

Minor Industrial
Permit No.: MT0030287
Issued December 26, 2001

MONTANA DEPARTMENT OF ENVIRONMENTAL QUALITY

AUTHORIZATION TO DISCHARGE UNDER THE MONTANA POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with Montana Water Quality Act, Title 75, Chapter 5, Montana Code Annotated (MCA) and the Federal Water Pollution Control Act (the "Clean Water Act"), 33 U.S.C. § 1251
et seq.,

Revett Silver Company

is authorized to discharge from its **Rock Creek Mine**

located at **Township 26 North, Range 32 West, Section 10 and 28 Sanders County
Montana**

to receiving waters named, **Clark Fork River and associated alluvial ground water, Miller Gulch and Rock Creek**

in accordance with discharge point(s), effluent limitations, monitoring requirements and other conditions set forth herein. Authorization for discharge is limited to those outfalls specifically listed in the permit. The wasteload allocation specified herein support and serve to define the total maximum daily load for affected receiving water.

This permit shall become effective: **February 1, 2002**

This permit and the authorization to discharge shall expire at midnight, **December 31, 2006**

FOR THE MONTANA DEPARTMENT OF
ENVIRONMENTAL QUALITY



Bonnie Lovelace, Chief
Water Protection Bureau
Permitting & Compliance Division

Modified: March 5, 2007

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I. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

A. Definitions.

1. The "**30-day (and monthly) average**," other than for fecal coliform bacteria is the arithmetic average of all samples collected during a consecutive 30-day period or calendar month, whichever is applicable. Geometric means shall be calculated for fecal coliform bacteria. The calendar month shall be used for purposes of reporting self-monitoring data on discharge monitoring report forms.
2. The "**7-day (and weekly) average**," other than for fecal coliform bacteria, is the arithmetic mean of all samples collected during a consecutive 7-day period or calendar week, whichever is applicable. Geometric means shall be calculated for fecal coliform bacteria. The 7-day and weekly averages are applicable only to those effluent characteristics for which there are 7-day average effluent limitations. The calendar week which begins on Sunday and ends on Saturday, shall be used for purposes of reporting self-monitoring data on discharge monitoring report forms. Weekly averages shall be calculated for all calendar weeks in the month that has at least four days. For example, if a calendar week overlaps two months, the weekly average is calculated only in the month that contains four or more days of that week.
3. The "**Act**" means the Federal Clean Water Act.
4. "**Acute Toxicity Unit (TU_a)**" is the reciprocal of the lethal concentration (LC₅₀) multiplied by 100.
5. The "**Arithmetic Mean**" or "**Arithmetic Average**" for any set of related values means the summation of the individual values divided by the number of individual values.
6. "**Best Management Practices (BMP)**" means a schedule of activities, prohibitions of practices, maintenance procedures, and other activities to prevent or reduce the pollution of state waters. BMPs also include treatment requirements, operating procedures and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw, intermediate or finished products.
7. "**BOD₅**" is the five-day measure of pollutant parameter biochemical oxygen demand.
8. "**Bypass**" means the intentional diversion of waste streams from any portion of a treatment facility.
9. "**CBOD₅**" is the five-day measure of pollutant parameter carbonaceous biochemical oxygen demand.
10. "**Composite samples**" shall be flow proportioned. The composite sample shall, as a minimum, contain at least four (4) samples collected over the compositing period. Unless otherwise specified, the time between the collection of the first sample and the

last sample shall not be less than four (4) hours nor more than 24 hours. Acceptable methods for preparation of composite samples are as follows:

- a. Constant time interval between samples, sample volume proportional to flow rate at time of sampling;
 - b. Constant time interval between samples, sample volume proportional to total flow (volume) since last sample. For the first sample the flow rate at the time the sample was collected may be used;
 - c. Constant sample volume, time interval between samples proportional to flow (i.e., sample taken every "X" gallons of flow); and,
 - d. Continuous collection of sample, with sample collection rate proportional to flow rate.
10. A "**Daily Maximum Limit**" specifies the maximum allowable discharge of a pollutant during a calendar day. Expressed as units of mass, the daily discharge is cumulative mass discharged over the course of the day. Expressed as a concentration, it is the arithmetic average of all measurements taken that day.
 11. "**Department**" means the Montana Department of Environmental Quality (MDEQ).
 12. "**Director**" means the Director of the United States Environmental Protection Agency's Water Management Division.
 13. "**EPA**" means the United States Environmental Protection Agency.
 14. A "**grab**" sample, for monitoring requirements, is defined as a single "dip and take" sample collected at a representative point in the discharge stream.
 15. An "**instantaneous**" measurement, for monitoring requirements, is defined as a single reading, observation, or measurement.
 16. "**Load limits**" are mass-based discharge limits expressed in units such as lb/day.
 17. A "**mixing zone**" is a limited area of a surface water body or aquifer where initial dilution of a discharge takes place and where water quality changes may occur. Also recognized as an area where certain water quality standards may be exceeded.
 18. "**Mine Drainage**" means any water drained, pumped or siphoned from the active mine area, including underground workings, mill area, storage or waste piles, rock dumps or mill tailings.
 19. "**Nondegradation**" means the prevention of a significant change in water quality that lowers the quality of high-quality water for one or more parameters. Also, the prohibition of any increase in discharge that exceeds the limits established under or determined from a permit or approval issued by the Department prior to April 29, 1993.

20. **“Process Water”** means water or wastewater used in and resulting from the beneficiation of ores, including solutions used in leach pads, process ponds, or mill facilities, as well as, any water which commingles with any process water.
21. The **“Regional Administrator”** is the administrator of the EPA Region with Jurisdiction over federal water pollution control activities in the State of Montana.
22. **"Severe property damage"** means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.
23. **"Sludge"** is any solid, semi-solid or liquid residue that contains materials removed during waste treatment. Sludge includes, but is not limited to, primary and secondary solids and sewage sludge products.
24. **“TIE”** is a toxicity identification evaluation.
25. **“TRE”** is a toxicity reduction evaluation.
26. The term **"TMDL"** means the total maximum daily load limitation of a parameter, representing the estimated assimilative capacity for a water body before other designated uses are adversely affected. Mathematically, it is the sum of wasteload allocations for point sources, load allocations for non-point and natural background sources, and a margin of safety.
27. **"TSS"** is the parameter total suspended solids.
28. **"Upset"** means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.
29. **“Work Plan”** means any schedule, document, plan or activity required as a condition of this permit.

B. Description of Discharge Points

The authorization to discharge provided under this permit is limited to those outfalls specially designated below as discharge locations. Discharges at any location not authorized under an MPDES permit is a violation of the Montana Water Quality Act and could subject the person(s) responsible for such discharge to penalties under the Act. Knowingly discharging from an unauthorized location or failing to report an unauthorized discharge within a reasonable time

from first learning of an unauthorized discharge could subject such person to criminal penalties as provided under Section 75-5-632 of the Montana Water Quality Act.

Outfall

<u>Serial Number</u>	<u>Description of Discharge Point</u>
001	At the end of the discharge pipe emptying to Clark Fork River, located approximately 47° 58' 30" N latitude, 115° 44' 0" W through an effluent diffuser located approximately 750 feet above the confluence with Rock Creek. The mixing zone would extend 300 feet downstream from the point of discharge.
002	Seepage from the tailing paste storage facility into the unconsolidated groundwater with hydrological connection to the Clark Fork River, centered at approximately 47° 58' 55" N latitude, 115° 43' 37" W. The mixing zone includes ground water below the impoundment and extends down gradient 700 feet.
003	At the outfall structure for the storm water detention pond(s) associated with the tailing paste storage pond emptying into Miller Gulch, located approximately 47° 58' 56" N latitude, 115° 44' 02" W. There is no mixing zone associated with this outfall.
004	At the end of the pipe emptying into Rock Creek located at approximately 48° 01' 29" N latitude, 115° 42' 15" W. Mixing is instantaneous.
005 (Internal)	At the end of the pipe from the domestic wastewater treatment system emptying into the mine drainage wastewater treatment unit located at approximately 48° 01' 37" N latitude, 115° 42' 21" W.

C. Specific Effluent Limitations

Outfall 001

1. Wastewater Effluent Requirements

Effective immediately and lasting through the term of the permit, the quality of effluent discharged by the facility shall, as a minimum, meet the limitations as set forth below:

Table 1. Final effluent wastewater limits for Outfall 001A.

Parameter	Daily Maximum ⁽¹⁾ (mg/L)	30-day Average ⁽¹⁾ (mg/L)	30-day Average ⁽²⁾ (lbs/day)
Total Inorganic Nitrogen, as N	15.0	8.4	232.0
Total Phosphorus, as P	1.5	0.84	23.2
pH, S.U.	(3)		
Total Suspended Solids	30	20	552.
Arsenic, Total Recoverable	0.0011	0.0004	0.011
Manganese, Total Recoverable	1.4	0.9	24
Mercury, Total Recoverable	0.000012	0.000006	0.0002
Whole Effluent Toxicity, TU _a	2	NA	NA

- (1) See definitions in Part I.A of permit.
(2) Based on the 30-day average values of flow and concentration.
(3) Must be maintained with the range of 6.5 to 8.5 standard units (s.u.)

Table 2. Effluent limits for Outfall 001B.

Parameter	Daily Maximum ⁽¹⁾ (mg/L)	30-day Average ⁽¹⁾ (mg/L)	30-day Average ⁽¹⁾ (lbs/hr)
Cadmium, Total Recoverable	0.0102	0.0066	0.0076
Copper, Total Recoverable	0.051	0.033	0.038
Lead, Total Recoverable	0.0114	0.0074	0.0085
Selenium, Total Recoverable	0.061	0.039	0.0449
Zinc, Total Recoverable	0.5	0.279	0.321

- (1) See definitions in Part I.A of permit.
(2) Based on the 30-day average values of flow and concentration.

Outfall 001 – Conditional Effluent Limits

Subject to written approval, and lasting through the term of the permit, the quality of effluent discharged by the facility shall, as a minimum, meet the limitations as set forth below when the receiving water flow exceeds 3,600 cubic feet per second (cfs):

Table 3. Conditional effluent limits for Outfall 001C (High flow).

Parameter	Daily Maximum ⁽¹⁾ (mg/L)	30-day Average ⁽¹⁾ (mg/L)	30-day Average ⁽¹⁾ (lbs/hr)
Cadmium, Total Recoverable	0.097	0.05	0.057
Copper, Total Recoverable	0.30	0.15	0.172
Lead, Total Recoverable	0.098	0.064	0.074
Selenium, Total Recoverable	0.582	0.377	0.43
Zinc, Total Recoverable	1.5	0.75	0.86

- (1) See definitions in part I.A. of permit.
(2) Based on the 30-day average values of flow and concentration.

2. Other Limitations and Conditions – Outfall 001

- a. There shall be no discharge of Process Water, except as follows:

The total volume of bleed-off from the mill circuit shall not be allowed to exceed 170.3 million gallons per year.

Outfall 002

1. Ground Water Compliance Limits

Effective immediately and lasting through the term of the permit, the quality of groundwater, after mixing with effluent from the paste storage facility shall, as a minimum, meet the limitations as set forth below:

Table 4. Ground water Compliance Levels.

Parameter	Compliance Limit ⁽¹⁾
pH, S.U.	6.5 – 8.5
Total Dissolved Solids, mg/L	500
Nitrite + Nitrate, as N, mg/L	7.5
Sulfate, mg/L	250
Arsenic, dissolved, mg/L	No Increase ⁽²⁾
Cadmium, dissolved, mg/L	0.002
Copper, dissolved, mg/L	0.150
Lead, dissolved, mg/L	0.002
Manganese, dissolved, mg/L	No Increase ⁽²⁾
Mercury, dissolved, mg/L	No Increase ⁽²⁾
Zinc, dissolved, mg/L	0.75

(1) Compliance limits apply to all monitoring wells located down gradient of the paste storage facility, not to exceed 750 feet from the footprint of the facility, except if baseline monitoring determines a higher concentration exists prior to construction of facility.

(2) No increase means, that the analytical result for any single sample event including a check sample, if necessary, shall not exceed the upper bound of a 95 percent prediction interval calculated for the individual well from baseline monitoring.

2. Other Conditions – Outfall 002

Action Levels

If any action level is exceeded, the permittee shall notify the Department within five (5) working days. The Department will determine if additional corrective action is necessary. If the Department decides that additional corrective action is necessary, it shall provide written notification to the permittee requiring submittal of a Work Plan within 60 days. The Work Plan shall address the items in Part V.G. of this permit. Exceedance of an action limit is not

considered a permit violation unless the permittee fails to submit the required work plan. Action levels are contained in Table 5.

Table 5. Action limits for ground water compliance wells.

Parameter	Action Level ⁽¹⁾ mg/L
Nitrite + Nitrate, as N	5.0
Sulfate	20
Potassium	10
Dissolved Metals	(2)

(1) If the background exceeded 50 percent of action level for any individual monitoring well, then the action level would be increased accordingly.

(2) Prior to permit renewal the permittee would be required to conduct a trend analysis of the data to determine if a statistically significant ($p < 0.05$) positive trend existed after accounting for seasonal and spatial variability.

Outfall 003

1. Wastewater Effluent Requirements

Effective immediately and lasting through the term of the permit, the quality of effluent discharged by the facility shall, as a minimum, meet the limitations as set forth below:

Table 6. Effluent limits for Outfall 003.

Parameter	Daily Maximum ⁽¹⁾ (mg/L)
Oil and Grease	10
Acute, Whole Effluent Toxicity	1.0 TU _A
Arsenic, Total Recoverable	0.0011
Cadmium, Total Recoverable	0.0102
Copper, Total Recoverable	0.051
Lead, Total Recoverable	0.0114
Manganese, Total Recoverable	1.4
Mercury, Total Recoverable	0.000012
Selenium, Total Recoverable	0.061
Zinc, Total Recoverable	0.5

(1) See definition in Part I.A of permit.

2. Other Limitations and Conditions – Outfall 003

- a) There shall be no discharge allowed from Outfall 003 unless the measured precipitation exceeded 2.8 inches, or equivalent amount of snowmelt runoff, in a 24-hour period as recorded at the paste storage facility.

- b) The facility shall be designed, constructed, and maintained to contain the maximum volume of wastewater from the active surface (110 areas) that would result from a 100-year event during any 24-hour period, or the equivalent snowmelt, during a 24-hour period from all areas contributing runoff to the pond.
- c) The permittee shall submit to the Department for review and approval, 180 days prior to construction, complete plans, specifications and schedule, for the paste storage facility storm water detention pond and structures collection and transporting wastewater to the detention pond.
- d) The permittee is required to construct and maintain the outfall structure for the detention ponds to prevent overland flow and excess erosion and to maintain structural control of Miller Gulch during discharge events. Plans and specifications for erosion control structures and/or Best Management Practices (BMPs) would have to be submitted concurrently with plans and specifications for the pond design as required in item (b) above.

Outfall 004

1. Wastewater Effluent Requirements

Effective immediately and lasting through the term of the permit, the quality of effluent discharged by the facility shall, as a minimum, meet the limitations as set forth below:

Table 7. Final effluent limits for Outfall 004.

Parameter	Daily Maximum ⁽¹⁾ (mg/L)	30-day Average ⁽¹⁾ (mg/L)
Total Suspended Solids (TSS) ⁽²⁾	30	20
pH ⁽²⁾	Within the range 6.0 to 9.0	
Oil and Grease	10	NA
Ammonia, as N, Total	0.5	NA
Total Inorganic Nitrogen, as N	1.5	1.0
Arsenic, Total Recoverable ⁽³⁾	0.009	0.001
Cadmium, Total Recoverable ⁽³⁾	0.0016	0.0003
Copper, Total Recoverable ⁽³⁾	0.008	0.003
Lead, Total Recoverable ⁽³⁾	0.005	0.0004
Manganese, Total Recoverable ⁽³⁾	0.05	0.025
Mercury, Total Recoverable ⁽³⁾	0.0002	0.000012
Selenium, Total Recoverable	0.008	0.0005
Zinc, Total Recoverable ⁽³⁾	0.020	NA

(1) See definitions in Part I.A. of permit.

(2) The limits would not apply when the discharge was a result of a 2.8-inch precipitation event or equivalent snowmelt.

2. Other Limitations and Conditions Outfall 004:

- a) There shall be no discharge allowed from Outfall 004 except during the period April 1 to July 1 or when the measured precipitation at the mill site exceeded 2.8 inches in a 24 hour period or equivalent snow melt.
- b) The facility shall have to be designed, constructed, and maintained to contain the maximum volume of wastewater that would be generated and stored in the detention pond during a 24-hour period and the maximum volume of additional wastewater generated by 2.8 inches of precipitation during a 24-hour period from all areas contributing runoff to the pond.
- c) At least 180 days prior to construction, the permittee shall submit for Department review and approval complete plans, specifications, and schedule for the paste storage facility storm water detention pond and structures collection and transporting wastewater to the detention pond.
- d) Infiltration to ground water must be minimized.
- e) The permittee shall submit a Storm Water Management Plan for the mill facility for Department review and approval 90 days prior to construction of the mill detention pond.
- f) The permittee shall install a continuous stream flow monitoring device Rock Creek in the vicinity of the discharge and to develop a stage-discharge relationship for the receiving water.

Outfall 005 – Internal Outfall

1. Wastewater Effluent Requirements

Effective immediately and lasting through the term of the permit, the quality of effluent discharged by the facility shall, as a minimum, meet the limitations as set forth below:

Table 8. Internal effluent limits for Outfall 005

Parameter	7-Day Average (mg/L)	30-Day Average (mg/L)
BOD ₅	45	30
Total Suspended Solids	45	30

(1) See the definitions in Part I.A for the explanation of terms.

2. Other Limitations and Conditions – Outfall 005

- a) Effluent pH shall remain between 6.0 and 9.0. For compliance purposes, any single analysis and/or measurement beyond this limitation would be considered a violation of the conditions of this permit.
- b) The 30-day average percent removal of BOD₅ would not be less than 85 percent.

3. Sewage Sludge Requirements

- a. The permittee would be required to handle and dispose of sewage sludge in a manner so as to protect public health and the environment.
- b. The permittee would be required to submit a plan for disposal of sewage sludge generated from this facility.

D. Self-Monitoring Requirements

Outfall 001

1. Wastewater Monitoring

As a minimum, upon the effective date of this permit, the following constituents shall be monitored at the frequency and with the type of measurement indicated; samples or measurements shall be representative of the volume and nature of the monitored discharge. If no discharge occurs during the entire monitoring period, it shall be stated on the Discharge Monitoring Report Form (EPA No. 3320-1) that no discharge or overflow occurred.

Table 9. Monitoring requirements for Outfall 001.

Parameter (in mg/L unless noted)	Frequency	Type⁽¹⁾	RRV⁽⁴⁾
Mill Bleed, gallons ⁽³⁾	Continuous	Recorder	NA
Effluent Flow Rate, gallons per minute ⁽³⁾	Continuous	Recorder	NA
Duration of Discharge, Outfall 001B, hrs per month	Continuous	Recorder	NA
Duration of Discharge, Outfall 001C, hrs per month	Continuous	Recorder	(8)
PH, s.u.	2/Day	Grab	0.1 SU
TSS	2/Day	Grab	5 mg/L
Hydrocarbon Sheen -- Oil and Grease/Diesel Range Organics	2/Day	Visual ⁽⁶⁾	NA
Ammonia, Total, as N	4/Week	Composite	0.05 mg/L
Nitrite + Nitrate, as N	4/Week	Composite	0.05 mg/L
Kjeldahl Nitrogen, as N	4/Week	Composite	0.1 mg/L
Total inorganic Nitrogen, as N	Per Sample Event	Calculated ⁽⁵⁾	NA
Orthophosphate, as P	4/Week	Composite	0.005 mg/L
Total Phosphate, as P	4/Week	Composite	0.01 mg/L
Arsenic, Total Recoverable ⁽²⁾	2/Week	Composite	0.003 mg/L
Cadmium, Total Recoverable ⁽²⁾	4/Week	Composite	0.0001 mg/L
Copper, Total Recoverable ⁽²⁾	4/Week	Composite	0.001 mg/L
Lead, Total Recoverable ⁽²⁾	4/Week	Composite	0.003 mg/L
Manganese, Total Recoverable ⁽²⁾	4/Week	Composite	0.01 mg/L
Mercury, Total Recoverable ⁽²⁾	4/Week	Composite	0.0006 mg/L
Zinc, Total Recoverable ⁽²⁾	4/Week	Composite	0.01 mg/L

Silver, Total Recoverable ⁽²⁾	2/Week	Composite	0.003 mg/L
Selenium, Total Recoverable ⁽²⁾	2/Week	Composite	0.001 mg/L
Acute Whole Effluent Toxicity	Quarterly	Grab	NA
Five-day biochemical oxygen demand	Weekly	Grab	NA
Group B and Group B Section 1 Priority Pollutants Scan ⁽⁷⁾	Annual	Composite	NA
TSS, lbs/day	Monthly	Calculated	NA
Total inorganic Nitrogen, as N, lbs/day	Monthly	Calculated	NA
Total Phosphate, as P, lbs/day	Monthly	Calculated	NA
Arsenic, Total Recoverable, lbs/day	Monthly	Calculated	NA
Cadmium, Total Recoverable, lbs/hour	Monthly	Calculated	NA
Copper, Total Recoverable, lbs/hour	Monthly	Calculated	NA
Lead, Total Recoverable, lbs/hour	Monthly	Calculated	NA
Manganese, Total Recoverable, lbs/day	Monthly	Calculated	NA
Mercury, Total Recoverable, lbs/day	Monthly	Calculated	NA
Selenium, Total Recoverable, lbs/hour	Monthly	Calculated	NA
Zinc, Total Recoverable, lbs/hour	Monthly	Calculated	NA

(1) See the definitions in Part I.A. of the permit.

(2) Metals shall be analyzed according to "Methods for the Chemical Analysis of Water and Wastes, EPA-600/4-79-020, revised 1983", use Method 4.1.1 dissolved metal and Method 4.1.4 for total recoverable metals.

(3) If no discharge occurs during the reporting period, "no discharge" shall be recorded on the DMR report form.

(4) Required Reporting Value (RRV) based on Department Circular WQB-7 (DEQ 11/98).

(5) Total Inorganic Nitrogen is calculated as sum of [Ammonia] and [Nitrite plus Nitrate] concentrations.

(6) If a visual examination of the discharge indicated the presence of hydrocarbons by sheen, odor, or other sign, the permittee will be required to sample to Oil & Grease and for Diesel Range Organic by EPA Method 8015 (modified). For this method, three quantities are reported: DRO, DRO as Diesel, and Total Extractable Hydrocarbons.

(7) See NPDES Application Form 2D. If parameters in this list were already monitored as a condition of this permit, they might be excluded.

(8) See Part II.B of this permit.

2. Compliance with Effluent Limitations

For purposes of determining compliance with the effluent limits set forth in this permit, the permittee would have to use the Required Reported Values (RRV) listed Table I.D.1. For arsenic and mercury, the permittee would be required to use the following procedure for reporting compliance on the Discharge Monitoring Report (DMR).

Maximum Daily Limit (mg/L) – If all analytical results for the reporting period were less than the RRV, the reported value would be rounded to zero (“0”); otherwise, the maximum value is reported.

Average Monthly Limit (mg/L) – The permittee would be required to calculate the median (50th percentile) of all monthly values. If the analytical result given by the median were less than the RRV, the value reported would be reported as zero; otherwise the analytical result would be reported. For an even number of samples, both the N/2 and N/2 +1 values would have to be less than the RRV for the median to be reported as less than the RRV.

In addition to reporting the concentration values, load limits would have to be calculated and reported according to the following method.

$$\text{LOAD} = \left(\sum \frac{C_i}{n} \right) \times \left(\frac{V}{D} \right) \times CF \quad \text{eq. 4}$$

Where:

- 1) For parameters with loads limits expressed as *pound per day* (lbs/day), use:

Load = 30-day calculated load, lbs/day,
C_i = measured concentration, mg/L,
N = number of samples,
V = total volume per reporting period, in millions of gallons,
D = number of days per reporting period,
CF = conversion factor, 8.345

- 2) For parameter with loads limits express as *pound per hour* (lbs/hr), use:

Load = 30-day calculated load, lbs/hr,
C_i = measured concentration at appropriate flow condition, mg/L,
N = number of samples,
V = total volume at high or low river flow, in millions of gallons,
D = duration of event, hours,
CF = conversion factor, 8.345

For load calculations involving arsenic and mercury, if the analytical result is less than the required reporting value, a zero (“0”) shall be used in the calculation of the mean; for the remaining parameters, the RRV would have to be used.

Outfall 002

1. Operational Monitoring

As a minimum, upon the effective date of this permit, the following constituents shall be monitored at the frequency and with the type of measurement indicated; samples or measurements shall be representative of the volume and nature of the hydrostratigraphic units. If no discharge occurs during the entire monitoring period, it shall be stated on the Discharge Monitoring Report Form (EPA No. 3320-1) that no discharge or overflow occurred.

Each monitoring cluster shall provide representative ground water quality data for hydrostratigraphic units present at that location. For most locations, three monitoring wells would be necessary. One well would monitor the upper portion of the lacustrine aquifer, and the second well would evaluate water quality in the basal gravel or shallow fractured bedrock aquifer. The third well would be installed to monitor the deep bedrock. Ground water monitoring at several locations would require an additional well to monitor water quality within shallow alluvial deposits.

These monitoring requirements would apply after the baseline-monitoring period and upon use of the tailing impoundment as a waste disposal facility. Operational monitor requirements are presented in Table II.B.3.1.

Table 10. Operational monitoring requirements for ground water compliance.

Parameter ⁽²⁾	Frequency	Type ⁽¹⁾	Minimum Level
Static water level, elevation	Monthly	Instantaneous	0.01 feet
pH, s.u.	Monthly	Instantaneous	0.1
Temperature, °C	Monthly	Instantaneous	0.1 °C
Specific Conductance, mg/L	Monthly	Grab	10 mg/L
Total Dissolved Solids	Quarterly	Grab	10 mg/L
Ammonia, Total, as N	Monthly	Grab	0.1 mg/L
Nitrite + Nitrate, as N	Quarterly	Grab	0.05 mg/L
Total Phosphorus	Monthly	Grab	0.01 mg/L
Potassium	Quarterly	Grab	1 mg/L
Sulfate	Quarterly	Grab	1 mg/L
Arsenic, dissolved	Quarterly	Grab	0.003 mg/L
Cadmium, dissolved	Quarterly	Grab	0.001 mg/L
Copper, dissolved	Quarterly	Grab	0.01 mg/L
Lead, dissolved	Quarterly	Grab	0.003 mg/L
Manganese, dissolved	Quarterly	Grab	0.01 mg/L
Mercury, dissolved	Quarterly	Grab	0.001 mg/L
Silver, dissolved	Quarterly	Grab	0.005 mg/L
Selenium, dissolved	Quarterly	Grab	0.005 mg/L
Zinc, dissolved	Quarterly	Grab	0.01 mg/L

(1) See the definitions in Part I.A. of the permit.

(2) In mg/L, unless noted otherwise.

(3) If specific conductance measurements were to indicate a significant change (greater than 25 percent from previous month's measurement), a sample would have to be collected and analyzed for these parameters. These parameters would have to be collected at all quarterly sampling events.

Operational Compliance with Limits. For those parameters for which no increase in concentration would be allowed in this permit, no sample concentration would be allowed to exceed the upper bound of a 95 percent prediction interval calculated for the individual well from baseline monitoring (Part V.). For all parameters, the analytical result would be deemed in compliance with the terms of this permit if the sample concentration were less than the minimum level.

Check Sampling. If a compliance limit or action level were exceeded for Outfall 002, the permittee would be required to take an additional sample following approved procedures and methods within five working days of the receipt of the analytical result showing the exceedance. Both sample results shall be reported. The Department may use the lower value to determine compliance if the permittee submits evidence that the original sample was contaminated. The Department may require additional sampling.

Beginning the first calendar quarter after the effective date of this permit, the permittee shall submit a quarterly report describing the activities undertaken pursuant to this part (Part V.). The report would have to be submitted to the Department and postmarked not later than the 28th day of the month following the calendar quarter.

Outfall 003

1. Wastewater Monitoring

As a minimum, upon the effective date of this permit, the following constituents shall be monitored at the frequency and with the type of measurement indicated; samples or measurements shall be representative of the volume and nature of the monitored discharge. If no discharge occurs during the entire monitoring period, it shall be stated on the Discharge Monitoring Report Form (EPA No. 3320-1) that no discharge or overflow occurred.

Table 11. Monitoring requirements for Outfall 003.

Parameter (in mg/L unless noted)	Frequency	Type ⁽¹⁾
Precipitation, Total Daily ⁽⁴⁾	Daily	Recorder
Effluent Flow Rate, gpm ⁽³⁾	Continuous	Recorder
PH, s.u.	Daily	Instantaneous
TSS	Daily	Grab
Ammonia, Total, as N	Daily	Grab
Nitrite + Nitrate, as N	Daily	Grab
Kjeldahl Nitrogen, as N	Daily	Grab
Total Phosphorus, as P	Daily	Grab
Arsenic, Total Recoverable	Daily	Grab
Cadmium, Total Recoverable, mg/L	Daily	Grab
Copper, Total Recoverable	Daily	Grab
Lead, Total Recoverable	Daily	Grab
Manganese, Total Recoverable ⁽²⁾	Daily	Grab
Mercury, Total Recoverable ⁽²⁾	Daily	Grab
Selenium, Total Recoverable ⁽²⁾	Daily	Grab
Zinc, Total Recoverable ⁽²⁾	Daily	Grab
Silver, Total Recoverable	Daily	Grab
Acute Whole Effluent Toxicity Testing	Per Event	Grab

(1) See the definitions in Part I.A. of the permit.

(2) Metals would have to be analyzed according to "Methods for the Chemical Analysis of Water and Wastes, EPA-600/4-79-020, revised 1983.". Use Method 4.1.1 for dissolved metal and Method 4.1.4 for total recoverable metals.

(3) If no discharge occurs during the reporting period, "no discharge" shall be recorded on the DMR report form.

- (4) If the event were snowmelt runoff, calculations would have to be submitted to justify equivalence in runoff to the 2.8 inches of precipitation.
- (5) Load calculations would be calculated based on volume and concentration and reported for Outfall 001.
- (6) The permittee shall use the Required Reporting Values (RRV) listed in WQB – 7 [DEQ 1998].

In addition to Table 11, the following monitoring conditions would apply:

- (1) For Outfall 003 the permittee would be required to report all discharge events by separate letter submitted with the DMR, listing the time the discharge began, duration of the discharge, form of precipitation (rainfall or snow melt), and sampling history.

Outfall 004

1. Wastewater Monitoring

As a minimum, upon the effective date of this permit, the following constituents shall be monitored at the frequency and with the type of measurement indicated; samples or measurements shall be representative of the volume and nature of the monitored discharge. If no discharge occurs during the entire monitoring period, it shall be stated on the Discharge Monitoring Report Form (EPA No. 3320-1) that no discharge or overflow occurred.

Table 12. Monitoring requirements for Outfall 004.

Parameter (in mg/L unless noted)	Minimum Frequency	Type ⁽¹⁾
Effluent Flow Rate, gpm ⁽³⁾	Continuous	Recorder
PH, s.u.	Daily	Instantaneous
TSS	Daily	Grab
Ammonia, Total, as N	Daily	Grab
Nitrite + Nitrate, as N	Daily	Grab
Kjeldahl Nitrogen, as N	Daily	Grab
Total Phosphorus, as P	Daily	Grab
Arsenic, Total Recoverable	Daily	Grab
Cadmium, Total Recoverable	Daily	Grab
Copper, Total Recoverable	Daily	Grab
Lead, Total Recoverable	Daily	Grab
Manganese, Total Recoverable ⁽²⁾	Daily	Grab
Mercury, Total Recoverable ⁽²⁾	Daily	Grab
Selenium, Total Recoverable ⁽²⁾	Daily	Grab
Zinc, Total Recoverable ⁽²⁾	Daily	Grab
Silver, Total Recoverable ⁽²⁾	Daily	Grab

(1) See the definitions in Part I.A. of the permit.

(2) Metals would be analyzed according to "Methods for the Chemical Analysis of Water and Wastes, EPA-600/4-79-020, revised 1983", use Method 4.1.1 for dissolved metal and Method 4.1.4 for total recoverable metals.

(3) If no discharge occurred during the reporting period, "no discharge" would have to be recorded on the DMR report form.

The following conditions apply to Outfall 004:

- (1) For each discharge event, a grab sample shall be taken within the first 30 minutes. If the collection of a grab sample within the first 3 minutes was not practicable, a grab sample could be taken during the first hour of the discharge. The permittee would be required to submit with the monitoring report a description of why the sample could not be taken in the first 30 minutes.
- (2) For Outfall 004 the permittee would be required to report all discharge events by separate letter submitted with the DMR, listing the time the discharge began, duration of the discharge, form of precipitation (rainfall or snowmelt), and sampling history.

Outfall 005

1. Wastewater Monitoring

As a minimum, upon the effective date of this permit, the following constituents shall be monitored at the frequency and with the type of measurement indicated; samples or measurements shall be representative of the volume and nature of the monitored discharge. If no discharge occurs during the entire monitoring period, it shall be stated on the Discharge Monitoring Report Form (EPA No. 3320-1) that no discharge or overflow occurred.

Table 13. Monitoring requirements for Outfall 004.

Parameter <i>(in mg/L unless noted)</i>	Frequency	Type ⁽¹⁾
Influent Flow Rate, gpm	Continuous	Recorder
Effluent Flow Rate, gpm	Continuous	Recorder
BOD ₅ ⁽²⁾	Weekly	Grab
Total Suspended Solids ⁽²⁾	Weekly	Grab
PH	Weekly	Instantaneous
Percent Removal BOD ₅ ⁽³⁾	Monthly	Calculated
Percent Removal TSS ⁽³⁾	Monthly	Calculated

(1). See the definitions in Part I.A. of the permit.

(2) In addition to monitoring the final discharge, influent samples would have to be taken and analyzed for this constituent at a frequency of once per week.

(3) Percent removal would have to be calculated using the monthly average values.

E. Whole Effluent Toxicity Testing – Acute Toxicity

Starting in the first calendar quarter following the effective date of the permit, the permittee shall, at least once each calendar quarter conduct an acute static replacement toxicity test on an undiluted composite/grab sample of the effluent. Testing will employ one species per quarter and the permittee shall alternate between the two test species from one quarter to the next. Samples shall be collected on a two day progression; i.e., if the first yearly sample is on a Monday, the second yearly sample shall be on a Wednesday, etc. Saturdays, Sundays and Holidays will be skipped in the progression.

Any Starting in the first calendar quarter following the effective date of the permit, the permittee shall, at least once each calendar quarter conduct an acute static replacement toxicity test on an undiluted composite/grab sample of the effluent. Testing will employ one species per quarter and the permittee shall alternate between the two test species from one quarter to the next. Samples shall be collected on a two day progression; i.e., if the first yearly sample is on a Monday, the second yearly sample shall be on a Wednesday, etc. Saturdays, Sundays and Holidays will be skipped in the progression.

The replacement static toxicity tests shall be conducted in general accordance with the procedures set out in the latest revision of Methods for Measuring the Acute Toxicity of Effluents to Freshwater and Marine Organisms, EPA-600/4-90-027 and the "Region VIII EPA NPDES Acute Test Conditions – Static Renewal Whole Effluent Toxicity". The permittee shall conduct an acute 48-hour static renewal toxicity test using *Ceriodaphnia sp.* and fathead minnows (*Pimephales promelas*) as the alternating species.

Acute toxicity occurs when 50 percent or more mortality is observed for either species at any effluent concentration. If more than 10 percent control mortality occurs, the test is considered invalid and shall be repeated until satisfactory control survival is achieved, unless a specific individual exception is granted by the Department. This exception may be granted if less than 10 percent mortality was observed at the dilutions containing high effluent concentrations.

If acute toxicity occurs in a routine test, an additional test shall be conducted within 30 days of the date of the initial sample. Should acute toxicity occur in the second test, testing shall occur once a month until further notified by the Department.

The quarterly test results from the laboratory shall be reported along with the Discharge Monitoring Report (DMR) form submitted for the end of the reporting calendar quarter (e.g., whole effluent results for the reporting quarter ending March 31 shall be reported with the March DMR due April 28, with the remaining quarterly reports submitted with the June, September, and December DMRs). The format for the laboratory report shall be consistent with the latest revision of Region VIII Guidance for Acute Whole Effluent Reporting, and shall include all chemical and physical data as specified.

G. Toxicity Reduction Evaluation (TRE)/Toxicity Identification Evaluation (TIE)

Should acute toxicity be detected in the permittee's discharge, a TIE-TRE shall be undertaken by the permittee to establish the cause of the toxicity, locate the source(s) of the toxicity, and develop control of, or treatment for the toxicity. Failure to initiate, or conduct an adequate TIE-TRE, or delays in the conduct of such tests, shall not be considered a justification for noncompliance with the whole effluent toxicity limits contained in Part I.C.1 of this permit.

II. MONITORING RECORDING AND REPORTING REQUIREMENTS

- A. Representative Sampling. Samples taken in compliance with the monitoring requirements established under Part I of the permit shall be collected from the effluent stream prior to discharge into the receiving waters. Samples and measurements shall be representative of the volume and nature of the monitored discharge.
- B. Monitoring Procedures. Monitoring must be conducted according to test procedures approved under Part 136, Title 40 of the Code of Federal Regulations, unless other test procedures have been specified in this permit. All flow-measuring and flow-recording devices used in obtaining data submitted in self-monitoring reports must indicate values within 10 percent of the actual flow being measured.
- C. Penalties for Tampering. The Montana Water Quality Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate, any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than \$25,000, or by imprisonment for not more than six months, or by both.
- D. Reporting of Monitoring Results. Self-Monitoring results will be reported monthly. Monitoring results obtained during the previous reporting period shall be summarized and reported on a Discharge Monitoring Report Form (EPA No. 3320-1), postmarked no later than the 28th day of the month following the completed reporting period. Whole effluent toxicity (biomonitoring) results must be reported with copies of the laboratory analysis report on forms from the most recent version of EPA Region VIII's "Guidance for Whole Effluent Reporting". If no discharge occurs during the reporting period, "no discharge" shall be reported. Legible copies of these, and all other reports required herein, shall be signed and certified in accordance with the "Signatory Requirements" (see Part IV.G of this permit), and submitted to the Department and the Regional Administrator at the following address:
- | | |
|---|--|
| a) Montana Department of Environmental Quality
Water Protection Bureau
P.O. Box 200901
Helena, Montana 59620-0901
Phone: (406) 444-3080 | b) U.S. Environmental Protection Agency
301 South Park Avenue
Drawer 10096
Helena, Montana 59626
Phone: (406) 441-1123 |
|---|--|
- E. Compliance Schedules. Reports of compliance or noncompliance with, or any progress reports on interim and final requirements contained in any Compliance Schedule of this permit shall be submitted no later than 14 days following each schedule date.
- F. Additional Monitoring by the Permittee. If the permittee monitors any pollutant more frequently than required by this permit, using approved analytical methods as specified in this permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the Discharge Monitoring Report. Such increased frequency shall also be indicated.

G. Records Contents. Records of monitoring information shall include:

1. The date, exact place, and time of sampling or measurements;
2. The initials or name(s) of the individual(s) who performed the sampling or measurements;
3. The date(s) analyses were performed;
4. The time analyses were initiated;
5. The initials or name(s) of individual(s) who performed the analyses;
6. References and written procedures, when available, for the analytical techniques or methods used; and
7. The results of such analyses, including the bench sheets, instrument readouts, computer disks or tapes, etc., used to determine these results.

H. Retention of Records. The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least three years from the date of the sample, measurement, report or application. This period may be extended by request of the Department at any time. Data collected on site, copies of Discharge Monitoring Reports, and a copy of this MPDES permit must be maintained on site during the duration of activity at the permitted location.

I. Twenty-four Hour Notice of Noncompliance Reporting.

1. The permittee shall report any serious incidents of noncompliance as soon as possible, but no later than twenty-four (24) hours from the time the permittee first became aware of the circumstances. The report shall be made to the Water Protection Bureau at (406) 444-3080 or the Office of Disaster and Emergency Services at (406) 841-3911. The following examples are considered serious incidents:
 - a. Any noncompliance which may seriously endanger health or the environment;
 - b. Any unanticipated bypass which exceeds any effluent limitation in the permit (See Part III.G of this permit, "Bypass of Treatment Facilities".); or
 - c. Any upset which exceeds any effluent limitation in the permit (See Part III.H of this permit, "Upset Conditions".).
2. A written submission shall also be provided within five days of the time that the permittee becomes aware of the circumstances. The written submission shall contain:
 - a. A description of the noncompliance and its cause;

- b. The period of noncompliance, including exact dates and times;
 - c. The estimated time noncompliance is expected to continue if it has not been corrected; and
 - d. Steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.
3. The Department may waive the written report on a case-by-case basis if the oral report has been received within 24 hours by the Water Protection Bureau, by phone, (406) 444-3080.
 4. Reports shall be submitted to the addresses in Part II.D of this permit, "Reporting of Monitoring Results".
- J. Other Noncompliance Reporting. Instances of noncompliance not required to be reported within 24 hours shall be reported at the time that monitoring reports for Part II.D of this permit are submitted. The reports shall contain the information listed in Part II.I.2 of this permit.
- K. Inspection and Entry. The permittee shall allow the head of the Department or the Director, or an authorized representative thereof, upon the presentation of credentials and other documents as may be required by law, to:
1. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;
 2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
 3. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and
 4. Sample or monitor at reasonable times, for the purpose of assuring permit compliance, any substances or parameters at any location.

III. COMPLIANCE RESPONSIBILITIES

- A. Duty to Comply. The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Montana Water Quality Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application. The permittee shall give the Department or the Regional Administrator advance notice of any planned changes at the permitted facility or of an activity which may result in permit noncompliance.
- B. Penalties for Violations of Permit Conditions. The Montana Water Quality Act provides that any person who violates a permit condition of the Act is subject to civil or criminal penalties not to exceed \$10,000 per day of such violation. Any person who willfully or negligently violates permit conditions of the Act is subject to a fine of not more than \$50,000 per day of violation, or by imprisonment for not more than 2 years, or both, for subsequent convictions. MCA 75-5-611(a) also provides for administrative penalties not to exceed \$10,000 for each day of violation and up to a maximum not to exceed \$100,000 for any related series of violations. Except as provided in permit conditions on Part III.G of this permit, "Bypass of Treatment Facilities" and Part III.H of this permit, "Upset Conditions", nothing in this permit shall be construed to relieve the permittee of the civil or criminal penalties for noncompliance.
- C. Need to Halt or Reduce Activity not a Defense. It shall not be a defense for a 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.
- D. Duty to Mitigate. The permittee shall take all reasonable steps to minimize or prevent any discharge in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.
- E. Proper Operation and Maintenance. The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems which are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of the permit. However, the permittee shall operate, as a minimum, one complete set of each main line unit treatment process whether or not this process is needed to achieve permit effluent compliance.
- F. Removed Substances. Collected screenings, grit, solids, sludges, or other pollutants removed in the course of treatment shall be disposed of in such a manner so as to prevent any pollutant from entering any waters of the state or creating a health hazard. Any sludges removed from the facility shall be disposed of in accordance with 40 CFR 503, 258 or other applicable rule. EPA and MDEQ shall be notified at least 180 days prior to such disposal taking place.
- G. Bypass of Treatment Facilities:
1. Bypass not exceeding limitations. The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential

maintenance to assure efficient operation. These bypasses are not subject to the provisions of Parts III.G.2 and III.G.3 of this permit.

2. Notice:

- a. Anticipated bypass. If the permittee knows in advance of the need for a bypass, it shall submit prior notice, if possible at least ten (10) days before the date of the bypass.
- b. Unanticipated bypass. The permittee shall submit notice of an unanticipated bypass as required under Part II.I of this permit, "Twenty-four Hour Reporting".

3. Prohibition of bypass.

- a. Bypass is prohibited and the Department may take enforcement action against a permittee for a bypass, unless:
 - (1) The bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;
 - (2) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgement to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and
 - (3) The permittee submitted notices as required under Part III.G.2 of this permit.
- b. The Department may approve an anticipated bypass, after considering its adverse effects, if the Department determines that it will meet the three conditions listed above in Part III.G.3.a of this permit.

H. Upset Conditions.

1. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with technology based permit effluent limitations if the requirements of Part III.H.2 of this permit are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review (i.e., Permittees will have the opportunity for a judicial determination on any claim of upset only in an enforcement action brought for noncompliance with technology-based permit effluent limitations).

2. Conditions necessary for a demonstration of upset. A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:
 - a. An upset occurred and that the permittee can identify the cause(s) of the upset;
 - b. The permitted facility was at the time being properly operated;
 - c. The permittee submitted notice of the upset as required under Part II.I of this permit, "Twenty-four Hour Notice of Noncompliance Reporting"; and
 - d. The permittee complied with any remedial measures required under Part III.D of this permit, "Duty to Mitigate".
 3. Burden of proof. In any enforcement proceeding, the permittee seeking to establish the occurrence of an upset has the burden of proof.
- I. Toxic Pollutants. The permittee shall comply with effluent standards or prohibitions established under Section 307(a) of the Clean Water Act for toxic pollutants within the time provided in the regulations that establish those standards or prohibitions, even if the permit has not yet been modified to incorporate the requirement.
- J. Changes in Discharge of Toxic Substances. Notification shall be provided to the Department as soon as the permittee knows of, or has reason to believe:
1. That any activity has occurred or will occur which would result in the discharge, on a routine or frequent basis, of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":
 - a. One hundred micrograms per liter (100 µg/l);
 - b. Two hundred micrograms per liter (200 µg/l) for acrolein and acrylonitrile; five hundred micrograms per liter (500 µg/l) for 2,4-dinitrophenol and for 2-methyl-4,6-dinitrophenol; and one milligram per liter (1 µg/l) for antimony;
 - c. Five (5) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 CFR 122.21(g)(7); or
 - d. The level established by the Department in accordance with 40 CFR 122.44(f).
 2. That any activity has occurred or will occur which would result in any discharge, on a non-routine or infrequent basis, of a toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":
 - a. Five hundred micrograms per liter (500 µg/l);
 - b. One milligram per liter (1 mg/l) for antimony;

- c. Ten (10) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 CFR 122.21(g)(7); or
- d. The level established by the Department in accordance with 40 CFR 122.44(f).

IV. GENERAL REQUIREMENTS

- A. Planned Changes. The permittee shall give notice to the Department as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required only when the alteration or addition could significantly change the nature or increase the quantity of pollutant discharged. This notification applies to pollutants which are not subject to effluent limitations in the permit.
- B. Anticipated Noncompliance. The permittee shall give advance notice to the Department of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.
- C. Permit Actions. This permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.
- D. Duty to Reapply. If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and obtain a new permit. The application must be submitted at least 180 days before the expiration date of this permit.
- E. Duty to Provide Information. The permittee shall furnish to the Department, within a reasonable time, any information which the Department may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The permittee shall also furnish to the Department, upon request, copies of records required to be kept by this permit.
- F. Other Information. When the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or any report to the Department, it shall promptly submit such facts or information with a narrative explanation of the circumstances of the omission or incorrect submittal and why they weren't supplied earlier.
- G. Signatory Requirements. All applications, reports or information submitted to the Department or the EPA shall be signed and certified.
 1. All permit applications shall be signed as follows:
 - a. For a corporation: by a responsible corporate officer:
 - b. For a partnership or sole proprietorship: by a general partner or the proprietor, respectively;
 - c. For a municipality, State, Federal, or other public agency: by either a principal executive officer or ranking elected official.

2. All reports required by the permit and other information requested by the Department shall be signed by a person described above or by a duly authorized representative of that person. A person is considered a duly authorized representative only if:
 - a. The authorization is made in writing by a person described above and submitted to the Department; and
 - b. The authorization specified either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or an individual occupying a named position.)
3. Changes to authorization. If an authorization under Part IV.G.2 of this permit is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of Part IV.G.2 of this permit must be submitted to the Department prior to or together with any reports, information, or applications to be signed by an authorized representative.
4. Certification. Any person signing a document under this section shall make the following certification:

“I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.”

- H. Penalties for Falsification of Reports. The Montana Water Quality Act provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance shall, upon conviction be punished by a fine of not more than \$25,000 per violation, or by imprisonment for not more than six months per violation, or by both.
- I. Availability of Reports. Except for data determined to be confidential under 40 CFR Part 2, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the Department. As required by the Clean Water Act, permit applications, permits and effluent data shall not be considered confidential.

- J. Oil and Hazardous Substance Liability. Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject under Section 311 of the Clean Water Act.
- K. Property or Water Rights. The issuance of this permit does not convey any property or water rights of any sort, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations.
- L. Severability. The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.
- M. Transfers. This permit may be automatically transferred to a new permittee if:
1. The current permittee notifies the Department at least 30 days in advance of the proposed transfer date;
 2. The notice includes a written agreement between the existing and new permittees containing a specific date for transfer of permit responsibility, coverage, and liability between them;
 3. The Department does not notify the existing permittee and the proposed new permittee of an intent to revoke or modify and reissue the permit. If this notice is not received, the transfer is effective on the date specified in the agreement mentioned in Part IV.M.2 of this permit; and
 4. Required annual and application fees have been paid.
- N. Fees. The permittee is required to submit payment of an annual fee as set forth in ARM 17.30.201. If the permittee fails to pay the annual fee within 90 days after the due date for the payment, the Department may:
1. Impose an additional assessment consisting of 15% of the fee plus interest on the required fee computed at the rate established under 15-31-510(3), MCA, or
 2. Suspend the processing of the application for a permit or authorization or, if the nonpayment involves an annual permit fee, suspend the permit, certificate or authorization for which the fee is required. The Department may lift suspension at any time up to one year after the suspension occurs if the holder has paid all outstanding fees, including all penalties, assessments and interest imposed under this sub-section. Suspensions are limited to one year, after which the permit will be terminated.
- O. Reopener Provisions. This permit may be reopened and modified (following proper administrative procedures) to include the appropriate effluent limitations (and compliance schedule, if necessary), or other appropriate requirements if one or more of the following events occurs:

1. Water Quality Standards: The water quality standards of the receiving water(s) to which the permittee discharges are modified in such a manner as to require different effluent limits than contained in this permit.
2. Water Quality Standards are Exceeded: If it is found that water quality standards in the receiving stream are exceeded either for parameters included in the permit or others, the department may modify the effluent limits or water management plan.
3. TMDL or Wasteload Allocation: TMDL requirements or a wasteload allocation is developed and approved by the Department and/or EPA for incorporation in this permit.
4. Water Quality Management Plan: A revision to the current water quality management plan is approved and adopted which calls for different effluent limitations than contained in this permit.
5. Toxic Pollutants: A toxic standard or prohibition is established under Section 307(a) of the Clean Water Act for a toxic pollutant which is present in the discharge and such standard or prohibition is more stringent than any limitation for such pollutant in this permit.
6. Toxicity Limitation. Change in the whole effluent protocol, or any other conditions related to the control of toxicants have taken place, or if one or more of the following events have occurred:
 - a. Toxicity was detected late in the life of the permit near or past the deadline for compliance.
 - b. The TRE/TIE results indicated that compliance with the toxic limits will require an implementation schedule past the date for compliance and the permit issuing authority agrees with the conclusion.
 - c. The TRE/TIE results indicated that the toxicant(s) represent pollutant(s) that may be controlled with specific numerical limits, and the permit issuing authority agrees that numerical controls are the most appropriate course of action.
 - d. Following the implementation of numerical controls on toxicants, the permit issuing authority agreed that a modified whole effluent protocol is needed to compensate for those toxicants that are controlled numerically.
 - e. The TRE/TIE revealed other unique conditions or characteristics which, in the opinion of the permit issuing authority, justify the incorporation of unanticipated special conditions in the permit.

V. Special Conditions – Work Plans

A. Wastewater Treatment – Submittal of Plans

At least 180 days prior to construction, the permittee shall submit, for Department review and approval, plans and specifications, and schedule for construction of the wastewater treatment plant, including the results of any pilot test or other tests demonstrating the ability of the system to control pollutants regulated by this permit. The plan and specifications will have to show the exact location of all sample points and outfalls regulated in this permit. This plan would have to address the disposal of sludge, by-products, backwash, or other wastes that are generated by the facility and address the testing of these materials. The permittee shall not begin construction of the facility until the Department issued written approval of these plans and specifications. The Department may deny, approve, or approve with modifications. The work plan required under this paragraph would be deemed approved if the Department were to fail to act within 60 days of the complete submittal.

B. Flow-Based Effluent Limits

Prior to approval of Conditional Effluent Limits for Outfall 001 (Part I.C), the permittee shall submit for Department review and approval a Work Plan for a system to monitor receiving water (Clark Fork River) flow. As a part of this Work Plan, the permittee would be required to develop a method to test the monitoring system to determine its effectiveness at monitoring instream flow. The Department's final approval would be required to be based on the permittee having demonstrated that the flow monitoring system can achieve a 99 percent success rate in correctly detecting when river flow is less than 3,600 cfs. Upon written approval from the Department, the permittee would be allowed to implement the flow monitoring system in conjunction with the modified effluent limits for metals. Final effluent limits would be based on low flow (365 cfs) and apply to Outfall 001 until the Work Plan has been approved and demonstrated to the satisfaction of the Department.

C. Instream Monitoring – Clark Fork River

The permittee shall submit a Work Plan for Department review and approval to accurately determine the instream concentration (mean and related parameters) for all parameters regulated by this permit or that might be found in the discharge at concentrations that exceed water quality standards and for supporting field parameters such as dissolved oxygen, pH, specific conductance, temperature and turbidity. The Work Plan shall address both high and low flow conditions and account for seasonal variation. Samples for analysis of metals must be conducted at a location above (upstream) of the proposed point of discharge. Monitoring for nutrients, including total nitrogen (ammonia, organic nitrogen, nitrite + nitrate) and total phosphorus (ortho-phosphorus organic), would have to be conducted at a location above (upstream) and below (downstream) of the proposed discharge. The location of the downstream sample location would have to be located below where the effluent had completely mixed (less than 10 percent bank-to-bank variation) and above any other significant source(s) of nutrients. In addition to the chemical analyses, the permittee would be required to monitor chlorophyll-a, total chlorophyll and ash-free dry weight above and below the point of discharge.

Field samples would have to be collected using an isokinetic depth-integrated sampler with sufficient number of adequately characterize the river. When river velocities were not sufficient to use isokinetic

samplers, grab samples shall be taken at representative vertical locations and composited to obtain representative samples. Field sampling procedures would follow those outlined in USGS Techniques for Water-Resources Investigations of the U.S. Geological Survey (TWRI) series, specifically, Book 9, Handbook for Water-Resources Investigations. Deviations from these methods would have to be noted in the Work Plan.

For metals parameters with expected mean concentrations less than the RRV in WQB-7 (DEQ 1998), the permittee shall use EPA 1600 series methods and employ sampling procedure consistent with EPA method 1669 (EPA, 1996). All other analytical methods shall conform to ARM 17.30.641 [Sampling Methods]. The Work Plan shall have to address flow measurement and report flow, in cfs, for each sample event, or would have to demonstrate flow values from a reliable source.

The plan would also have to address the following specific components:

- i. Objectives
- ii. Sample locations;
- iii. Sampling supplies and equipment;
- iv. Sampling methods, including QA/QC samples;
- v. Analytical parameters, and test methods, including QA/QC samples;
- vi. Shipping and handling arrangements;
- vii. Field verifications; and schedule.

D. Mixing Zone – Clark Fork River

The mixing zone is approved subject to the following conditions:

1. The permittee is required to submit complete plans and specifications, along with any site-specific information to support the diffuser design, for Department approval prior to construction.
2. The permittee is required to obtain all necessary permits and approvals prior to initiating any construction activities on the effluent diffuser.
3. Within one year after installation of the effluent diffuser, the permittee shall conduct a verification study of the diffuser characteristics, using a tracer to demonstrate that complete mixing might occur within the approved distance. The actual length of the mixing zone might be modified in subsequent permit renewals based on this information.

The permittee shall submit a Work Plan for Department review and approval to verify the nature and extent of effluent mixing at low flow through the use of a tracer. The purpose of this study would be to demonstrate that the effluent is completely mixed (less than 10 percent bank variation) within the downstream boundary of the mixing zone. The permittee shall use procedures consistent with those published by the USGS [Kilpatrick and Cobb], or equivalent. The study would have to address both critical low-flow and normal-flow conditions.

E. Ground Water Work Plan – Baseline Monitoring

The permittee shall submit a Work Plan to the Department for review and approval which addresses the perimeter of mixing zone to ensure that it is adequately delineated and a suitable baseline for the proposed compliance wells is developed in a timely manner. The Work Plan would have to include a schedule for submittal of all deliverables identified in this section and address the following components. The baseline monitoring would have to be completed 365 days prior to construction and use of the paste storage facility. The Work Plan must address the following items:

- a. Monitor Well Location, Construction, and Development. The Work Plan must contain recommendations for the location, design and development of monitoring wells to delineate the spatial and temporal variability in water quality parameters down gradient of the proposed impoundment. Monitoring wells would be located on land owned or controlled by the permittee, or if not owned or controlled by the permittee, the permittee must demonstrate access to these wells for the reasonable life of the facility. This work must include design drawings of proposed well installations, and a description of the proposed well development method. The Work Plan must also address upgradient reference wells to be located in the same hydrostratigraphic units outside of the influence of the tailing impoundment. If, due to geological conditions, upgradient wells in individual hydrostratigraphic units cannot be completed, the permittee must identify an alternative upgradient, or other suitable reference site not influenced by the paste storage facility.
- b. The Work Plan would have to contain a detailed Sampling Plan and a Quality Assurance/Quality Control (QA/QC) Plan, including but not limited to:
 - i. Objectives;
 - ii. Sample locations and sequencing, including QA/QC samples;
 - iii. Sampling supplies and equipment;
 - iv. Sampling methods;
 - v. Analytical parameters and test methods;
 - vi. Shipping and handling arrangements;
 - vii. Field verification; and
 - viii. Schedule.

Sampling of monitoring wells would be conducted on a monthly basis, at minimum. In addition to the parameters regulated in this permit [Section II.B.1], the Sampling Plan would have to include a suite of parameters sufficient to provide a complete geochemical assessment of the aquifer, including major cations and anions, as well as a trace elements known or suspected to be in the paste material. Analytical methods would at minimum, be capable of achieving the required reporting values (RRV) listed in Department Circular WQB – 7.

- c. Quality Assurance/Quality Control Plans. The QA/QC Plan must include but is not limited to a description of:
 - i. Field QA/QC methods, including standard operating procedures, field documentation methods, QA/QC sample frequency and type, and field instrument calibration;
 - ii. Chain of custody procedures;
 - iii. Equipment of custody procedures;
 - iv. Laboratory QA/QC program; and
 - v. Data on documentation, validation, and tracking procedures.

If the Department comments on the Work Plan were to require substantive modifications of the Work Plan, a revised Work Plan would have to be submitted to the Department within 60 days of the Permittee's receipt of the Department's comments. Baseline monitoring would have to begin 365 days prior to activities related to construction to the paste storage facility.

Upon completion of the baseline phase, the permittee would be required to submit to the Department for review and approval a Draft Summary Report explaining the results of the Work Plan. The draft report would have to include but not be limited to:

- a. Results of all chemical analyses; as well as, a summary and analysis of all this data and associated information;
- b. A discussion of field observations;
- c. Identification of deviations from the original work plan;
- d. Monitor well construction drawings, and lithologic logs;
- e. Monitor well location maps;
- f. A discussion of the nature and extent of spatial and temporal variation in parameters monitored;
- g. Evaluation of quality assurance and quality control measures; and
- h. Copies of field notes, laboratory reports, and chain of custody documents;
- i. A proposal for a compliance monitoring program including sampling frequency and data analysis protocols to identify exceedance of trigger levels, including trend analysis, and compliance limits;
- j. Format for reporting monitoring data.

The permittee would be required to submit a final report within 45 days after receiving comment on the Draft Summary Report from the Department. The final report would have to address all comments provided by the Department.

F. Ground Water Work Plan – Interim Data Collection

Upon completion of the baseline-monitoring period, the permittee would be required to submit a Work Plan for collection of additional ground water data prior to the use of the facility for waste storage, if this interim period exceeded 180 days. Otherwise, the monitoring requirements of Part II.B.3 of this Statement of Basis would apply. Data collected during the interim period would be considered part of the baseline database.

G. Ground Water Work Plan – Exceedance of Action Levels

If the analytical results obtained from the downgradient monitoring wells for Outfall 002 exceed an action level, the permittee would be required to notify the Department of the exceedance within five working days. If the Department decided that additional action were necessary, it would provide written notification to the permittee requesting submittal of a Work Plan within 60 days. The Work Plan would have to contain a detailed assessment for the observed increase, recommendations for additional monitoring (spatial and/or temporal), a proposal to install ground water recovery wells, improvements, or modifications to the existing seepage collection system, or other actions that would address the situation. The Work Plan would contain a schedule for implementing the proposed action(s). Within 60 days, the Department may take any of the following actions:

- (i) approve, in whole or part, the plan;

- (ii) approve the plan with conditions; or,
- (iii) disapprove, in whole or in part, directing that a revised work plan be submitted.