ALASKA POLLUTANT DISCHARGE ELIMINATION SYSTEM

INDIVIDUAL PERMIT

Permit Number: AK0038652

ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION
Wastewater Discharge Authorization Program
555 Cordova Street
Anchorage, AK 99501

In compliance with the provisions of the Clean Water Act (CWA), 33 U.S.C. §1251 *et seq.*, as amended by the Water Quality Act of 1987, P.L. 100-4, this permit is issued under provisions of Alaska Statutes (AS) 46.03; the Alaska Administrative Code (AAC) as amended; and other applicable state laws and regulations.

TECK ALASKA, INCORPORATED, as operator of Red Dog Mine,

is authorized to discharge storm water from the Red Dog Mine in the DeLong Mountains of Alaska and treated wastewater at the following location:

Outfall	Receiving Waterbody	Latitude	Longitude
001	Middle Fork Red Dog Creek	68° 4' 17" N	162° 52' 5" W

In accordance with the discharge point effluent limits, monitoring, requirements, and other conditions set forth herein:

This permit shall become effective **September 1, 2017**

This permit and the authorization to discharge shall expire after **August 31, 2022**

The permittee shall reapply for a permit reissuance on or before **March 4, 2022**, 180 days before the expiration of this permit, to continue operations and discharge at the facility beyond the term of this permit.

The permittee shall post or maintain a copy of this permit to discharge at the facility and make it available to the public, employees, and subcontractors at the facility.

Wade Strickland
Signature

July 28, 2017
Date

Wade Strickland
Printed Name

Program Manager
Title

TABLE OF CONTENTS

SCHEDULE OF SUBMISSIONS 3

1.0 LIMITATIONS AND MONITORING REQUIREMENTS 5

- 1.1 Discharge Authorization 5
- 1.2 Effluent Limits and Monitoring—Outfall 001 5
- 1.3 Other Requirements 9
- 1.4 Ambient Monitoring Requirements 10
- 1.5 Mixing Zones 14
- 1.6 Whole Effluent Toxicity Testing Requirements 14
- 1.7 Annual Water Quality Monitoring Summary 17

2.0 SPECIAL CONDITIONS 18

- 2.1 Quality Assurance Project Plan 18
- 2.2 Site Management Pollution Prevention Plan 18
- 2.3 Electronic Reporting 24

LIST OF TABLES

Table 1: Schedule of Submissions 3

Table 2: Effluent Limits and Monitoring Frequencies for Outfall 001 5

Table 3: Ambient Water Quality Monitoring 11

Table 4: Bioassessment Program 13

LIST OF FIGURES

Figure 1: Red Dog Mine Map 25

Figure 2: Mixing Zones and Ambient Monitoring Sampling Locations 26

Figure 3: Schematic of Mixing Zones 27

LIST OF APPENDICES

Appendix A – Standard Conditions A-1

Appendix B – Acronyms B-1

Appendix C – Definitions C-1

SCHEDULE OF SUBMISSIONS

The Schedule of Submissions summarizes some of the required submissions and activities the permittee must complete or revise and submit to the Alaska Department of Environmental Conservation (Department or DEC) during the term of this permit. The permittee is responsible for all submissions and activities even if they are not summarized below.

Table 1: Schedule of Submissions

Part	Submittal or Completion	Frequency	Due Date	Submit to[a]
1.2.1	Written notice that discharge from Outfall 001 has commenced	As necessary	Within 24 hours of starting discharge from Outfall 001	Permitting
1.2.8.5	Report comparing calculated Total Dissolved Solids (TDS) to measured TDS	Annually	With the final Discharge Monitoring Report (DMR) of the discharge season	Compliance
1.2.8.6	TDS Management Plan	1/permit cycle	Within 120 days after the effective date of the permit	Permitting
1.4.3.1	Updated Biomonitoring Plan	1/permit cycle	Within 60 days after the effective date of the permit	Permitting
1.4.3.2	Bioassessment Monitoring Report	Annually	May 15th of the next year	Permitting
1.6.8.2	Full Whole Effluent Toxicity (WET) report	Bimonthly during discharge season	By the end of the month following receipt of initial results	Compliance
1.7	Annual Water Quality Monitoring Summary	Annually	March 1st of the next year	Compliance
2.1	Quality Assurance Project Plan (QAPP) update and implementation notification	1/permit cycle	Within 60 days after the effective date of the permit	Compliance
2.2.1	Written notification that the Site-Management Pollution Prevention Plan has been developed and implemented	1/permit cycle	Within 60 days after the effective date of the permit	Compliance
2.2.7	Site-Management Pollution Prevention Plan report	Annually	March 1st of the next year	Compliance
Appendix A, 1.3	Application for Permit Reissuance	1/permit cycle	180 days before expiration of the permit	Permitting
Appendix A, 3.2	DMR	Monthly	Postmarked or submitted electronically on or before the 20th day of the next month	Compliance

Part	Submittal or Completion	Frequency	Due Date	Submit to[a]
Appendix A, 3.4	Oral notification of noncompliance	As necessary	Within 24 hours of discovering noncompliance	Compliance[b]
Appendix A, 3.4	Written documentation of noncompliance	As necessary	Within 5 days of discovering noncompliance	Compliance

a. See Appendix A.1.1 for addresses.

b. Oral notifications must be reported to the Department's noncompliance reporting hotline: 1-907-269-4114 (from Alaska) or 1-877-569-4114 (nationwide).

1.0 LIMITATIONS AND MONITORING REQUIREMENTS

1.1 Discharge Authorization

During the effective period of this permit, the permittee is authorized to discharge pollutants from outfalls specified herein to the Middle Fork Red Dog Creek and tundra wetlands, within the limits and subject to the conditions set forth herein. This permit authorizes the discharge of only those pollutants resulting from facility processes, waste streams, and operations that have been clearly identified in the permit application process.

1.2 Effluent Limits and Monitoring—Outfall 001

1.2.1 There shall be no discharge from Outfall 001 unless there is sufficient flow of water in Main Stem Red Dog Creek to determine compliance with TDS limitations as described in Part 1.2.8. The permittee must supply written notice by mail, facsimile, or electronic mail documenting the start of discharge to DEC within 24 hours.

1.2.2 The permittee must limit and monitor discharges from Outfall 001 to the Middle Fork Red Dog Creek as specified below in Table 2. All values represent maximum effluent limits unless otherwise indicated. The permittee must comply with the effluent limits in the table at all times unless otherwise indicated, regardless of the frequency of monitoring or reporting required by other provisions of this permit.

Table 2: Effluent Limits and Monitoring Frequencies for Outfall 001

Parameter	Maximum Daily Limit	Average Monthly Limit	Units	Minimum Sample Frequency	Sample Type[1]
Ammonia as N,	---	---	mg/L[2]	1/week	24 hour composite
Biochemical Oxygen Demand (BOD_5)	---	---	mg/L	1/2 months[3]	24 hour composite
Barium[4]	---	---	µg/L[5]	1/month	24 hour composite
Cadmium[4]	3.7	1.4	µg/L	1/week	24 hour composite
Chlorine, Total Residual	---	---	µg/L	1/2 months	Grab
Copper[4]	52	21	µg/L	1/week	24 hour composite
Cyanide, WAD[6]	---	---	µg/L	1/week	Grab
Lead[4]	18.3	8.1	µg/L	1/month	24 hour composite
Mercury, Total	0.018	0.010	µg/L	1/month	24 hour composite
Organic Priority Pollutant Scan[7]	---	---	µg/L	1/year	24 hour composite
pH	Within the range of 6.5 to 10.5		s.u.	1/week	Grab
Selenium[4]	17	11	µg/L	1/week	24 hour composite
Temperature	---		°C	1/week	Grab

Parameter	Maximum Daily Limit	Average Monthly Limit	Units	Minimum Sample Frequency	Sample Type[1]
Total Dissolved Solids (TDS)	See Part 1.2.8.		mg/L	1/week	24 hour composite
TDS, Anions and Cations[8]	---	---	µg/L	1/month	24 hour composite
Total Suspended Solids (TSS)	30	20	mg/L	1/week	24 hour composite
Volume, cumulative	See Part1.2.3.		gallons	---	Continuous recording
Whole Effluent Toxicity (WET)	12.2	9.7	TU_C[9]	1/2 months	See Part 1.6
Zinc[3]	388	221	µg/L	1/month	24 hour composite

1. Effluent samples collected shall be representative of the effluent discharged without dilution from or contact with any outside sources. Results of analyses conducted under Part 1.2.2 shall be submitted monthly on the discharge monitoring report.
2. Milligrams per liter
3. Once every two months
4. All metals shall be analyzed as total recoverable unless otherwise indicated.
5. Micrograms per liter
6. Weak acid dissociable
7. Volatile organics shall be monitored using EPA analytical method 624, and semi-volatile organics shall be monitored using EPA analytical method 625. The pollutants assayed should include the following pollutants listed in Table 6-C of DEC's APDES Permit Application Form 2C: (1) 1V-31V – volatile organic compounds, (2) 1A- 11A – acid fraction compounds, and (3) 1B – 46B base/neutral compounds.
8. This monitoring shall include carbonates, chlorides, sulfates, potassium, magnesium, calcium, and sodium. The carbonate analysis should be estimated based on direct measurement of alkalinity.
9. Chronic toxicity units

1.2.3 The maximum cumulative volume discharged from Outfall 001 shall not exceed 2.418 billion gallons from January 1st through December 31st every year. The permittee shall report the cumulative volume discharged from Outfall 001 for that year to DEC on the discharge monitoring report (DMR) for each month. For example, if the permittee discharges 1 million gallons from Outfall 001 in May and 2 million gallons in June, the June DMR shall state a cumulative flow discharged from Outfall 001 of 3 million gallons (1 million + 2 million = 3 million). In addition, the permittee shall report the total volume discharged each month.

1.2.4 The permittee must not discharge any floating solids, visible foam in other than trace amounts, or oily wastes that produce a sheen on the surface of the receiving water.

1.2.5 Hardness of the effluent shall be calculated monthly using the data from the analysis required in endnote 8 of Table 2. The hardness value shall be reported on the DMR.

1.2.6 Additional Monitoring and Reporting Requirements:

1.2.6.1 The permittee shall conduct analyses using analytical methods approved under 40 CFR 136 (18 AAC 83.010(f)). EPA has approved the use of Alternative Test Procedures (ATP) for cyanide (SM 4500 CN-I), anions (300), and metals (200.8) under 40 CFR 136.5 (18 AAC 83.010(f)) for use in this permit.

1.2.6.2 For all effluent monitoring, the permittee must use analytical methods that can achieve a minimum level of quantification (ML) less than the effluent

limitation unless a compliance level is specified. For parameters without effluent limitations, the following MLs shall be used:

1.2.6.2.1 Ammonia: 2.9 mg/L

1.2.6.2.2 Barium: 60 µg/L

1.2.6.2.3 BOD_5: 10 mg/L

1.2.6.2.4 Chlorine, total residual (TRC): 100 µg/L

1.2.6.2.5 Cyanide, WAD: 5.2 µg/L

1.2.6.3 As part of the development of the Quality Assurance Project Plan (see Part 2.1) the permittee shall specify the analytical test method that will be used to achieve each ML.

1.2.6.4 For purposes of calculating monthly averages, zero may be assigned for values less than the method detection limit (MDL), the {numeric value of the MDL} may be assigned for values between the MDL and the ML. If the average value is less than the MDL, the permittee must report "less than {numeric value of the MDL}" and if the average value is less than the ML, the permittee must report "less than {numeric value of the ML}." If a value is equal to or greater than the ML, the permittee must report and use the actual value. The resulting average value must be compared to the effluent limitation to assess compliance.

1.2.6.5 Valid test results from split samples shall be reported on the DMR. For reporting an average on the DMR, individual valid results for each test from a split sample are averaged first to determine a sample value. That value is averaged with other sample results obtained in the reporting period and the average of all sample results reported. For reporting the maximum on the DMR, individual valid results for each test from a split sample are averaged first to determine a sample value. That value is compared to other sample results obtained in the reporting period and the maximum of all sample results reported. For the purposes of reporting, split samples are reported as a single sample regardless of the number of times it is split. All laboratories used for split sample analysis shall be identified on the DMR attachment.

1.2.7 Total Residual Chlorine shall be analyzed immediately after sample collection.

1.2.8 TDS Limitations, Monitoring Requirements, and Management Plan

1.2.8.1 The permittee shall limit the TDS load discharged from Outfall 001 so as to maintain in-stream TDS concentrations at or below all of the following:

1.2.8.1.1 At the edge of the mixing zone (Station 151) in Main Stem Red Dog Creek: 1500 mg/L throughout the discharge season,

1.2.8.1.2 At the edge of the mixing zone (Station 150) in Ikalukrok Creek: 1000 mg/L throughout the discharge season, and

1.2.8.1.3 Station 160: 500 mg/L from July 25th through the end of the discharge season.

1.2.8.2 When discharging, monitoring by direct laboratory testing shall be conducted. All samples of the receiving waters for TDS shall be grab samples, while effluent samples shall be composite samples as shown in Table 2. Sample collection shall be as follows:

1.2.8.2.1 TDS shall be monitored once per week at Station 151, Station 150, Station 160, and the effluent.

1.2.8.2.2 Conductivity and temperature shall be monitored concurrently with TDS sampling at Stations 151, 150, and 160.

1.2.8.3 The permittee shall calculate and record the allowable flow volume from Outfall 001 at least twice each day using the formulas below and shall submit all of the data involved in those calculations (including the times that measurements were taken), and the calculation results, each month along with the DMR. The permittee shall base each calculation on data collected within two hours of each shift change, and shall make each calculation within one hour of the collection of data. The allowable flow calculated from measurements taken at Station 151 and the Outfall must reflect the stream conditions at the station and the Outfall flow that are occurring at approximately the same time frame (i.e., the conductivity and flow measurements at Station 151 and the flow from the Outfall must be taken within 30 minutes of each other). For the purposes of these calculations, instantaneous flow is sufficient. The following shall be collected and calculated:

EFFLUENT

1.2.8.3.1 Assume the effluent concentration (C_e) is equal to 10% above the highest measured effluent value during the 5 years preceding the current discharge season.

1.2.8.3.2 Measure the effluent flow (Q_e).

STATION 151

1.2.8.3.3 Measure conductivity at Station 151

1.2.8.3.4 Calculate the total TDS concentration at Station 151 ($C_{151(total)}$) using the measured conductivity at Station 151.

1.2.8.3.5 Measure the total flow at Station 151 ($Q_{151(total)}$).

1.2.8.3.6 Calculate the allowable effluent flow ($Q_{allowable}$) expected to result in 1500 mg/L TDS at Station 151 using the following equation:

$$Q_{allowable} = Q_e + (Q_{151(total)}(1500 - C_{151(total)})/(C_e - 1500)$$

1.2.8.4 Calculations of TDS concentrations based on conductivity shall be made using correlation curves that are based on TDS and conductivity measurements made pursuant to this permit.

1.2.8.5 After the end of each discharge season, the permittee shall submit a report, with the final DMR for the season, which compares the calculated TDS values in Main Stem Red Dog Creek (based on the measured conductivity in the creek) to the actual measured values. The report shall include the following information:

1.2.8.5.1 Measured TDS concentration at Station 151, and the date and time each sample was taken,

1.2.8.5.2 Measured conductivity at Station 151, and predicted TDS concentration at Station 151 at the date and approximate time the samples were taken in Part 1.2.8.3.3 (i.e. within one hour of sample collection).

1.2.8.6 TDS Management Plan. The permittee shall prepare and implement a TDS Management Plan. The TDS Management Plan must be prepared and submitted to DEC within 120 days of the effective date of the permit. The TDS Plan will include information on actions the permittee will take to provide enhanced treatment for TDS and/or source control to ensure that the permittee will be able to discharge through Outfall 001, in compliance with the TDS limits, a sufficient volume of wastewater to maintain a safe water level behind the tailings impoundment dam. The permittee will report annually, with the Annual Report required in Part 1.7., progress made toward implementing the TDS Plan and data that demonstrates the tailings impoundment water level is below the safe level per the current Certificate of Approval to Operate a Dam.

1.3 Other Requirements

1.3.1 Mine drainage shall be:

1.3.1.1 Directed into the tailing impoundment, or

1.3.1.2 Otherwise retained unless and/or until it can be discharged through Outfall 001 in accordance with the permit limitations.

1.3.2 The mine drainage from the ore site not retained in the pit (including commingled seeps) shall be collected by the Mine Drainage Collection System. The water collected at the Mine Drainage Collection Dam shall be:

1.3.2.1 Pumped into the tailings impoundment; or

1.3.2.2 Retained until it can be treated or otherwise discharged in accordance with the permit terms and conditions.

1.3.3 When water in the Mine Drainage Collection System is pumped into the tailings impoundment, the pumped volume shall be recorded. The total volume pumped annually shall be recorded and submitted in the Annual Water Monitoring Summary Report required in Part 1.7.

1.3.4 The permittee shall not discharge water in the Mine Drainage Collection System into Red Dog Creek except in compliance with this permit through authorized outfalls.

1.3.5 Water in the Seepage Pond and related seepages, at the base of the tailings impoundment dam, shall be pumped back into the tailings impoundment, pumped to the high density solids treatment facility, recycled through the mill, or reused as otherwise appropriate.

1.3.6 The permittee shall not discharge water from the Seepage Pond into Red Dog Creek except in compliance with this permit through authorized outfalls.

1.3.7 The permittee shall not discharge water from the tailings impoundment into Red Dog Creek except in compliance with this permit through authorized outfalls.

1.3.8 The permittee shall operate and maintain its retention structures (e.g., Mine Drainage Collection System, Seepage Pond and tailings impoundment) so as to prevent leaks to waters of the United States.

1.3.9 The permittee may use treated wastewater as a dust suppressant on roads, pads and airport runways within the jurisdiction of this permit. Best management practices shall be used to insure that all waters sprayed do not drain into waters of the U.S.

1.3.10 The permittee shall not use treated wastewater as a dust suppressant on the Delong Mountain Regional Transportation System (DMTS) Port Road south of its intersection with the Tailings Impoundment back-dam road turnoff.

1.3.11 The permittee shall ensure that discharges from the Red Dog Mine do not cause fish kills in Ikalukrok Creek or create a barrier that prevents fish migration up the North Fork of Red Dog Creek.

1.4 Ambient Monitoring Requirements

1.4.1 Water Quality Monitoring

1.4.1.1 The permittee shall collect samples at the ambient monitoring stations listed below. See Figure 1: Ambient Monitoring Sampling Stations.

1.4.1.1.1 Station 160: downstream of Station 150 in Ikalukrok Creek

1.4.1.1.2 Station 150: downstream boundary of the mixing zone in Ikalukrok Creek downstream of confluence with the Main Stem

1.4.1.1.3 Station 151: downstream boundary of the mixing zone for TDS, ammonia, selenium, and cyanide in Main Stem and the monitoring station for the pH mixing zone

1.4.1.1.4 Station 12: North Fork of Red Dog Creek

1.4.1.1.5 Station 140: Middle Fork Red Dog Creek upstream of the influence of Outfall 001

1.4.1.2 Ambient monitoring shall be conducted when there is flowing water (under ice or during open water conditions). For example, if there is flowing water at Station 151, but not at the other stations, the permittee shall sample at Station 151.

1.4.1.3 Ambient monitoring, outlined in this section, may be discontinued when the permittee has ceased discharging from Outfall 001 to Middle Fork Red Dog Creek for a period of seven consecutive days. Ambient monitoring shall recommence when the permittee re-initiates a discharge from Outfall 001.

1.4.1.4 All ambient samples shall be grab samples.

1.4.1.5 Ambient monitoring results for Stations 150, 151 and 160 shall be submitted to DEC with the monthly DMR. Other ambient monitoring results shall be submitted in the Annual Water Monitoring Summary Report required in Part 1.7.

1.4.1.6 The following ambient water quality monitoring listed in Table 3 shall be conducted.

Table 3: Ambient Water Quality Monitoring

Parameter[1]	**Station 160[2]**	**Station 150[2]**	**Station 151[2]**	**Station 12[2]**	**Station 140[2]**
Aluminum	2/month	---	2/month	2/month	2/month
Cadmium	2/month	---	2/month	2/month	2/month
Chromium	2/month	---	2/month	2/month	2/month
Copper	2/month	---	2/month	2/month	2/month
Cyanide, WAD	---	---	2/month	---	---
Iron	2/month	---	2/month	2/month	2/month
Lead	2/month	---	2/month	2/month	2/month
Manganese	2/month	---	2/month	2/month	2/month
Mercury, total	2/month	---	2/month	2/month	2/month

Parameter[1]	**Station 160[2]**	**Station 150[2]**	**Station 151[2]**	**Station 12[2]**	**Station 140[2]**
Nickel	2/month	---	2/month	2/month	2/month
Selenium	2/month	---	2/month	2/month	2/month
Zinc	2/month	---	2/month	2/month	2/month
Total Ammonia as N, mg/L	2/month	---	2/month	2/month	2/month
Conductivity, µS/cm[3]	1/week	1/week	1/week	2/month	2/month
Hardness, mg/L $CaCO_3$	2/month	---	2/month	2/month	2/month
Temperature, °Celsius	2/month	---	2/month	2/month	2/month
TDS, mg/L	1/week	1/week	1/week	2/month	2/month
TDS Anions and Cations[4]	1/month	1/month	1/month	---	---
pH, s.u.	2/month	---	2/month	2/month	2/month
Turbidity, NTU	---	---	---	2/month	2/month

1. Monitoring for metals shall be in µg/L and total recoverable unless otherwise noted. For additional monitoring requirements for cyanide, see Part 1.2.6.1.
2. The permittee shall spread out the sample collection dates so that the samples collected are representative of the calendar month. To the extent practicable, ambient monitoring shall coincide with effluent monitoring. If weather, safety, shipping, and other environmental constraints prevent the permittee from collecting representative samples, the permittee shall document the condition which prevented the representative samples from being collected on the discharge monitoring reports.
3. Microsiemens per centimeter
4. This monitoring shall include carbonates, chlorides, sulfates, potassium, magnesium, calcium, and sodium. The carbonate analysis should be estimated based on direct measurement of alkalinity.

1.4.1.7 Streamflow shall be determined twice daily at Station 151. Streamflow shall be determined using standard methods recognized by the U.S. Geological Survey: gauging station data, discharge measurement, or estimation using all available information. Estimates must not be the sole means of determining flow at a site at all times; some discharge measurements shall be made for verification. “Discharge measurement” means measuring widths, depths, and velocities using a tape or tagline, sounding equipment, and/or current meter.

1.4.1.1 Streamflow data and the methods used to determine streamflow shall be submitted to DEC monthly with the DMR.

1.4.2 Precipitation and Evaporation Monitoring

1.4.2.1 The permittee shall establish and maintain monitoring stations at the mine site to determine the net annual precipitation rate.

1.4.2.2 Precipitation (rain and snow) data shall be recorded daily.

1.4.2.3 Evaporation data shall be recorded daily from June 1st to August 31st every year. Evaporation data shall be gathered earlier if the evaporation pan is not frozen. The permittee shall operate the evaporation pan properly to assure that the daily evaporation rate can be determined.

1.4.2.4 Spring snow pack readings shall be taken before spring melt each year. For snow pack readings, the measurement shall be reported with the Annual Report described in Part 1.7.

1.4.2.5 Records of precipitation and evaporation monitoring shall include the date and time.

1.4.2.6 The precipitation and evaporation monitoring records shall be kept on site and made available to DEC upon request.

1.4.2.7 The total precipitation and total evaporation records shall be reported in the Annual Report described in Part 1.7. The Annual Report shall also include the net annual precipitation volume compared to the volume of water discharged through Outfall 001.

1.4.3 Bioassessment Monitoring Program

1.4.3.1 Within 60 days of the effective date of the permit, the permittee shall submit for review and approval to DEC, an updated version of the Methods for Aquatic Life Monitoring to Satisfy Requirements of 2010 NPDES Permit, Red Dog Mine Site (Revision #1) – submitted by Teck Alaska, Inc., 2010, which was designed to detect possible aquatic community changes related to the mine effluent as shown in Table 4.

Table 4: Bioassessment Program

Sample Site	Factors Measured
North Fork Red Dog Creek	• Periphyton (as chlorophyll-a concentrations) • Aquatic invertebrates: taxonomic richness and abundance • Fish presence and use
Main Stem Red Dog Creek	• Periphyton (as chlorophyll-a concentrations) • Aquatic invertebrates: taxonomic richness and abundance • Fish presence and use
Ikalukrok Creek	• Periphyton (as chlorophyll-a concentrations) • Aquatic invertebrates: taxonomic richness and abundance • Fish presence and use

1.4.3.2 The permittee shall summarize the results of the bioassessment program and submit it to DEC by May 15th of the following year.

1.5 Mixing Zones

1.5.1 Mixing Zone 1 in the Middle Fork of Red Dog Creek (Middle Fork) extends from Outfall 001 to the confluence with the North Fork of Red Dog Creek, The Middle Fork mixing zone is about 7,000 feet long and is authorized only for pH.

1.5.2 Mixing Zone 2 in the Main Stem of Red Dog Creek (Main Stem) extends from the confluence of the Lower Middle Fork with the North Fork to Station 151. The Main Stem mixing zone is approximately 1,930 feet long and provides mixing in the ratio of 1.5 parts receiving flow to 1 part effluent inflow for a dilution factor of 2.5. This mixing zone is authorized for the following parameters: TDS, ammonia, selenium, and weak acid dissociable cyanide.

1.5.3 Mixing Zone 3 in Ikalukrok Creek extends from the confluence of the Main Stem and Ikalukrok Creek about 3,420 feet downstream to Station 150. The Ikalukrok Creek mixing zone provides mixing in a ratio of 1 part receiving (Ikalukrok) flow to 1 part Main Stem flow for a dilution factor of 2. Mixing Zone 3 is authorized only for TDS.

1.6 Whole Effluent Toxicity Testing Requirements

1.6.1 The Permittee must conduct bimonthly chronic whole effluent toxicity (WET) tests on effluent samples from Outfall 001. Testing must be conducted in accordance with Permit Parts 1.6.2 through 1.6.8.

1.6.2 Chronic toxicity testing must be conducted on a grab sample of the effluent. Additionally, a split of each sample collected must be analyzed for the chemical and physical parameters required in Permit Part 1.2. Samples for toxicity testing should be of adequate size to accommodate the split sample. When the timing of sample collection coincides with that of the sampling required in Permit Part1.2, analysis of the split sample will fulfill the requirements of these parts as well.

1.6.3 Chronic Test Species and Methods:

1.6.3.1 Chronic tests must be conducted bimonthly.

1.6.3.2 Tests (survival and reproduction test) shall be conducted using water fleas, *Ceriodaphnia dubia*.

1.6.3.3 The presence of chronic toxicity shall be estimated as specified in *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms*, Fourth Edition (EPA/821-R-02-013, October 2002).

1.6.3.4 Results must be reported in TU_c, where $TU_c = 100/IC_{25}$. See Appendix C for a definition of inhibition concentration 25% (IC_{25}).

1.6.4 Quality Assurance

1.6.4.1 Toxicity testing on each organism must include the following series of five test dilutions (100%, 50%, 25%, 12.5%, and 6.25%) and a control.

1.6.4.2 All quality assurance criteria and statistical analyses used for chronic tests and reference toxicant tests must be according to *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms Fourth Edition* (EPA/821-R-02-013, October 2002). If logistical problems beyond the control of the Permittee prevent the timely delivery of a sample to the laboratory, the Permittee may collect only two samples for WET testing and the acceptable sample holding times can be extended from 36 to 48 hours.

1.6.4.3 In addition to those quality assurance measures specified in the methodology, the following quality assurance procedures must be followed:

1.6.4.3.1 If organisms are not cultured in-house, concurrent testing with reference toxicants must be conducted. If organisms are cultured in-house, quarterly reference toxicant testing is sufficient. Reference toxicant tests must be conducted using the same test conditions as the effluent toxicity tests.

1.6.4.3.2 If either of the reference toxicant tests or the effluent tests does not meet all test acceptability criteria, as specified in the test methods manual, the Permittee must re-sample and re-test within 14 days of receipt of the test results.

1.6.4.3.3 Control and dilution water must be receiving water or lab water, as appropriate, as described in the manual. If the dilution water used is different from the culture water, a second control using culture water must also be used. Receiving water may be used as control and dilution water upon notification and approval from DEC. In no case shall water that has not met test acceptability criteria be used for either dilution or control.

1.6.5 If the chronic toxicity in effluent exceeds the Maximum Daily Limit, 12.2 TU_c, or the Average Monthly Limit, 9.7 TU_c Permit Parts 1.6.6 and/or 1.6.7 apply.

1.6.6 Accelerated Testing

1.6.6.1 If the Permittee demonstrates through an evaluation of facility operations that the cause of the exceedance is known and corrective actions have been implemented, only one accelerated test is necessary and the Permittee would return to normal WET testing frequency. If toxicity exceeding the trigger is detected in this test, then the toxicity reduction evaluation (TRE) requirements in Permit Part 1.6.7 shall apply, or

1.6.6.2 If chronic toxicity is detected above a limit specified in Permit Part 1.6.5 and no initial investigation is conducted or no cause is found then the

Permittee must conduct four more biweekly tests over an eight week period. This accelerated testing must be initiated within two weeks of receipt of the test results that indicate an exceedance.

1.6.6.3 The Permittee must notify DEC of the exceedance in writing within two weeks of receipt of the test results. The notification must include the following information:

1.6.6.3.1 A status report on any actions required by the permit, with a schedule for actions not yet completed.

1.6.6.3.2 A description of any additional actions the Permittee has taken or will take to investigate and correct the cause(s) of the toxicity.

1.6.6.3.3 Where no actions have been taken, a discussion of the reasons for not taking action.

1.6.6.4 If none of the four accelerated tests exceed a limit specified in Permit Part 1.6.5, the Permittee may return to the normal testing frequency. If any of the four tests exceed a limit, then the TRE requirements in Permit Part 1.6.7 shall apply.

1.6.7 Toxicity Reduction Evaluation (TRE) and Toxicity Identification Evaluation (TIE)

1.6.7.1 If a limit specified in Permit Part 1.6.5 is exceeded during accelerated testing under Permit Part 1.6.6, the Permittee must initiate a TRE in accordance with *Generalized Methodology for Conducting Industrial Toxicity Reduction Evaluations* (EPA/600/2-88/070) within two weeks of the receipt of the test results showing an exceedance. At a minimum, the TRE must include:

1.6.7.1.1 Further actions to investigate and identify the cause of toxicity;

1.6.7.1.2 Actions the Permittee will take to mitigate the impact of the discharge and to prevent the recurrence of toxicity; and

1.6.7.1.3 A schedule for these actions.

1.6.7.2 If a TRE is initiated prior to completion of the accelerated testing, the accelerated testing schedule may be terminated, or used as necessary in performing the TRE. The Permittee may initiate a TIE as part of the TRE process. Any TIE must be performed in accordance with EPA guidance manuals, *Toxicity Identification Evaluation; Characterization of Chronically Toxic Effluents, Phase I* (EPA/600/6-91/005F), *Methods for Aquatic Toxicity Identification Evaluations, Phase II: Toxicity Identification Procedures for Samples Exhibiting Acute and Chronic Toxicity* (EPA/600/R-92/080), and *Methods for Aquatic Toxicity*

Identification Evaluations, Phase III: Toxicity Confirmation Procedures for Samples Exhibiting Acute and Chronic Toxicity (EPA-600/R-92/081).

1.6.8 Reporting

1.6.8.1 The Permittee shall submit the results of the toxicity tests in TU_c with the DMR for the month in which the results are received. The full toxicity test results report shall be submitted by the end of the month following the month in which the DMR is submitted.

1.6.8.2 .The Permittee must submit the results of any accelerated testing, under Permit Part 1.6.6, within two weeks of receipt of the results from the lab. The full report must be submitted within four weeks of receipt of the results from the lab. If an initial investigation indicates the source of toxicity and accelerated testing is unnecessary, the result of the investigation must be submitted with the DMR for the month following completion of the investigation.

1.6.8.3 The report of toxicity test results must include all relevant information outlined in Section 10, Report Preparation of *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, Fourth Edition* (EPA/821-R-02-013, October 2002). In addition to toxicity test results, the Permittee must report: dates of sample collection and initiation of each test; flow rate at the time of sample collection; the results of the monitoring required in Permit Part 1.2; and an explanation of logistical problems described in Permit Part 1.6.4.2, if encountered.

1.7 Annual Water Quality Monitoring Summary

All monitoring results for a year must be included in an Annual Water Monitoring Summary Report and submitted by March 1st of the following year. The report must include a presentation of the analytical results and an evaluation of the results of monitoring required in Parts 1.2 through 1.6. The evaluation must include an electronic spreadsheet containing monitoring data from the previous five years, a graphical presentation of the data at each monitoring station, a comparison of upstream and downstream monitoring results (to show any differences) and a comparison of monitoring results for each station over time (to show any trends). The Annual Report must be certified and signed in accordance with Appendix A, Part 1.12, and it may reference the monthly reports for QA/QC information.

All monitoring results for a calendar year shall be reported in the Report. At a minimum, the report must include the following:

- Dates of sample collection and analyses,
- Results of sample analysis, and
- Relevant QA/QC information.

2.0 SPECIAL CONDITIONS

2.1 Quality Assurance Project Plan

The permittee must develop a quality assurance project plan (QAPP) for all monitoring required by this permit. Within 60 days of the effective date of this permit, the permittee must update the QAPP and submit written notification to DEC that the updated QAPP is being implemented. An existing QAPP may be modified under this section provided that Parts 2.1.1 through 2.1.4 are satisfied.

2.1.1 The QAPP must be designed to assist in planning for the collection and analysis of effluent and receiving water samples in support of the permit and to help explain data anomalies whenever they occur.

2.1.2 Throughout all sample collection and analysis activities, the permittee must use DEC-approved QA/QC and chain-of-custody procedures, as described in the *Requirements for Quality Assurance Project Plans* (EPA/QA/R-5) and *Guidance for Quality Assurance Project Plans* (EPA/QA/G-5). The QAPP must be prepared in the format which is specified in these documents.

2.1.3 The permittee must amend the QAPP whenever there is a modification in sample collection, sample analysis, or other procedure addressed by the QAPP.

2.1.4 Copies of the QAPP must be kept on site and made available to DEC upon request.

2.2 Site Management Pollution Prevention Plan

2.2.1 Purpose. The permittee shall develop a site management pollution prevention plan (the Plan) to prevent and minimize the potential for the release of pollutants from their property to waters of the U.S. within 60 days of the effective date of this permit. The Plan shall be signed in accordance with Appendix A, Part 1.12. A notice of the Plan's completion and implementation shall be sent to DEC. The Plan shall be retained on-site and be made available to DEC upon request.

2.2.2 Development and Implementation Schedule. The Plan shall be consistent with the above objectives and the general guidance contained in the following publications, or any subsequent revision to these guidance documents:

- Best Management Practices Guidance Document, EPA, 1993.
- Storm Water Management Plans for Industrial Activities, EPA, 1992.
- Storm Water Management Plans for Construction Activities, EPA, 1992.

2.2.3 The permittee shall establish specific best management practices to meet the objectives and shall address each component or system capable of generating or causing a release of pollutants. Moreover, the Plan shall include, at a minimum, the following items:

2.2.3.1 Pollution Prevention Team. The Plan shall identify a specific individual or individuals within the facility organization as members of the Pollution

Prevention Team. The pollution prevention team shall be responsible for developing the Plan and assisting the facility or plant manager in its implementation, maintenance, and revision. The Plan shall clearly identify who is responsible for the implementation of each condition of the Plan. The activities and responsibilities of the team shall address all aspects of the facility's discharges. In lieu of naming specific individuals as members of the pollution prevention team, the permittee may name the corporate position(s) responsible for developing and implementing the Plan.

2.2.3.2 Description of Sources

2.2.3.2.1 A site map indicating an outline of the portions of the drainage area of each point source that are within the facility boundaries, each existing structural control measure to reduce pollutants in storm water runoff, surface waterbodies, locations where significant materials are exposed to precipitation, and the locations (if applicable) of the following activities and sites where such activities or sites are exposed to precipitation: buildings, camps, airport, construction areas, and any disturbed area.

2.2.3.2.2 A site map indicating the flow direction of drainage.

2.2.3.2.3 For each area that generates storm water discharges associated with industrial activity with a reasonable potential for containing amounts of pollutants, a prediction of the direction of flow, and an identification of the types of pollutants which are likely to be present in storm water discharges associated with industrial activity. Factors to consider include the toxicity of chemical; quantity of chemicals used, produced or discharged; the likelihood of contact with storm water; and history of significant leaks or spills of toxic or hazardous pollutants. Flows with a potential for causing erosion shall be identified.

2.2.3.2.4 For each area that generates storm water discharges associated with construction or exploration activities, descriptions of the following components shall be included in the Plan:

- The nature of the activity,
- Estimates of the total area of the site and the area of the site that is expected to be disturbed by mining activities or related land-disturbing activities,
- Existing data describing the soil or the existing data describing the quality of any discharge from the site,
- A site map indicating drainage patterns and approximate slopes anticipated after land-disturbing activities, areas of soil disturbance, the location of major control structures identified

in the Plan, areas where stabilization practices are expected to occur; and

- The name of the receiving water(s) and the ultimate receiving water(s).

2.2.3.2.5 Inventory of Exposed Materials. An inventory of the types of materials handled at the site that potentially may be exposed to precipitation and the materials that have the potential for failure (tank overflow or leakage). The inventory shall include a narrative description of significant materials that have been handled, treated, stored or disposed in a manner to allow exposure to storm water; method, location, and size of on-site storage or disposal; materials management practices employed to minimize contact of materials with storm water runoff; the location and a description of existing structural and non-structural control measures to reduce pollutants in storm water runoff; and a description of any treatment the storm water receives.

2.2.3.2.6 Spills and Leaks. A list of significant spills that may occur at the site and at areas that are exposed to precipitation or that otherwise drain to a storm water conveyance at the facility. Such list shall be updated as appropriate during the term of the permit.

2.2.3.2.7 Risk Identification and Summary of Potential Pollutant Sources. The Plan shall identify all activities, sites, and significant materials which may potentially be pollutant sources. The Plan shall also include a narrative description of the potential pollutant sources from the following activities: loading and unloading operations; outdoor storage activities; outdoor manufacturing or processing activities; dust or particulate generating processes; and on-site waste disposal practices. The description shall specifically list any potential source of pollutants at the site, and for each potential source, any pollutant or pollutant parameter (e.g. biochemical oxygen demand, etc.) of concern shall be identified. The Plan shall provide a description of potential sources which may reasonably be expected to add amounts of pollutants to storm water discharges.

2.2.3.2.8 Measures and Controls. The facility shall develop a description of pollution prevention controls appropriate for the facility and implement such controls. The appropriateness and priorities of controls in the Plan shall reflect identified potential sources of pollutants at the facility. The description of management controls shall address the following minimum components, including a schedule for implementing such controls:

2.2.3.2.8.1 Good Housekeeping - Good housekeeping requires the maintenance of areas which may contribute pollutants.

2.2.3.2.8.2 Preventive Maintenance - A preventive maintenance program shall involve timely inspection and maintenance of storm water management devices (e.g., cleaning oil/water separators, catch basins, pumps, channels, ditch) as well as inspecting and testing facility equipment and systems to uncover conditions that could cause breakdowns or failures resulting in discharges of pollutants to surface waters, and ensuring appropriate maintenance of such equipment and systems.

2.2.3.2.8.3 Spill Prevention and Response Procedures - Areas where spills could result in the discharge of pollutants shall be identified clearly in the Plan. Where appropriate, specifying material handling procedures, storage requirements, and use of equipment such as diversion valves in the Plan should be considered. Procedures for cleaning up spills shall be identified in the Plan and made available to the appropriate personnel. The necessary equipment to implement a cleanup must be available to personnel.

2.2.3.2.8.4 Measures and Controls for storm water associated with construction or exploration activities outside of the area which drains into the tailings impoundment - The Plan shall describe the relationship between the implementation and maintenance of controls and measures and the various stages or phases of earth disturbance (for example, clearing and grubbing necessary for perimeter controls, initiation of perimeter controls, remaining clearing and grubbing, road grading, remaining site grading, storm drain installation, final grading, stabilization, removal of control measures). The description of controls shall address the following minimum components:

- Erosion and sediment controls,
- Stabilization practices,
- Structural practices,
- Storm water management (description of measure to control pollutants in storm water discharges);
- Other controls to eliminate contact of storm water with materials on site; and
- Measures to reduce pollutant loadings.

2.2.3.2.9 Employee Training. The Plan shall identify dates for annual employee training programs. The training programs shall inform personnel responsible for implementing activities identified in the Plan or otherwise responsible for all levels of responsibility of the components and goals of the Plan. Training shall address topics such as spill response, good housekeeping and material management practices.

2.2.3.2.10 Sediment and Erosion Control. The Plan shall identify areas which, due to topography, activities, or other factors, have a high potential for soil erosion, and identify structural, vegetative, and/or stabilization measures to be used to limit erosion.

2.2.3.2.11 Specific Best Management Practices. The Plan shall establish specific best management practices or other measures which ensure that the following specific requirements are met:

2.2.3.2.11.1 Ensure that berms, including any pond walls, ditches, dikes, dams and similar water retention structures shall be constructed in a manner that they reject the passage of unwanted water.

2.2.3.2.11.2 Ensure that measures are taken to assure that pollutant materials removed from the process water and wastewater streams will be retained and not discharged to waters of the United States.

2.2.3.2.11.3 Ensure that all water control devices, including but not limited to structures and berms, and all solids retention structures such as berms, dikes, and pond structures and dams, shall be maintained to continue their effectiveness and to protect from failure.

2.2.3.2.11.4 Ensure that best blasting practices are used in any wet blast holes to minimize the amount of blasting agent that dissolves into the groundwater in the vicinity of the blast hole.

2.2.4 Qualified facility personnel shall conduct routine inspections on a monthly basis on areas susceptible to leaks (including leaks from the tailings impoundment), spills and other identified problem areas.

2.2.4.1 For an inspection, the following conditions shall be met:

2.2.4.1.1 A visual inspection of equipment needed to implement the Plan, such as spill response equipment, shall be made.

2.2.4.1.2 Areas impacted by storm water discharge shall be visually inspected for evidence of, or the potential for, pollutants entering the drainage system. Measures to reduce pollutant loadings shall be evaluated to determine whether they are adequate and properly implemented in accordance with the terms of the permit or whether additional control measures are needed. Structural storm water management measures, sediment and erosion control measures, and other structural pollution prevention measures identified in the Plan shall be observed to ensure that they are operating correctly.

2.2.4.1.3 The permittee shall inspect disturbed areas of the construction or exploration site exposed to precipitation outside of the area which drains into the tailings impoundment as follows:

2.2.4.1.3.1 Weekly during the months of May, June, September and October; and

2.2.4.1.3.2 Within 24 hours of the end of a 24-hour rain event that is 0.5 inches or greater.

2.2.5 Twice per year, the permittee shall 1) identify areas impacted by storm water discharges associated with construction or exploration activities, and 2) evaluate whether measures identified in the Plan to reduce pollutant loadings generated by storm water discharges associated with construction or exploration activities are adequate and properly implemented.

2.2.6 Based on the results of the inspections, the permittee shall initiate corrective measures within 30 days of such inspection or as soon as practicable under extenuating circumstances. The permittee shall notify DEC of the extenuating circumstances within 15 days of the inspection. Any corrective measures shall be documented and be included in the Plan.

2.2.7 The permittee shall prepare an annual report summarizing the:

2.2.7.1 Scope of the inspections,

2.2.7.2 Personnel making the inspections

2.2.7.3 Dates of the inspections,

2.2.7.4 Corrective actions taken as a result of the inspection,

2.2.7.5 Description of the quality and quantity of storm water discharged,

2.2.7.6 Construction activities during the year,

2.2.7.7 Employee training conducted during the year, and

2.2.7.8 Plan modifications made during the year.

In addition, the report shall identify any incidents of non-compliance. Where a report does not identify any incidents of non-compliance, the report shall contain a certification that the facility is in compliance with the Plan and this permit.

This report shall be signed in accordance with Appendix A, Part 1.12 and shall be submitted to DEC by March 1st of the next year.

2.2.8 The permittee shall amend the Plan whenever there is a change in design, construction, operation, or maintenance, which has an effect on the potential for the discharge of pollutants to the waters of the United States or if the Plan proves to be ineffective in eliminating or minimizing pollutants from sources impacting water quality, or in otherwise achieving the general objectives of controlling

pollutants. Amendments to the Plan are subject to review by DEC, and they shall be kept on site and made available to DEC upon request.

2.3 Electronic Reporting

2.3.1 E-Reporting Rule for DMRs (Phase I)

The permittee must submit DMR data electronically through NetDMR per Phase I of the E-Reporting Rule (40 CFR 127) upon the effective date of the Permit. Authorized persons may access permit information by logging into the NetDMR Portal (https://cdxnodengn.epa.gov/oeca-netdmr-web/action/login). DMRs submitted in compliance with the E-Reporting Rule are not required to be submitted as described in Appendix A – Standard Conditions unless requested or approved by the Department. Any DMR data required by the Permit that cannot be reported in a NetDMR field (e.g. mixing zone receiving water data, etc…), shall be included as an attachment to the NetDMR submittal. DEC has established an e-Reporting Information website at http://dec.alaska.gov/water/Compliance/EReportingRule.htm that contains general information about this new reporting format. Training materials and webinars for NetDMR can be found at https://netdmr.zendesk.com/home.

2.3.2 E-Reporting Rule for Other Reports (Phase II)

Phase II of the E-Reporting rule will integrate electronic reporting for all other reports required by the Permit (e.g., Annual Reports and Certifications) and implementation is expected to begin December 2020. Permittees should monitor DEC's E-Reporting Information website (http://dec.alaska.gov/water/Compliance/EReportingRule.htm) for updates on Phase II of the E-Reporting Rule and will be notified when they must begin submitting all other reports electronically. Until such time, other reports required by the Permit may be submitted in accordance with Appendix A – Standard Conditions.

Figure 1: Red Dog Mine Map

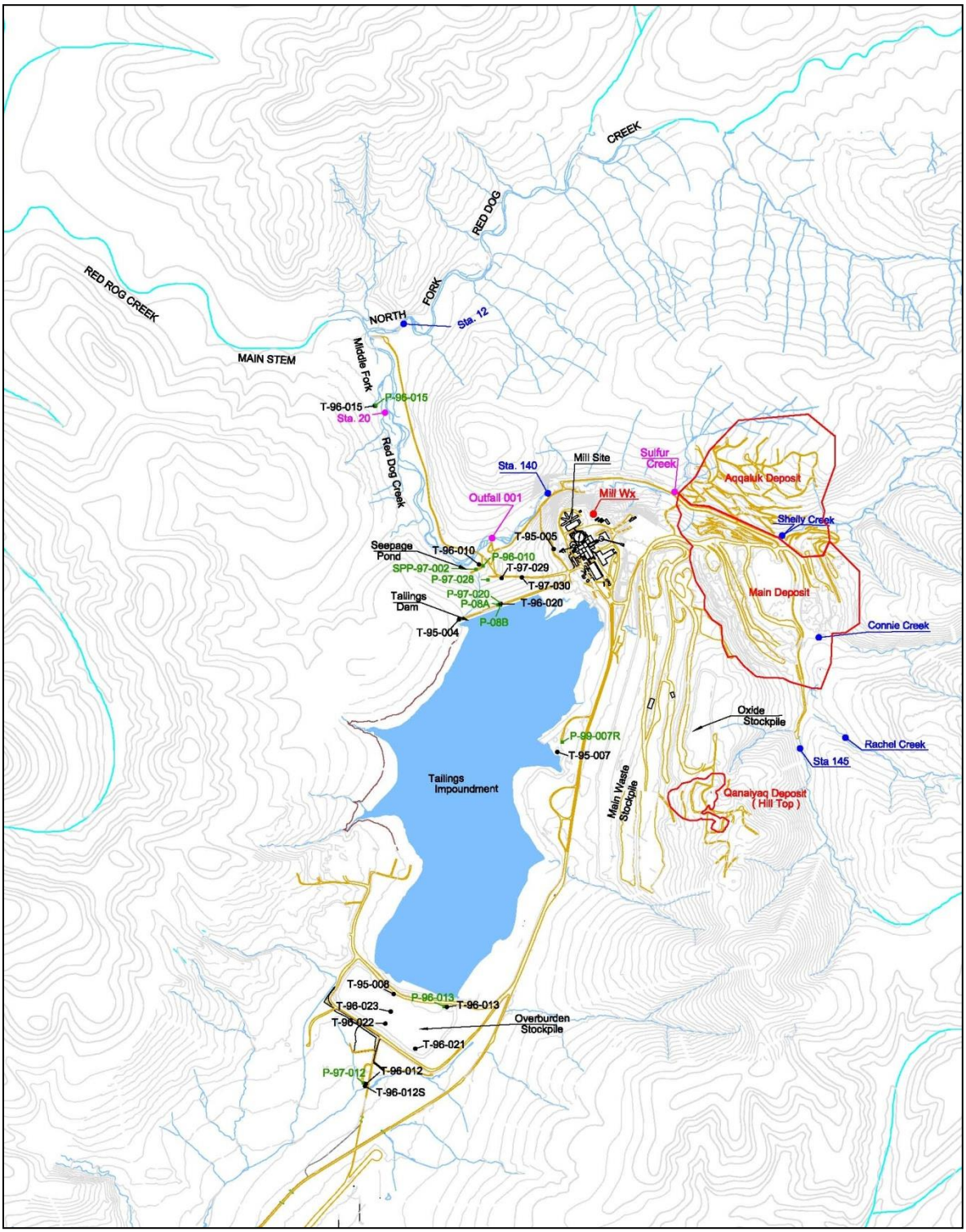


Figure 2: Mixing Zones and Ambient Monitoring Sampling Locations

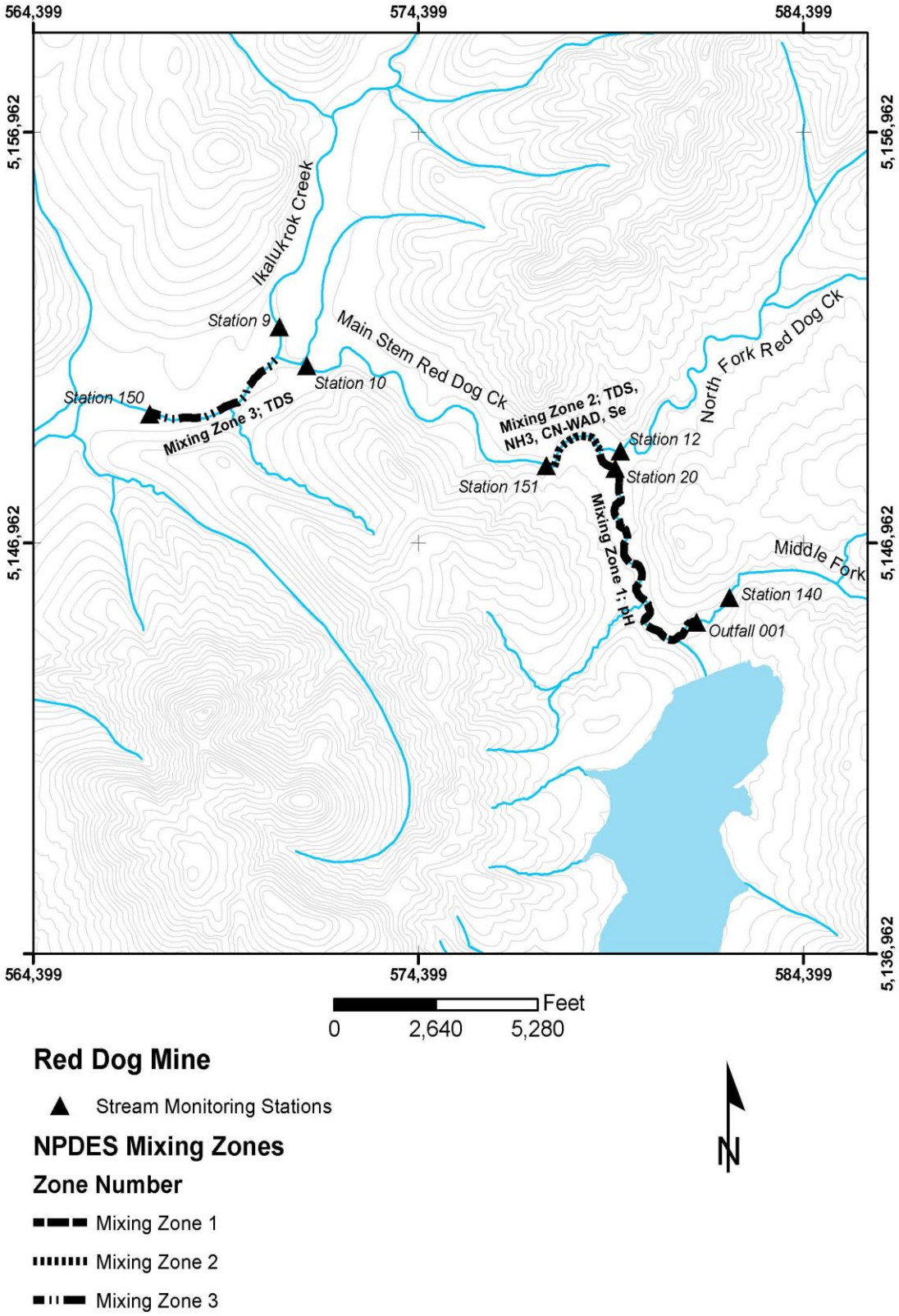
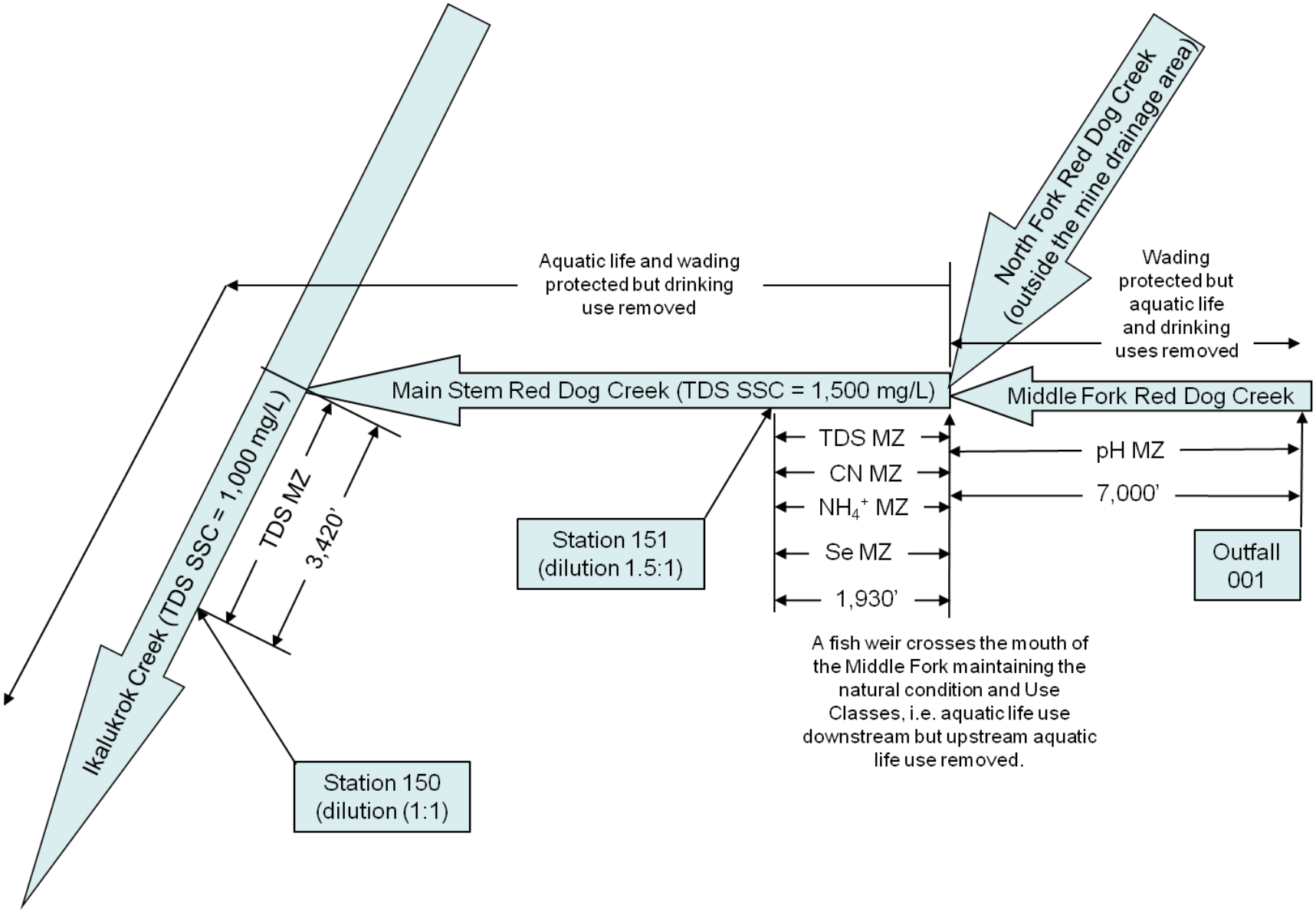


Figure 3: Schematic of Mixing Zones



Appendix A

STANDARD CONDITIONS

APDES PERMIT

NONDOMESTIC DISCHARGES

June 2010

TABLE OF CONTENTS

1.0 Standard Conditions Applicable to All Permits 1

1.1 Contact Information and Addresses 1
1.2 Duty to Comply 1
1.3 Duty to Reapply 2
1.4 Need to Halt or Reduce Activity Not a Defense 2
1.5 Duty to Mitigate 2
1.6 Proper Operation and Maintenance 2
1.7 Permit Actions 2
1.8 Property Rights 2
1.9 Duty to Provide Information 2
1.10 Inspection and Entry 3
1.11 Monitoring and Records 3
1.12 Signature Requirement and Penalties 4
1.13 Proprietary or Confidential Information 5
1.14 Oil and Hazardous Substance Liability 5
1.15 Cultural and Paleontological Resources 6
1.16 Fee 6
1.17 Other Legal Obligations 6

2.0 Special Reporting Obligations 6

2.1 Planned Changes 6
2.2 Anticipated Noncompliance 6
2.3 Transfers 7
2.4 Compliance Schedules 7
2.5 Corrective Information 7
2.6 Bypass of Treatment Facilities 7
2.7 Upset Conditions 8
2.8 Existing Manufacturing, Commercial, Mining, and Silvicultural Discharges 8

3.0 Monitoring, Recording, and Reporting Requirements 9

3.1 Representative Sampling 9
3.2 Reporting of Monitoring Results 9
3.3 Additional Monitoring by Permittee 9
3.4 Twenty-four Hour Reporting 9
3.5 Other Noncompliance Reporting 10

4.0 Penalties for Violations of Permit Conditions 11

4.1 Civil Action 11
4.2 Injunctive Relief 11
4.3 Criminal Action 11
4.4 Other Fines 11

Appendix A of the Fact Sheet contains standard regulatory language that must be included in all APDES permits. These requirements are based on the regulations and cannot be challenged in the context of an individual APDES permit action. The standard regulatory language covers requirements such as monitoring, recording, reporting requirements, compliance responsibilities, and other general requirements. Appendix A, Standard Conditions is an integral and enforceable part of the permit. Failure to comply with a Standard Condition in this Appendix constitutes a violation of the permit and is subject to enforcement.

1.0 Standard Conditions Applicable to All Permits

1.1 Contact Information and Addresses

1.1.1 Permitting Program

Documents, reports, and plans required under the permit and Appendix A are to be sent to the following address:

State of Alaska
Department of Environmental Conservation
Division of Water
Wastewater Discharge Authorization Program
555 Cordova Street
Anchorage, Alaska 99501
Telephone (907) 269-6285
Fax (907) 269-7508
Email: DEC.Water.WQPermit@alaska.gov

1.1.2 Compliance and Enforcement Program

Documents and reports required under the permit and Appendix A relating to compliance are to be sent to the following address:

State of Alaska
Department of Environmental Conservation
Division of Water
Compliance and Enforcement Program
555 Cordova Street
Anchorage, Alaska 99501
Telephone Nationwide (877) 569-4114
Anchorage Area / International (907) 269-4114
Fax (907) 269-4604
Email: dec-wqreporting@alaska.gov

1.2 Duty to Comply

A permittee shall comply with all conditions of the permittee's APDES permit. Any permit noncompliance constitutes a violation of 33 U.S.C 1251-1387 (Clean Water Act) and state law and is grounds for enforcement action including termination, revocation and reissuance, or modification of a permit, or denial of a permit renewal application. A permittee shall comply with effluent standards or prohibitions established under 33 U.S.C. 1317(a) for toxic pollutants within the time provided in the regulations that establish those effluent standards or prohibitions even if the permit has not yet been modified to incorporate the requirement.

1.3 Duty to Reapply

If a permittee wishes to continue an activity regulated by this permit after its expiration date, the permittee must apply for and obtain a new permit. In accordance with 18 AAC 83.105(b), a permittee with a currently effective permit shall reapply by submitting a new application at least 180 days before the existing permit expires, unless the Department has granted the permittee permission to submit an application on a later date. However, the Department will not grant permission for an application to be submitted after the expiration date of the existing permit.

1.4 Need to Halt or Reduce Activity Not a Defense

In an enforcement action, a permittee may not assert as a defense that compliance with the conditions of the permit would have made it necessary for the permittee to halt or reduce the permitted activity.

1.5 Duty to Mitigate

A permittee shall take all reasonable steps to minimize or prevent any discharge in violation of this permit that has a reasonable likelihood of adversely affecting human health or the environment.

1.6 Proper Operation and Maintenance

1.6.1 A permittee shall at all times properly operate and maintain all facilities and systems of treatment and control and related appurtenances that the permittee installs or uses to achieve compliance with the conditions of the permit. The permittee's duty to operate and maintain properly includes using adequate laboratory controls and appropriate quality assurance procedures. However, a permittee is not required to operate back-up or auxiliary facilities or similar systems that a permittee installs unless operation of those facilities is necessary to achieve compliance with the conditions of the permit.

1.6.2 Operation and maintenance records shall be retained and made available at the site.

1.7 Permit Actions

A permit may be modified, revoked and reissued, or terminated for cause as provided in 18 AAC 83.130. If a permittee files a request to modify, revoke and reissue, or terminate a permit, or gives notice of planned changes or anticipated noncompliance, the filing or notice does not stay any permit condition.

1.8 Property Rights

A permit does not convey any property rights or exclusive privilege.

1.9 Duty to Provide Information

A permittee shall, within a reasonable time, provide to the Department any information that the Department requests to determine whether a permittee is in compliance with the permit, or whether cause exists to modify, revoke and reissue, or terminate the permit. A permittee shall also provide to the Department, upon request, copies of any records the permittee is required to keep under the permit.

1.10 Inspection and Entry

A permittee shall allow the Department, or an authorized representative, including a contractor acting as a representative of the Department, at reasonable times and on presentation of credentials establishing authority and any other documents required by law, to:

1.10.1 Enter the premises where a permittee's regulated facility or activity is located or conducted, or where permit conditions require records to be kept;

1.10.2 Have access to and copy any records that permit conditions require the permittee to keep;

1.10.3 Inspect any facilities, equipment, including monitoring and control equipment, practices, or operations regulated or required under a permit; and

1.10.4 Sample or monitor any substances or parameters at any location for the purpose of assuring permit compliance or as otherwise authorized by 33 U.S.C. 1251-1387 (Clean Water Act).

1.11 Monitoring and Records

A permittee must comply with the following monitoring and recordkeeping conditions:

1.11.1 Samples and measurements taken for the purpose of monitoring must be representative of the monitored activity.

1.11.2 The permittee shall retain records in Alaska of all monitoring information for at least five years, or longer at the Department's request at any time, from the date of the sample, measurement, report, or application. Monitoring records required to be kept include:

1.11.2.1 All calibration and maintenance records,

1.11.2.2 All original strip chart recordings or other forms of data approved by the Department for continuous monitoring instrumentation,

1.11.2.3 All reports required by a permit,

1.11.2.4 Records of all data used to complete the application for a permit,

1.11.2.5 Field logbooks or visual monitoring logbooks,

1.11.2.6 Quality assurance chain of custody forms,

1.11.2.7 Copies of discharge monitoring reports, and

1.11.2.8 A copy of this APDES permit.

1.11.3 Records of monitoring information must include:

1.11.3.1 The date, exact place, and time of any sampling or measurement;

1.11.3.2 The name(s) of any individual(s) who performed the sampling or measurement(s);

1.11.3.3 The date(s) and time any analysis was performed;

1.11.3.4 The name(s) of any individual(s) who performed any analysis;

1.11.3.5 Any analytical technique or method used; and

1.11.3.6 The results of the analysis.

1.11.4 Monitoring Procedures

Analyses of pollutants must be conducted using test procedures approved under 40 CFR Part 136, adopted by reference at 18 AAC 83.010, for pollutants with approved test procedures, and using test procedures specified in the permit for pollutants without approved methods.

1.12 Signature Requirement and Penalties

1.12.1 Any application, report, or information submitted to the Department in compliance with a permit requirement must be signed and certified in accordance with 18 AAC 83.385. Any person who knowingly makes any false material statement, representation, or certification in any application, record, report, or other document filed or required to be maintained under a permit, or who knowingly falsifies, tampers with, or renders inaccurate any monitoring device or method required to be maintained under this permit shall, upon conviction, be subject to penalties under 33 U.S.C. 1319(c)(4), AS 12.55.035(c)(1)(B), (c)(2), and (c)(3) and AS 46.03.790(g).

1.12.2 In accordance with 18 AAC 83.385, an APDES permit application must be signed as follows:

1.12.2.1 For a corporation, a responsible corporate officer shall sign the application; in this subsection, a responsible corporate officer means:

1.12.2.1.1 A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation; or

1.12.2.1.2 The manager of one of more manufacturing, production, or operating facilities, if

1.12.2.1.2.1 The manager is authorized to make management decisions that govern the operation of the regulated facility, including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental statutes and regulations;

1.12.2.1.2.2 The manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and

1.12.2.1.2.3 Authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.

1.12.2.2 For a partnership or sole proprietorship, by the general partner or the proprietor, respectively, shall sign the application.

1.12.2.3 For a municipality, state, federal, or other public agency, either a principal executive officer or ranking elected official shall sign the application; in this subsection, a principal executive officer of an agency means:

1.12.2.3.1 The chief executive officer of the agency; or

1.12.2.3.2 A senior executive officer having responsibility for the overall operations of a principal geographic unit or division of the agency.

1.12.3 Any report required by an APDES permit, and a submittal with any other information requested by the Department, must be signed by a person described in Appendix A, Part 1.12.2, or by a duly authorized representative of that person. A person is a duly authorized representative only if:

1.12.3.1 The authorization is made in writing by a person described in Appendix A, Part 1.12.2;

1.12.3.2 The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, including the position of plant manager, operator of a well or a well field, superintendent, or position of equivalent responsibility; or an individual or position having overall responsibility for environmental matters for the company; and

1.12.3.3 The written authorization is submitted to the Department to the Permitting Program address in Appendix A, Part 1.1.1.

1.12.4 If an authorization under Appendix A, Part 1.12.3 is no longer effective because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of Appendix A, Part 1.12.3 must be submitted to the Department before or together with any report, information, or application to be signed by an authorized representative.

1.12.5 Any person signing a document under Appendix A, Part 1.12.2 or Part 1.12.3 shall certify as follows:

"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."

1.13 Proprietary or Confidential Information

1.13.1 A permit applicant or permittee may assert a claim of confidentiality for proprietary or confidential business information by stamping the words “confidential business information” on each page of a submission containing proprietary or confidential business information. The Department will treat the stamped submissions as confidential if the information satisfies the test in 40 CFR §2.208, adopted by reference at 18 AAC 83.010, and is not otherwise required to be made public by state law.

1.13.2 A claim of confidentiality under Appendix A, Part 1.13.1 may not be asserted for the name and address of any permit applicant or permittee, a permit application, a permit, effluent data, sewage sludge data, and information required by APDES or NPDES application forms provided by the Department, whether submitted on the forms themselves or in any attachments used to supply information required by the forms.

1.13.3 A permittee’s claim of confidentiality authorized under Appendix A, Part 1.13.1 is not waived if the Department provides the proprietary or confidential business information to the EPA or to other agencies participating in the permitting process. The Department will supply any information obtained or used in the administration of the state APDES program to the EPA upon request under 40 CFR §123.41, as revised as of July 1, 2005. When providing information submitted to the Department with a claim of confidentiality to the EPA, the Department will notify the EPA of the confidentiality claim. If the Department provides the EPA information that is not claimed to be confidential, the EPA may make the information available to the public without further notice.

1.14 Oil and Hazardous Substance Liability

Nothing in this permit shall be construed to preclude the institution of any action or relieve a permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject to under

state laws addressing oil and hazardous substances.

1.15 Cultural and Paleontological Resources

If cultural or paleontological resources are discovered because of this disposal activity, work that would disturb such resources is to be stopped, and the Office of History and Archaeology, a Division of Parks and Outdoor Recreation of the Alaska Department of Natural Resources (http://www.dnr.state.ak.us/parks/oha/), is to be notified immediately at (907) 269-8721.

1.16 Fee

A permittee must pay the appropriate permit fee described in 18 AAC 72.

1.17 Other Legal Obligations

This permit does not relieve the permittee from the duty to obtain any other necessary permits from the Department or from other local, state, or federal agencies and to comply with the requirements contained in any such permits. All activities conducted and all plan approvals implemented by the permittee pursuant to the terms of this permit shall comply with all applicable local, state, and federal laws and regulations.

2.0 Special Reporting Obligations

2.1 Planned Changes

2.1.1 The permittee shall give notice to the Department as soon as possible of any planned physical alteration or addition to the permitted facility if:

2.1.1.1 The alteration or addition may make the facility a “new source” under one or more of the criteria in 18 AAC 83.990(44); or

2.1.1.2 The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged if those pollutants are not subject to effluent limitations in the permit or to notification requirements under 18 AAC 83.610.

2.1.2 If the proposed changes are subject to plan review, then the plans must be submitted at least 30 days before implementation of changes (see 18 AAC 15.020 and 18 AAC 72 for plan review requirements). Written approval is not required for an emergency repair or routine maintenance.

2.1.3 Written notice must be sent to the Permitting Program address in Appendix A, Part 1.1.1.

2.2 Anticipated Noncompliance

2.2.1 A permittee shall give seven days’ notice to the Department before commencing any planned change in the permitted facility or activity that may result in noncompliance with permit requirements.

2.2.2 Written notice must be sent to the Compliance and Enforcement Program address in Appendix A, Part 1.1.2.

2.3 Transfers

2.3.1 A permittee may not transfer a permit for a facility or activity to any person except after notice to the Department in accordance with 18 AAC 83.150. The Department may modify or revoke and reissue the permit to change the name of the permittee and incorporate such other requirements under 33 U.S.C. 1251-1387 (Clean Water Act) or state law.

2.3.2 Written notice must be sent to the Permitting Program address in Appendix A, Part 1.1.1.

2.4 Compliance Schedules

2.4.1 A permittee must submit progress or compliance reports on interim and final requirements in any compliance schedule of a permit no later than 14 days following the scheduled date of each requirement.

2.4.2 Written notice must be sent to the Compliance and Enforcement Program address in Appendix A, Part 1.1.2.

2.5 Corrective Information

2.5.1 If a permittee becomes aware that it failed to submit a relevant fact in a permit application or submitted incorrect information in a permit application or in any report to the Department, the permittee shall promptly submit the relevant fact or the correct information.

2.5.2 Information must be sent to the Permitting Program address in Appendix A, Part 1.1.1.

2.6 Bypass of Treatment Facilities

2.6.1 Prohibition of Bypass

Bypass is prohibited. The Department may take enforcement action against a permittee for any bypass, unless:

2.6.1.1 The bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;

2.6.1.2 There were no feasible alternatives to the bypass, including use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. However, this condition is not satisfied if the permittee, in the exercise of reasonable engineering judgment, should have installed adequate back-up equipment to prevent a bypass that occurred during normal periods of equipment downtime or preventive maintenance; and

2.6.1.3 The permittee provides notice to the Department of a bypass event in the manner, as appropriate, under Appendix A, Part 2.6.2.

2.6.2 Notice of bypass

2.6.2.1 For an anticipated bypass, the permittee submits notice at least 10 days before the date of the bypass. The Department may approve an anticipated bypass, after considering its adverse effects, if the Department determines that it will meet the conditions of Appendix A, Parts 2.6.1.1 and 2.6.1.2.

2.6.2.2 For an unanticipated bypass, the permittee submits 24-hour notice, as required in 18 AAC 83.410(f) and Appendix A, Part 3.4, Twenty-four Hour Reporting.

2.6.2.3 Written notice must be sent to the Compliance and Enforcement Program address in Appendix A, Part 1.1.2.

2.6.3 Notwithstanding Appendix A, Part 2.6.1, a permittee may allow a bypass that:

2.6.3.1 Does not cause an effluent limitation to be exceeded, and

2.6.3.2 Is for essential maintenance to assure efficient operation.

2.7 Upset Conditions

2.7.1 In any enforcement action for noncompliance with technology-based permit effluent limitations, a permittee may claim upset as an affirmative defense. A permittee seeking to establish the occurrence of an upset has the burden of proof to show that the requirements of Appendix A, Part 2.7.2 are met.

2.7.2 To establish the affirmative defense of upset, the permittee must demonstrate, through properly signed, contemporaneous operating logs or other relevant evidence that:

2.7.2.1 An upset occurred and the permittee can identify the cause or causes of the upset;

2.7.2.2 The permitted facility was at the time being properly operated;

2.7.2.3 The permittee submitted 24-hour notice of the upset, as required in 18 AAC 83.410(f) and Appendix A, Part 3.4, Twenty-four Hour Reporting; and

2.7.2.4 The permittee complied with any mitigation measures required under 18 AAC 83.405(e) and Appendix A, Part 1.5, Duty to Mitigate.

2.7.3 Any determination made in administrative review of a claim that noncompliance was caused by upset, before an action for noncompliance is commenced, is not final administrative action subject to judicial review.

2.8 Existing Manufacturing, Commercial, Mining, and Silvicultural Discharges

2.8.1 In addition to the reporting requirements under 18 AAC 83.410, an existing manufacturing, commercial, mining, and silvicultural discharger shall notify the Department as soon as that discharger knows or has reason to believe that any activity has occurred or will occur that would result in:

2.8.1.1 The discharge, on a routine or frequent basis, of any toxic pollutant that is not limited in the permit, if that discharge will exceed the highest of the following notification levels:

2.8.1.1.1 One hundred micrograms per liter (100 µg/L);

2.8.1.1.2 Two hundred micrograms per liter (200 µg/L) for acrolein and acrylonitrile, 500 micrograms per liter (500 µg/L) for 2,4-dinitrophenol and for 2-methyl-4,6-dinitrophenol, and one milligram per liter (1 mg/L) for antimony;

2.8.1.1.3 Five times the maximum concentration value reported for that pollutant in the permit application in accordance with 18 AAC 83.310(c)-(g); or

2.8.1.1.4 The level established by the Department in accordance with 18 AAC 83.445.

2.8.1.2 Any discharge, on a non-routine or infrequent basis, of a toxic pollutant that is not limited in the permit, if that discharge will exceed the highest of the following notification levels:

2.8.1.2.1 Five hundred micrograms per liter (500 µg/L);

2.8.1.2.2 One milligram per liter (1 mg/L) for antimony;

2.8.1.2.3 Ten times the maximum concentration value reported for that pollutant in the permit application in accordance with 18 AAC 83.310(c)-(g); or

2.8.1.2.4 The level established by the Department in accordance with 18 AAC 83.445.

3.0 Monitoring, Recording, and Reporting Requirements

3.1 Representative Sampling

A permittee must collect effluent samples from the effluent stream after the last treatment unit before discharge into the receiving waters. Samples and measurements must be representative of the volume and nature of the monitored activity or discharge.

3.2 Reporting of Monitoring Results

At intervals specified in the permit, monitoring results must be reported on the EPA discharge monitoring report (DMR) form, as revised as of March 1999, adopted by reference.

3.2.1 Monitoring results shall be summarized each month on the DMR or an approved equivalent report. The permittee must submit reports monthly postmarked by the 20th day of the following month.

3.2.2 The permittee must sign and certify all DMRs and all other reports in accordance with the requirements of Appendix A, Part 1.12, Signatory Requirements and Penalties. All signed and certified legible original DMRs and all other documents and reports must be submitted to the Department at the Compliance and Enforcement Program address in Appendix A, Part 1.1.2.

3.2.3 If, during the period when this permit is effective, the Department makes available electronic reporting, the permittee may, as an alternative to the requirements of Appendix A, Part 3.2.2, submit monthly DMRs electronically by the 20th day of the following month in accordance with guidance provided by the Department. The permittee must certify all DMRs and other reports, in accordance with the requirements of Appendix A, Part 1.12, Signatory Requirements and Penalties. The permittee must retain the legible originals of these documents and make them available to the Department upon request.

3.3 Additional Monitoring by Permittee

If the permittee monitors any pollutant more frequently than the permit requires using test procedures approved in 40 CFR Part 136, adopted by reference at 18 AAC 83.010, or as specified in this permit, the results of that additional monitoring must be included in the calculation and reporting of the data submitted in the DMR required by Appendix A, Part 3.2. All limitations that require averaging of measurements must be calculated using an arithmetic means unless the Department specifies another method in the permit. Upon request by the Department, the permittee must submit the results of any other sampling and monitoring regardless of the test method used.

3.4 Twenty-four Hour Reporting

A permittee shall report any noncompliance event that may endanger health or the environment as follows:

3.4.1 A report must be made:

3.4.1.1 Orally within 24 hours after the permittee becomes aware of the circumstances, and

3.4.1.2 In writing within five days after the permittee becomes aware of the circumstances.

3.4.2 A report must include the following information:

3.4.2.1 A description of the noncompliance and its causes, including the estimated volume or weight and specific details of the noncompliance;

3.4.2.2 The period of noncompliance, including exact dates and times;

3.4.2.3 If the noncompliance has not been corrected, a statement regarding the anticipated time the noncompliance is expected to continue; and

3.4.2.4 Steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

3.4.3 An event that must be reported within 24 hours includes:

3.4.3.1 An unanticipated bypass that exceeds any effluent limitation in the permit (see Appendix A, Part 2.6, Bypass of Treatment Facilities).

3.4.3.2 An upset that exceeds any effluent limitation in the permit (see Appendix A, Part 2.7, Upset Conditions).

3.4.3.3 A violation of a maximum daily discharge limitation for any of the pollutants listed in the permit as requiring 24-hour reporting.

3.4.4 The Department may waive the written report on a case-by-case basis for reports under Appendix A, Part 3.4 if the oral report has been received within 24 hours of the permittee becoming aware of the noncompliance event.

3.4.5 The permittee may satisfy the written reporting submission requirements of Appendix A, Part 3.4 by submitting the written report via e-mail, if the following conditions are met:

3.4.5.1 The Noncompliance Notification Form or equivalent form is used to report the noncompliance;

3.4.5.2 The written report includes all the information required under Appendix A, Part 3.4.2;

3.4.5.3 The written report is properly certified and signed in accordance with Appendix A, Parts 1.12.3 and 1.12.5.;

3.4.5.4 The written report is scanned as a PDF (portable document format) document and transmitted to the Department as an attachment to the e-mail; and

3.4.5.5 The permittee retains in the facility file the original signed and certified written report and a printed copy of the conveying email.

3.4.6 The e-mail and PDF written report will satisfy the written report submission requirements of this permit provided the e-mail is received by the Department within five days after the time the permittee becomes aware of the noncompliance event and the e-mail and written report satisfy the criteria of Part 3.4.5. The e-mail address to report noncompliance is: dec-wqreporting@alaska.gov

3.5 Other Noncompliance Reporting

A permittee shall report all instances of noncompliance not required to be reported under Appendix A, Parts 2.4 (Compliance Schedules), 3.3 (Additional Monitoring by Permittee), and 3.4 (Twenty-four Hour Reporting) at the time the permittee submits monitoring reports under Appendix A, Part 3.2 (Reporting of Monitoring Results). A report of noncompliance under this part must contain the information listed in Appendix A, Part 3.4.2 and be sent to the Compliance and Enforcement Program address in Appendix A, Part 1.1.2.

4.0 Penalties for Violations of Permit Conditions

Alaska laws allow the State to pursue both civil and criminal actions concurrently. The following is a summary of Alaska law. Permittees should read the applicable statutes for further substantive and procedural details.

4.1 Civil Action

Under AS 46.03.760(e), a person who violates or causes or permits to be violated a regulation, a lawful order of the Department, or a permit, approval, or acceptance, or term or condition of a permit, approval or acceptance issued under the program authorized by AS 46.03.020 (12) is liable, in a civil action, to the State for a sum to be assessed by the court of not less than $500 nor more than $100,000 for the initial violation, nor more than $10,000 for each day after that on which the violation continues, and that shall reflect, when applicable:

4.1.1 Reasonable compensation in the nature of liquated damages for any adverse environmental effects caused by the violation, that shall be determined by the court according to the toxicity, degradability, and dispersal characteristics of the substance discharged, the sensitivity of the receiving environment, and the degree to which the discharge degrades existing environmental quality;

4.1.2 Reasonable costs incurred by the State in detection, investigation, and attempted correction of the violation;

4.1.3 The economic savings realized by the person in not complying with the requirements for which a violation is charged; and

4.1.4 The need for an enhanced civil penalty to deter future noncompliance.

4.2 Injunctive Relief

4.2.1 Under AS 46.03.820, the Department can order an activity presenting an imminent or present danger to public health or that would be likely to result in irreversible damage to the environment be discontinued. Upon receipt of such an order, the activity must be immediately discontinued.

4.2.2 Under AS 46.03.765, the Department can bring an action in Alaska Superior Court seeking to enjoin ongoing or threatened violations for Department-issued permits and Department statutes and regulations.

4.3 Criminal Action

Under AS 46.03.790(h), a person is guilty of a Class A misdemeanor if the person negligently:

4.3.1 Violates a regulation adopted by the Department under AS 46.03.020(12);

4.3.2 Violates a permit issued under the program authorized by AS 46.03.020(12);

4.3.3 Fails to provide information or provides false information required by a regulation adopted under AS 46.03.020(12);

4.3.4 Makes a false statement, representation, or certification in an application, notice, record, report, permit, or other document filed, maintained, or used for purposes of compliance with a permit issued under or a regulation adopted under AS 46.03.020(12); or

4.3.5 Renders inaccurate a monitoring device or method required to be maintained by a permit issued or under a regulation adopted under AS 46.03.020(12).

4.4 Other Fines

Upon conviction of a violation of a regulation adopted under AS 46.03.020(12), a defendant who is not

an organization may be sentenced to pay a fine of not more than $10,000 for each separate violation (AS 46.03.790(g)). A defendant that is an organization may be sentenced to pay a fine not exceeding the greater of: (1) $200,000; (2) three times the pecuniary gain realized by the defendant as a result of the offense; or (3) three times the pecuniary damage or loss caused by the defendant to another, or the property of another, as a result of the offense (AS 12.55.035(c)(B), (c)(2), and (c)(3)).

Appendix B

ACRONYMS

APPENDIX B

The following acronyms are terms found in the Alaska Pollutant Discharge Elimination System (APDES) permit.

40 CFR	Code of Federal Regulations Title 40: Protection of Environment
AAC	Alaska Administrative Code
APDES	Alaska Pollutant Discharge Elimination System
AS	Alaska Statutes
BOD_5	Biochemical Oxygen Demand, 5-day
CWA	Clean Water Act
°C	Degrees Celsius
DEC	Department of Environmental Conservation
DMR	Discharge Monitoring Report
EPA	U.S. Environmental Protection Agency
mg/L	Milligrams per Liter
mL	Milliliter
ML	Minimum Level of Quantification
NTU	Nephelometric Turbidity Units
QA/QC	Quality Assurance/Quality Control
QAPP	Quality Assurance Project Plan
s.u.	Standard Units
TSS	Total Suspended Solids
µg/L	Micrograms per Liter
µS/cm	Microsiemens per Centimeter
U.S.C.	United States Code
WAD	Weak Acid Dissociable

Appendix C

Definitions

APPENDIX C

The following are common definitions of terms associated with APDES permits. Not all the terms listed may appear in a permit. Consult the footnote references for a complete list of terms and definitions.

Average Monthly Discharge Limitation[a]	Means the highest allowable average of "daily discharges" over a calendar month calculated as the sum of all "daily discharges" measured during a calendar month divided by the number of "daily discharges" measured for that month
Bypass	Means the intentional diversion of waste streams from any portion of a treatment facility
Composite Samples	Composite samples must consist of at least eight equal volume grab samples. 24 hour composite sample means a combination of at least eight discrete samples of equal volume collected at equal time intervals over a 24-hour period at the same location. A "flow proportional composite" sample means a combination of at least eight discrete samples collected at equal time intervals over a 24-hour period with each sample volume proportioned according to the flow volume. The sample aliquots must be collected and stored in accordance with procedures prescribed in the most recent edition of *Standard Methods for the Examination of Water and Wastewater*.
Chronic Toxicity	Measures a sublethal effect (e.g., reduced growth, reduced reproduction) to experimental test organisms exposed to an effluent or ambient water compared to that of the control organisms.
Daily Discharge	Means the discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for the purposes of sampling. For pollutants measured in units of mass, the "daily discharge" is calculated as the total mass of the pollutant discharged over the day. For pollutants with a limitation expressed in other units of measurement, the "daily discharge" is calculated as the average measurement of the pollutant over the day.
Director	Means the commissioner or the commissioner's designee assigned to administer the APDES program or a portion of it, unless the context identifies an EPA director
Discharge Measurement	Means measuring widths, depths, and velocities using a tape or tagline, sounding equipment, and/or current meter.
Estimating Steamflow	Means: (1) using gauging station data or discharge measurements upstream or downstream of the sampling site; (2) interpolating between discharge measurements made at the sampling site before and after the sampling date; (3) estimating the width, the depth, and roughly measuring the velocity by timing a float; or (4) correlating flows at gauged or measured sites by hydrographic or measurement comparisons.

a) See 18 AAC 83
b) See 18 AAC 70.990
c) See 18 AAC 72.990
d) See 40 CFR Part 136
e) See EPA Technical Support Document
f) See Standard Methods for the Examination of Water and Wastewater 18th Edition
g) See EPA Permit Writers Manual

APPENDIX C

Fecal Coliform	Means those bacteria that can ferment lactose at 44.5° + 0.2°C to produce gas in a multiple tube procedure. Fecal coliform bacteria also means all bacteria that produce blue colonies in a membrane filtration procedure within 24 ± 2 hours of incubation at 44.5° + 0.2°C in an M-FC broth. For fecal coliform analysis, the average shall be computed as the geometric mean.
Geometric Mean	The geometric mean is the nth root of the product of n numbers. All sample results of zero will use a value of 1 for calculation of the geometric mean. Example geometric mean calculation where n = 4: $\sqrt[4]{12x23x34x990} = 55$.
Grab Sample	Means a single sample or measurement taken at a specific time or over as short period of time as is feasible.
Inhibition Concentration 25% (IC_{25})[e]	Means the point estimate of the toxicant concentration that would cause 25% reduction in a nonlethal biological measurement of the test organisms, such as reproduction or growth.
Laboratories	Means all laboratories used by the permittee to analyze samples for this permit. Laboratories include the permittee's consultants (if applicable), the permittee's in-house laboratories and other laboratories, and the permittee's contracted laboratories.
Maximum Daily Discharge Limitation[a]	Means the highest allowable "daily discharge"
Mine Drainage	Means any water drained, pumped or siphoned from a mine.
Mine Drainage Collection System	The collection channel (ditch) for the mine drainage, including any ore body seeps collected and commingled there.
Mine Drainage Collection Dam	The dam and the impoundment it creates into which the Mine Drainage Collection System flows.
Method Detection Limit (MDL)[d]	Means the minimum concentration of a substance (analyte) that can be measured and reported with 99 percent confidence that the analyte concentration is greater than zero and is determined from analysis of a sample in a given matrix containing the analyte
Minimum Level of Quantification (ML)[e]	Means the concentration at which the entire analytical system must give a recognizable signal and an acceptable calibration point. The ML is the concentration in a sample that is equivalent to the concentration of the lowest calibration standard analyzed by a specific analytical procedure, assuming that all the method-specified sample weights, volumes, and processing steps have been followed. This level is used as the compliance level if the effluent limit is below it.
Mixing Zone[b]	Means a volume of water adjacent to a discharge in which wastes discharged mix with the receiving water
Month	Means a calendar month.

a) See 18 AAC 83
b) See 18 AAC 70.990
c) See 18 AAC 72.990
d) See 40 CFR Part 136
e) See EPA Technical Support Document
f) See Standard Methods for the Examination of Water and Wastewater 18th Edition
g) See EPA Permit Writers Manual

APPENDIX C

Monthly Average	Means the average of daily discharges over a monitoring month calculated as the sum of all daily discharges measured during a monitoring month divided by the number of daily discharges measured during that month.
Responsible Corporate Officer[a]	Means a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function or any other person who performs similar policy or decision making functions for the corporation. The Responsible Corporate Officer can also be the manager of one or more manufacturing, production, or operating facilities if the requirements of 18 AAC 83.385(a)(1)(B)(i)-(iii) are met.
Precipitation	Means rainfall or snowmelt.
Severe Property Damage[a]	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.
Suspended Solids	Means insoluble solids that either float on the surface of, or are in suspension in, water, wastewater, or other liquids. The quantity of material removed from wastewater in a laboratory test, as prescribed in *Standard Methods for the Examination of Water and Wastewater* and referred to as nonfilterable.
Total Residual Chlorine	Means chlorine remaining in water or wastewater at the end of a specified contact period as combined or free chlorine
Total Suspended Solids (TSS)[g]	Means a measure of the filterable solids present in a sample, as determined by a method specified in 40 CFR Part 136.
Toxic Unit, Chronic (TUc)[e]	Means the reciprocal of the effluent concentration that causes no observable effect on the test organisms by the end of the chronic exposure period (i.e., 100/NOEC).
Upset[a]	Means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based 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.

a) See 18 AAC 83
b) See 18 AAC 70.990
c) See 18 AAC 72.990
d) See 40 CFR Part 136
e) See EPA Technical Support Document
f) See Standard Methods for the Examination of Water and Wastewater 18th Edition
g) See EPA Permit Writers Manual