beaver R. upstream	Turbidity						Monitor only. calendar month maximum	nephelometric turbidity units (NTU)	once per month	Grab	Apr, Jul, Sep, Nov	
SW 005 Stn 902, L Superior Cooling Water intake	Flow		Monitor only. calendar month total	million gallons		Monitor only. calendar month average	Monitor only. daily maximum	million gallons per day	once per day	Measurement, Continuous	Jan-Dec	
SW 005 Stn 902, L Superior Cooling Water intake	Temperature, Water (C)					Monitor only. calendar month average	Monitor only. daily maximum	degrees Celsius	once per day	Measurement, Continuous	Jan-Dec	
WS 001 Station 900 influent to MP7 WWTP	Bicarbonates (HCO3)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	Jan, Mar, May, Jul, Sep, Nov	

		Discharge limitations							Monitoring requirements			
Subject item	**Parameter**	**Quantity /Loading avg.**	**Quantity /Loading max.**	**Quantity /Loading units**	**Quality /Conc. min.**	**Quality /Conc. avg.**	**Quality /Conc. max.**	**Quality/ Conc. units**	**Frequency**	**Sample type**	**Effective period**	**Notes**
WS 001 Station 900 influent to MP7 WWTP	Calcium, Total (as Ca)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	Jan, Mar, May, Jul, Sep, Nov	
WS 001 Station 900 influent to MP7 WWTP	Chloride, Total						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	Jan, Mar, May, Jul, Sep, Nov	
WS 001 Station 900 influent to MP7 WWTP	Flow		Monitor only. calendar month total	million gallons		Monitor only. calendar month average	Monitor only. daily maximum	million gallons per day	once per month	Measurement, Continuous	Jan, Mar, May, Jul, Sep, Nov	
WS 001 Station 900 influent to MP7 WWTP	Fluoride, Total (as F)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	Jan, Mar, May, Jul, Sep, Nov	
WS 001 Station 900 influent to MP7 WWTP	Hardness, Calcium & Magnesium, Calculated (as CaCO3)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	Jan, Mar, May, Jul, Sep, Nov	
WS 001 Station 900 influent to MP7 WWTP	Iron, Total (as Fe)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	Jan, Mar, May, Jul, Sep, Nov	

		Discharge limitations							Monitoring requirements			
Subject item	**Parameter**	**Quantity /Loading avg.**	**Quantity /Loading max.**	**Quantity /Loading units**	**Quality /Conc. min.**	**Quality /Conc. avg.**	**Quality /Conc. max.**	**Quality/ Conc. units**	**Frequency**	**Sample type**	**Effective period**	**Notes**
WS 001 Station 900 influent to MP7 WWTP	Magnesium, Total (as Mg)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	Jan, Mar, May, Jul, Sep, Nov	
WS 001 Station 900 influent to MP7 WWTP	Manganese, Total (as Mn)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	Jan, Mar, May, Jul, Sep, Nov	
WS 001 Station 900 influent to MP7 WWTP	Nitrite Plus Nitrate, Total (as N)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	Jan, Mar, May, Jul, Sep, Nov	
WS 001 Station 900 influent to MP7 WWTP	pH				Monitor only. calendar month minimum		Monitor only. calendar month maximum	standard units	once per month	Grab	Jan, Mar, May, Jul, Sep, Nov	
WS 001 Station 900 influent to MP7 WWTP	Potassium, Total (as K)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	Jan, Mar, May, Jul, Sep, Nov	
WS 001 Station 900 influent to MP7 WWTP	Sodium, Total (as Na)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	Jan, Mar, May, Jul, Sep, Nov	

		Discharge limitations							Monitoring requirements			
Subject item	**Parameter**	**Quantity /Loading avg.**	**Quantity /Loading max.**	**Quantity /Loading units**	**Quality /Conc. min.**	**Quality /Conc. avg.**	**Quality /Conc. max.**	**Quality/ Conc. units**	**Frequency**	**Sample type**	**Effective period**	**Notes**
WS 001 Station 900 influent to MP7 WWTP	Solids, Total Dissolved (TDS)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	Jan, Mar, May, Jul, Sep, Nov	
WS 001 Station 900 influent to MP7 WWTP	Specific Conductance						Monitor only. calendar month maximum	micromhos per cm	once per month	Grab	Jan, Mar, May, Jul, Sep, Nov	
WS 001 Station 900 influent to MP7 WWTP	Sulfate, Total (as SO4)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	Jan, Mar, May, Jul, Sep, Nov	
WS 013 Dredged materials from outfall SD 003 and harbor	Mass Transported To Facility		Monitor only. hydrologic year total	cubic yards per year					once per year	Measurement, Continuous	Oct	
WS 014 Treated Pellet Plant blowdown effluent	Flow		Monitor only. calendar month total	million gallons		Monitor only. calendar month average	Monitor only. daily maximum	million gallons per day	twice per month	Measurement, Continuous	Jan-Dec	
WS 014 Treated Pellet Plant blowdown effluent	Fluoride, Total (as F)					Monitor only. calendar month average	Monitor only. daily maximum	milligrams per liter	twice per month	Grab	Jan-Dec	

		Discharge limitations							Monitoring requirements			
Subject item	**Parameter**	**Quantity /Loading avg.**	**Quantity /Loading max.**	**Quantity /Loading units**	**Quality /Conc. min.**	**Quality /Conc. avg.**	**Quality /Conc. max.**	**Quality/ Conc. units**	**Frequency**	**Sample type**	**Effective period**	**Notes**
WS 015 MP7 - precipitation & evaporation	Evaporation, Accumulated		Monitor only. calendar month total	inches					once per month	Measurement	Jan-Dec	
WS 015 MP7 - precipitation & evaporation	Flow		Monitor only. calendar month total	million gallons		Monitor only. calendar month average	Monitor only. calendar month maximum	million gallons per day	once per month	Measurement, Continuous	Jan-Dec	
WS 015 MP7 - precipitation & evaporation	Precipitation		Monitor only. calendar month total	inches					once per month	Measurement	Jan-Dec	
WS 016 Ash landfill leachate to MP7 Tailings Basin	Flow		Monitor only. calendar year to date total	million gallons					once per month	Measurement	Jan-Dec	
WS 017 Seepage Recovery Pond 1A (West side TB Dam 1)	Alkalinity, Total						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	Jan-Dec	
WS 017 Seepage Recovery Pond 1A (West side TB Dam 1)	Calcium, Total (as Ca)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	Jan-Dec	

		Discharge limitations							Monitoring requirements			
Subject item	**Parameter**	**Quantity /Loading avg.**	**Quantity /Loading max.**	**Quantity /Loading units**	**Quality /Conc. min.**	**Quality /Conc. avg.**	**Quality /Conc. max.**	**Quality/ Conc. units**	**Frequency**	**Sample type**	**Effective period**	**Notes**
WS 017 Seepage Recovery Pond 1A (West side TB Dam 1)	Chloride, Total						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	Jan-Dec	
WS 017 Seepage Recovery Pond 1A (West side TB Dam 1)	Fluoride, Total (as F)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	Jan-Dec	
WS 017 Seepage Recovery Pond 1A (West side TB Dam 1)	Iron, Total (as Fe)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	Jan-Dec	
WS 017 Seepage Recovery Pond 1A (West side TB Dam 1)	Magnesium, Total (as Mg)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	Jan-Dec	
WS 017 Seepage Recovery Pond 1A (West side TB Dam 1)	Manganese, Total (as Mn)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	Jan-Dec	
WS 017 Seepage Recovery Pond 1A (West side TB Dam 1)	Nitrite Plus Nitrate, Total (as N)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	Jan-Dec	

		Discharge limitations							Monitoring requirements			
Subject item	**Parameter**	**Quantity /Loading avg.**	**Quantity /Loading max.**	**Quantity /Loading units**	**Quality /Conc. min.**	**Quality /Conc. avg.**	**Quality /Conc. max.**	**Quality/ Conc. units**	**Frequency**	**Sample type**	**Effective period**	**Notes**
WS 017 Seepage Recovery Pond 1A (West side TB Dam 1)	pH				Monitor only. calendar month minimum		Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	Jan-Dec	
WS 017 Seepage Recovery Pond 1A (West side TB Dam 1)	Potassium, Total (as K)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	Jan-Dec	
WS 017 Seepage Recovery Pond 1A (West side TB Dam 1)	Redox (oxidation reduction potential)						Monitor only. calendar month maximum	millivolts	once per month	Grab	Jan-Dec	
WS 017 Seepage Recovery Pond 1A (West side TB Dam 1)	Sodium, Total (as Na)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	Jan-Dec	
WS 017 Seepage Recovery Pond 1A (West side TB Dam 1)	Solids, Total Dissolved (TDS)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	Jan-Dec	
WS 017 Seepage Recovery Pond 1A (West side TB Dam 1)	Specific Conductance						Monitor only. calendar month maximum	micromhos per cm	once per month	Grab	Jan-Dec	

		Discharge limitations							Monitoring requirements			
Subject item	**Parameter**	**Quantity /Loading avg.**	**Quantity /Loading max.**	**Quantity /Loading units**	**Quality /Conc. min.**	**Quality /Conc. avg.**	**Quality /Conc. max.**	**Quality/ Conc. units**	**Frequency**	**Sample type**	**Effective period**	**Notes**
WS 017 Seepage Recovery Pond 1A (West side TB Dam 1)	Sulfate, Total (as SO4)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	Jan-Dec	
WS 018 Seepage Recovery Pond 1B (East side TB Dam 1)	Alkalinity, Total						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	Jan-Dec	
WS 018 Seepage Recovery Pond 1B (East side TB Dam 1)	Calcium, Total (as Ca)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	Jan-Dec	
WS 018 Seepage Recovery Pond 1B (East side TB Dam 1)	Chloride, Total						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	Jan-Dec	
WS 018 Seepage Recovery Pond 1B (East side TB Dam 1)	Fluoride, Total (as F)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	Jan-Dec	
WS 018 Seepage Recovery Pond 1B (East side TB Dam 1)	Iron, Total (as Fe)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	Jan-Dec	

		Discharge limitations							Monitoring requirements			
Subject item	**Parameter**	**Quantity /Loading avg.**	**Quantity /Loading max.**	**Quantity /Loading units**	**Quality /Conc. min.**	**Quality /Conc. avg.**	**Quality /Conc. max.**	**Quality/ Conc. units**	**Frequency**	**Sample type**	**Effective period**	**Notes**
WS 018 Seepage Recovery Pond 1B (East side TB Dam 1)	Magnesium, Total (as Mg)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	Jan-Dec	
WS 018 Seepage Recovery Pond 1B (East side TB Dam 1)	Manganese, Total (as Mn)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	Jan-Dec	
WS 018 Seepage Recovery Pond 1B (East side TB Dam 1)	Nitrite Plus Nitrate, Total (as N)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	Jan-Dec	
WS 018 Seepage Recovery Pond 1B (East side TB Dam 1)	pH				Monitor only. calendar month minimum		Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	Jan-Dec	
WS 018 Seepage Recovery Pond 1B (East side TB Dam 1)	Potassium, Total (as K)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	Jan-Dec	
WS 018 Seepage Recovery Pond 1B (East side TB Dam 1)	Redox (oxidation reduction potential)						Monitor only. calendar month maximum	millivolts	once per month	Grab	Jan-Dec	

		Discharge limitations						Monitoring requirements				
Subject item	**Parameter**	**Quantity /Loading avg.**	**Quantity /Loading max.**	**Quantity /Loading units**	**Quality /Conc. min.**	**Quality /Conc. avg.**	**Quality /Conc. max.**	**Quality/ Conc. units**	**Frequency**	**Sample type**	**Effective period**	**Notes**
WS 018 Seepage Recovery Pond 1B (East side TB Dam 1)	Sodium, Total (as Na)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	Jan-Dec	
WS 018 Seepage Recovery Pond 1B (East side TB Dam 1)	Solids, Total Dissolved (TDS)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	Jan-Dec	
WS 018 Seepage Recovery Pond 1B (East side TB Dam 1)	Specific Conductance						Monitor only. calendar month maximum	micromhos per cm	once per month	Grab	Jan-Dec	
WS 018 Seepage Recovery Pond 1B (East side TB Dam 1)	Sulfate, Total (as SO4)						Monitor only. calendar month maximum	milligrams per liter	once per month	Grab	Jan-Dec	

Appendix 1: Chemical Additives

Chemical additives are used according to the manufacturer's recommendations. This approval shall not justify any exceedance of permit limits or water quality standards.

The following chemical additives have been approved for use at the facility:

Name	Dosage frequency	Location	Annual Maximum Rate of Use	Discharge Location
Tomamine M100-7	Continuous	Concentrator/mill water	1,799,450 lb/yr	To tailings basin, WTP, SD 001
Frother-2 Ehyl Hexanol	Continuous	Concentrator/mill water	899,725 lb/yr	To tailings basin, WTP, SD 001
Flocculent – NS 2994	Continuous	Concentrator clarifiers	1,299,400 lb/yr	To tailings basin, WTP, SD 001
Hydrochloric Acid (20 deg)	Continuous	Fluoride treatment plant	419,750 gal/yr	To tailings basin, WTP, SD 001
Hydrated Lime 2000	Continuous	Fluoride treatment plant	1,095,000 lb/yr	To tailings basin, WTP, SD 001
Nalco N-7768	Continuous	Fluoride treatment plant	1.5 drum/yr	To tailings basin, WTP, SD 001
Soda Ash-Dense Sodium Carbonate, Anhydrous	Continuous	Concentrator/mill water	1,0001,000 lb/yr	To tailings basin, WTP, SD 001
Ferric Chloride 37-42% Solution	Continuous	Water treatment plant & reclaim pond weir	1,825,000 lb/yr	To WTP, SD 001
Alcomer 752	Continuous	Water treatment plant & reclaim pond weir	20,075 lb/yr	To WTP, SD 001
CWT 1004	Continuous	Tails loadout collection sump	880 lb/yr	To tailings basin, WTP, SD 001
Sodium Hypochlorite solution 12.5% by weight – Cl2 Bleach	Slug dosing as needed during summer months	Filter building	5,110 gal/yr	To tailings basin, WTP, SD 001
Sodium Bromide	Slug dosing as needed during summer months	RTO (precip water)	2,408 lb/yr	To tailings basin, WTP, SD 001
Organic Peroxide Biotrol 120	Slug dosing as needed during summer months	RTO (precip water)	328.5 gal/yr	To tailings basin, WTP, SD 001
PDC 9324-Scaletrol	Continuous	RTO (precip water)	22,083 lb/yr	To tailings basin, WTP, SD 001
Gengard	Continuous	RTO (precip water)	17,200 lb/yr	To tailings basin, WTP, SD 001
Klaraid PC1212	Continuous	Filter building	63,256 lb/yr	To tailings basin, WTP, SD 001
Caustic Soda-Sodium Hydroxide 50% Solution	Continuous	RTO (precip water)	9,256,400 lb/yr	To tailings basin, WTP, SD 001

Permit modified: April 1, 2026
Permit expires: July 31, 2030

Name	Dosage frequency	Location	Annual Maximum Rate of Use	Discharge Location
Surfactant NS9535	Continuous	Filter building – concentrate slurry)	184,147 lb/yr	To tailings basin, WTP, SD 001
Tri-Act 1800	Continuous (Oct-May)	Steam Plant – boiler feed water	15,743 lb/yr	To tailings basin, WTP, SD 001
Elimin-Ox	Continuous (Oct-May)	Steam Plant – boiler feed water	5,195 lb/yr	To tailings basin, WTP, SD 001
NexGuard 22310	Continuous (Oct-May)	Steam Plant – boiler feed water	13,790 lb/yr	To tailings basin, WTP, SD 001
Sodium Chloride	Slug dosing (Oct – May)	Poer House – softener regeneration; boiler make-up water	105,850 lb/yr	To tailings basin, WTP, SD 001
Sodium Chloride	Weather dependent – winter months	Plant and basin roads	100,375 lb/yr	Runoff to tailings basin, WTP, SD 001
Ultra-high molecular weight polyDADMAC NeoSolutions NS3455	Continuous (Backup -product for supply interruptions)	Concentrator clarifiers	10,001,000 lb/yr	To tailings basin, WTP, SD 001
Calcium Chloride	Slug dosing – weather dependent, winter months	Tails loadout/car dump	100,375 gal/yr	To tailings basin, WTP, SD 001
Magnafloc 292	Continuous	Water Treatment Plant and reclaim pond weir	27,375 lb/yr	To WTP, SD 001
NeoSolutions NS6650P	Continuous	Water Treatment Plant and reclaim pond weir	27,375 lb/yr	To WTP, SD 001
Coherex (Basin)	Weather dependent	Basin roads	360,000 gal/yr	Runoff to tailings basin, WTP, SD 001
Coherex (Plant)	Weather dependent	Plant roads	360,000 gal/yr	Runoff to tailings basin, WTP, SD 001
Magnesium Chloride	Weather dependent	Roads (Plant & Basin)	91,250 gal/yr	Runoff to tailings basin, WTP, SD 001

Appendix 2

Tables for Dredged Material Management

Table 1. Baseline Sediment Parameter List

Parameter	Analytical Method[1,2]	Reporting Limit *(mg/kg, dry weight unless noted)*	Residential Soil Reference Value (SRV) *(mg/kg, dry weight unless noted)*	Industrial Soil Reference Value (SRV) *(mg/kg, dry weight unless noted)*
Inorganics – Metals				
Arsenic	EPA 6010 or 7061	1.0	9	9
Cadmium	EPA 6010 or 7010	0.15	1.6	23
Chromium III	EPA 6010 or 7010	0.5	23,000	100,000
Chromium VI	EPA 6010 or 7196	0.5	2.3	62
Copper	EPA 6010 or 7010	0.5	120	33,000
Lead	EPA 6010 or 7010	0.5	200	460
Mercury	EPA 7471 or 7473	0.02	2.7	3.1
Nickel	EPA 6010	1.0	170	170
Selenium	EPA 6010	1.0	78	1,200
Zinc	EPA 6010 or 7010	1.0	4,700	70,000
Inorganics – Nutrients				
Ammonia-Nitrogen	*EPA 350.1	20		
Nitrate + Nitrite	EPA 9056	10		
Total Kjeldahl Nitrogen	*EPA 351.2	150		
Total Phosphorus	*EPA 365.2/365.3	50		
Organics				
Polychlorinated biphenyls (total)	EPA 8082	0.02	0.82	10
Total Organic Carbon	EPA 9060	0.2%		

[1]SW-846 methods are used unless indicated with an asterisk (*)

[2]Use the most current promulgated version available for Minnesota certification.

Table 2. Additional Sediment Parameter List – Inorganics, Organics, and Polycyclic Aromatic Hydrocarbons

Parameter	Analytical Method[1,2]	Reporting Limit *(mg/kg, dry weight unless noted)*	Residential Soil Reference Value (SRV) (*mg/kg, dry weight unless noted)*	Industrial Soil Reference Value (SRV) *(mg/kg, dry weight unless noted)*
Inorganics				
Barium	EPA 6010	0.5	260	41,000
Cyanide	EPA 9012		7.3	190
Manganese	EPA 6010	0.5	730	10,000
Organics				
Aldrin	EPA 8081	0.01	0.45	2.6
Chlordane	EPA 8081	0.01	9.6	100
DDD	EPA 8081	0.01	6.7	90
DDE	EPA 8081	0.01	11	130
DDT	EPA 8081	0.01	7.4	87
Dieldrin	EPA 8081	0.01	0.11	1.5
Endrin	EPA 8081	0.01	4	54
Heptachlor	EPA 8081	0.01	1.6	8.9
Lindane (Gamma BHC)	EPA 8081	0.01	0.15	2.1
Toxaphene	EPA 8081	0.05	1.2	16
Oil and Grease	EPA 9071	250		
Polycyclic Aromatic Hydrocarbons				
Acenapthene	EPA 8270	0.3	460	6,800
Anthracene	EPA 8270	0.3	2,800	42,000
Fluoranthene	EPA 8270	0.3	210	2,700
Fluorene	EPA 8270	0.3	390	5,800
Naphthalene	EPA 8270	0.3	81	280
Pyrene	EPA 8270	0.3	220	3,200
Quinoline	EPA 8270	0.3	1.4	7.8

[1]SW-846 methods are used unless indicated with an asterisk (*)

[2]Use the most current promulgated version available for Minnesota certification.

Table 3. Additional Sediment Parameter List – Carcinogenic Polycyclic Aromatic Hydrocarbons (Benzo[a]pyrene Equivalents)

Parameter[1]	Analytical Method[2,3]	Reporting Limit *(mg/kg, dry weight unless noted)*	Residential Soil Reference Value (SRV) (*mg/kg, dry weight unless noted)*	Industrial Soil Reference Value (SRV) *(mg/kg, dry weight unless noted)*
Benzo[a]pyrene (B[a]P) equivalents			**2**	**23**
Add the results for the following carcinogenic polycyclic aromatic hydrocarbons using the B[a]P equivalents calculation[4].				
Benz[a]anthracene	EPA 8270	0.01		
Benzo[a]pyrene	EPA 8270	0.01		
Benzo[b]fluoranthene	EPA 8270	0.03		
Benzo[j]fluoranthene	EPA 8270	0.03		
Benzo[k]fluoranthene	EPA 8270	0.03		
Chrysene	EPA 8270	0.01		
Dibenz[a,h]acridine	EPA 8270	0.01		
Dibenz[a,h]anthracene	EPA 8270	0.01		
Dibenz[a,j]acridine	EPA 8270	0.01		
Dibenzo[a,e]pyrene	EPA 8270	0.01		
Dibenzo[a,h]pyrene	EPA 8270	0.01		
Dibenzo[a,i]pyrene	EPA 8270	0.01		
Dibenzo[a,l]pyrene	EPA 8270	0.01		
7H-Dibenzo[c,g]carbazole	EPA 8270	0.01		
7,12-Dimethylbenzanthracene	EPA 8270	0.01		
1,6-Dinitropyrene	EPA 8270			
1,8-Dinitropyrene	EPA 8270			
Indeno[1,2,3-c,d]pyrene	EPA 8270	0.01		
3-Methylcholanthrene	EPA 8270	0.01		
5-Methylchrysene	EPA 8270	0.01		
5-Nitroacenaphthene	EPA 8270	0.01		
6-Nitrochrysene	EPA 8270	0.01		
2-Nitrofluorene	EPA 8270			
1-Nitropyrene	EPA 8270			
4-Nitropyrene	EPA 8270			

[1]All 25 parameters should be analyzed if established analytical methods exist.

[2]SW-846 methods are used unless indicated with an asterisk (*)

[3]Use the most current promulgated version available for Minnesota certification.

[4]See SRV spreadsheet. https://www.pca.state.mn.us/sites/default/files/c-r1-06.xlsx

Table 4. Additional Sediment Parameter List – Dioxins and dioxin-like compounds (2,3,7,8-tetrachlorodibenzo-p-dioxin Equivalents)

Parameter	Analytical Method[1,2]	Reporting Limit *(mg/kg, dry weight unless noted)*	Residential Soil Reference Value (SRV) *(mg/kg, dry weight unless noted)*	Industrial Soil Reference Value (SRV) *(mg/kg, dry weight unless noted)*
2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD[3]) equivalents			**7.00E-06**	**2.80E-05**
Add the results for the following analytes using the TCDD equivalents calculation[4].				
Polychlorinated dibenzo-p-dioxins (dioxins)				
2,3,7,8-TCDD	EPA 8290	6E-08		
1,2,3,7,8-PeCDD	EPA 8290	6E-08		
1,2,3,4,7,8-HxCDD	EPA 8290	6E-08		
1,2,3,6,7,8-HxCDD	EPA 8290	6E-08		
1,2,3,7,8,9-HxCDD	EPA 8290	6E-08		
1,2,3,4,6,7,8-HpCDD	EPA 8290	6E-08		
1,2,3,4,6,7,8,9-OCDD	EPA 8290	6E-08		
Polychlorinated dibenzofurans (furans)				
2,3,7,8-TCDF	EPA 8290	6E-08		
1,2,3,7,8-PeCDF	EPA 8290	6E-08		
2,3,4,7,8-PeCDF	EPA 8290	6E-08		
1,2,3,4,7,8-HxCDF	EPA 8290	6E-08		
1,2,3,6,7,8-HxCDF	EPA 8290	6E-08		
1,2,3,7,8,9-HxCDF	EPA 8290	6E-08		
2,3,4,6,7,8-HxCDF	EPA 8290	6E-08		
1,2,3,4,6,7,8-HpCDF	EPA 8290	6E-08		
1,2,3,4,7,8,9-HpCDF	EPA 8290	6E-08		
1,2,3,4,6,7,8,9-OCDF	EPA 8290	6E-08		

[1]SW-846 methods are used unless indicated with an asterisk (*)

[2]Use the most current promulgated version available for Minnesota certification.

[3]Abbreviations of analytes: TCDD—tetrachlorinated dibenzo-p-dioxin; PeCDD—pentachlorinated dibenzo-p-dioxin; HxCDD—hexachlorinated dibenzo-p-dioxin; HpCDD—heptachlorinated dibenzo-p-dioxin; OCDD—octachlorinated dibenzo-p-dioxin; TCDF—tetrachlorinated dibenzofuran; PeCDF—pentachlorinated dibenzofuran; HxCDF—hexachlorinated dibenzofuran; HpCDF—heptachlorinated dibenzofuran; OCDF—octachlorinated dibenzofuran; TeCB—tetrachlorinated biphenyl; PeCB—pentachlorinated biphenyl; HxCB—hexachlorinated biphenyl; HpCB—heptachlorinated biphenyl

[4]See SRV spreadsheet. https://www.pca.state.mn.us/sites/default/files/c-r1-06.xlsx

Table 5. Minimum number of samples for sediment characterization.

Volume planned for removal in cubic yards	Number of core sample locations	Number of sieve analysis locations[1]
0–30,000	3	6
30,000–100,000	5	10
100,000–500,000	6	12
500,000–1,000,000	8	16
>1,000,000	>8	>16

1. Sieve analysis is only required for dredged material if the Permittee intends to potentially exclude from additional analysis.