



February 27, 2023

VIA EMAIL to [stra461@ecy.wa.gov](mailto:stra461@ecy.wa.gov)

**HARD COPY SENT VIA CERTIFIED MAIL**

Shara-Li Joy  
Water Quality Permit Coordinator  
Eastern Regional Office  
Department of Ecology  
4601 North Monroe Street  
Spokane, Washington 99205-1265

**Re: Application for Renewal of State Wastewater Discharge Permit ST0005270  
Hecla Republic Unit**

Dear Ms. Joy,

Hecla Limited (Hecla) owns and operates the Republic Unit, located in Republic, Washington. Wastewaters are managed as authorized by the State Waste Discharge Permit ST0005270 (Permit), which expires April 30, 2023. Hecla is submitting the attached application for renewal of the Permit. The application package includes the completed Form 040-179 and relevant attachments.

**Background**

The Republic Unit includes underground mine workings, remnant surface buildings, and a tailings impoundment (Aspen Pond), which supported Hecla's gold mining and milling activities that ceased in 1995. The Groundwater Management Impoundment (GWMI), constructed in 2015, serves as the primary storage facility for the site's mine groundwater management system. The GWMI stores groundwater pumped from the underground mine workings via the Golden Promise shaft (GP), Knob Hill #1shaft (KH), and waters pumped from the Aspen Seep collection system (Aspen Seep). All mine groundwater generally goes to the GWMI or to Aspen Pond during unusual weather events, KH pumping, or emergency/maintenance of the GWMI. The GWMI is a double lined storage impoundment with a primary and secondary 60-mil HDPE liner separated by 275-mil HDPE Drainage Geonet with a recovery sump between the liners. Normal operation will include removal of water stored in the GWMI through evaporation. Additionally, the lined Aspen Evaporation Area (AEA) was installed in 2015 to aid in additional evaporation of site waters, when needed. The Aspen Pond will continue to be dewatered by evaporation. Figure G3 provides an overview of the site and sampling locations and Figure C2 of the application provides a schematic of the water flow at the facility.

**Permit Renewal**

There have been no significant changes at the facility during the current Permit term that would impact water quality or mine water flow rates. In 2017, Hecla submitted an application for installation of a mine water treatment system and land application of treated water. The application submittal was in response to extreme weather in that time period and concern for sufficient water storage capacity. However, the project did not move forward as Hecla was able to manage the additional water effectively.

Renewal of State Wastewater Discharge Permit ST0005270  
February 27, 2023

Please do not hesitate to contact me if you have questions regarding the renewal application.

Sincerely,

Lance Boylan  
Manager Closed Operations

Attachments



# Application for a State Waste Discharge Permit to Discharge Industrial Wastewater to Ground Water by Land Treatment or Application

This application is for a state waste discharge permit as required by Chapter 90.48 RCW and Chapter 173-216 WAC. Permit applications provide Ecology with information on pollutants in the waste stream, materials that may enter the waste stream, the flow characteristics of the discharge, and the site characteristics at the point of discharge.

Ecology may request additional information to clarify the conditions of this discharge. The applicant should reference information previously submitted to Ecology that applies to this application in the appropriate section.

## SECTION A. GENERAL INFORMATION

1. Applicant name: Hecla Limited
2. Facility name: Republic Unit  
(if different from applicant)
3. Applicant mail address: 6500 N. Mineral Drive, Suite 200  
Street  
Coeur d'Alene, Idaho 83815  
City/State Zip
4. Facility location address: 190 Knob Hill Road  
(if different from above) Street  
Republic, Washington 99166  
City/State Zip
5. UBI No. 6004545  
68  
Sometimes called a registration, tax, "C," or resale number, the Unified Business Identifier (UBI) number is a nine-digit number used to identify persons engaging in business activities. The number is assigned when a person completes a [Master Business Application](#) to register with or obtain a license from state agencies. The Departments of Revenue, Licensing, Employment Security, Labor and Industries, and the Corporations Division of the Secretary of State are among the state agencies participating in the UBI program.
6. Latitude/longitude of the processing facility as decimal degrees (NAD83/WGS84):  
48.675 N / -118.754 W

### FOR ECOLOGY USE ONLY

Check One

New/Renewal ☐

Modification ☐

Date application received

Application/Permit no.

Date application accepted

Date fee paid

7. Person to contact who is familiar with the information contained in this application:

Lance Boylan

Name

Manager - Closed Operations

Title

208-682-5655

Telephone number

Fax number

8. Check One:



**Permit renewal** (including renewal of temporary permits authorized by RCW 90.48.200)

Does this application request a greater amount of wastewater discharge, a greater amount of pollutant discharge, or a discharge of different pollutants than specified in the last permit application for this facility? ☐ YES ☒ NO

For permit renewals, the current permit is an attachment, by reference, to this application.



**Permit modification**



**Existing**

**unpermitted discharge**



**Proposed discharge**

**Anticipated date of discharge:** NA

*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 a fine and/or imprisonment for knowing violations.*



Signature\*

02/24/2023

Date

Vice President

Title

Russel D. Lawlar

Printed name

\*Applications must be signed as follows: Corporations, by a principal executive officer of at least the level of vice-president; partnership, by a general partner; sole proprietorship, by the proprietor. If these titles do not apply to your organization, the person who makes budget decisions for this facility must sign the application.

The application signatory may delegate signature authority for submittals required by the permit, such as monthly reports, to a suitable employee. You can delegate this authority to a qualified individual or to a position, which you expect to fill with a qualified individual. If you wish to delegate signature authority, please complete the following:

Signature of delegated employee

02/24/2023

Date

Manager Closed Operations

Title or function at the facility

Lance Boylan

Printed name

## SECTION B. PRODUCT INFORMATION

- Briefly describe all manufacturing processes and products, and/or commercial activities at this facility. Provide the applicable Standard Industrial Category (SIC) and the North American Industry Classification System (NAICS) Code(s) for each activity (see *North American Industrial Classification System*, 2007 ed.). You can find the 1997 NAICS codes and the corresponding 1987 Standard Industry Category (SIC) codes at (<http://www.census.gov/epcd/naics/frames3.htm>).

Description: The facility is an inactive gold and silver mine site with mining/milling last occurring in 1995. No process wastewater is generated on-site. The facility currently has no plans to initiate active mining status in the next permit term. Therefore, no production information is provided.

SIC 1041 and 1044

- List raw materials and products:

Type	RAW MATERIALS	Quantity
<i>Potatoes (Example)</i>		<i>20 million tons per year</i>

Type	PRODUCTS	Quantity
<i>French fries (Example)</i>		<i>10 million pounds per year</i>

## SECTION C. PLANT OPERATIONAL CHARACTERISTICS

1. For each process listed in B.1 that generates wastewater, list the process, assign the waste stream a name and ID #, and describe whether it is a batch or continuous flow.

Process	Waste Stream Name	Waste Stream ID#	Batch (B) or Continuous (C) Process
<i>Receiving raw potatoes (Example)</i>	<i>Mud Water</i>	<i>1</i>	<i>C</i>
No process wastewater as facility is an inactive mine site with production ceasing in 1995.	Mine groundwater	1	Batch
	Aspen pond seepage	2	Batch

2. On a separate sheet, produce a schematic drawing showing production processes and water flow through the facility and wastewater treatment devices (*label as attachment C2*). The drawing should indicate the source of intake water and the operations contributing wastewater to the effluent and should label the treatment units. Construct the water balance by showing average flows between intakes, operations, treatment units, and points of discharge to land. If a water balance cannot be determined (*e.g., for certain mining activities*), provide a description of the nature and amount of any sources of water and any collection or treatment measures.

See Figure C2 attached

3. What is the highest daily discharge flow from the processing facility: \_\_\_\_\_ gallons per \_\_\_\_\_  
(Specify the time period for the value given)
- What is the highest daily discharge flow to the sprayfields/infiltration basin: \_\_\_\_\_ inches/acre/month OR  
(Specify the time period for the value given) \_\_\_\_\_ gallons per day
- What is the highest average monthly discharge flow (daily flows averaged over a month) from the processing facility: \_\_\_\_\_ gallons/day?  
(Specify the time period for the value given)
- What is the highest average monthly discharge flow to the sprayfields: \_\_\_\_\_ inches/acre/month OR  
(Specify the time period for the value given) \_\_\_\_\_ gallons per day

4. Describe any planned wastewater treatment or sprayfield/infiltration improvements and the schedule for the improvements or changes. (*Use additional sheets, if necessary and label as attachment C4.*)

NA

5. If production processes are subject to seasonal variations, provide the following information. List discharge for each wastestream in gallons or million gallons per month. The combined value for each month should equal the estimated total monthly flow. Please indicate the proper unit by checking one of the following boxes:

☐ gallons per day ☐ gallons per month ☐ million gallons per month

Waste Stream ID#	MONTHS											
	J	F	M	A	M	J	J	A	S	O	N	D
#1 (Example)	1000	1000	1000	1000	6000	2000	2000	2000	1000	1000	5000	4000
NA												
Estimated total gallons												

6. If this is a discharge from the processing facility to a storage or evaporative lagoon, what is the size of the lagoon (give square footage for the bottom of the lagoon and the total volume of the lagoon at full operating depth). 10,000 square feet; 10 million gallons (Example)

NA - not from an active processing facility

7. Check the applicable box. Is this a discharge to a sprayfield ☐ or an infiltration bed ☐? Provide the average gallons per acre per day proposed for each month in the following table.

	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept.	Oct	Nov	Dec
Estimated gallons per acre per day	NA											

8. How many hours a day does this facility typically operate? NA - inactive mine site  
 How many days a week does this facility typically operate? NA  
 How many weeks per year does this facility typically operate? NA
9. List all incidental materials such as oil, paint, grease, solvents, and cleaners that are used or stored on site (list only those with quantities greater than 10 gallons for liquids and 50 pound quantities for solids). For solvents and solvent-based cleaners, include a copy of the material safety data sheet for each material and estimate the quantity used. *Use additional sheets, if necessary and label as attachment C.7.)*

Materials/Quantity Stored:

- |     |   | Yes                                 | No                                  |
|-----|---|-------------------------------------|-------------------------------------|
| 10. | Some types of facilities are required to have spill or waste control plans. Does this facility have:                      |                                     |                                     |
| a.  | A spill prevention, control, and countermeasure plan (40 CFR 112)?  | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| b.  | An Oil Spill Contingency Plan (chapter 173-182 WAC)?  | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| c.  | An emergency response plan (per WAC 173-303-350)?   | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| d.  | A runoff, spillage, or leak control plan (per WAC 173-216-110(f))?  | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| e.  | Any spill or pollution prevention plan required by local, state or federal authorities? If yes specify: <u>ISGP SWPPP</u> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| f.  | A solid waste control plan?   | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |

## SECTION D. WATER CONSUMPTION AND WATER LOSS

1. Potable water source(s):
- ☐ ☐ Public system (Specify name) \_\_\_\_\_
- ☒ ☐ Private well ☐ Surface water (Specify name of water body) \_\_\_\_\_
- a. Water right permit number: 2408
- b. Legal description of water source:
- NE  $\frac{1}{4}$ S, NW  $\frac{1}{4}$ S, 18, Section, 36 TWN, 33 R
2. Potable water use
- a. Indicate total water use: Gallons per day (average) 0
- Gallons per day (maximum) 0
- b. Is water metered? ☐ YES ☒ NO
3. Supplemental Irrigation water source(s):
- ☐ ☐ Public system or Irrigation District (Specify name) \_\_\_\_\_
- ☐ ☐ Private well ☐ Surface water (Specify name of water body) \_\_\_\_\_
- a. Water right permit number: NA
- b. Legal description of water source:
- \_\_\_\_\_  $\frac{1}{4}$ S, \_\_\_\_\_  $\frac{1}{4}$ S, \_\_\_\_\_, Section, \_\_\_\_\_ TWN, \_\_\_\_\_ R

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## SECTION E. WASTEWATER INFORMATION

1. How are the water intake and effluent flows measured?

Intake: NA - no intake water used on-site

Effluent Mine groundwater that is pumped to Aspen Pond is measured by flow meter. Aspen Pond seepage measured by hand meter and physical measurement.

2. Describe the collection method for the samples analyzed below. (*i.e.*, grab, 24-hour composite). Applicants must collect grab samples (not composites) for analysis of pH, temperature, cyanide, total phenols, residual chlorine, oil and grease, fecal coliform (including *E. coli*), and Enterococci (previously known as fecal streptococcus at § 122.26 (d)(2)(iii)(A)(3)), or volatile organics.

All samples are collected via grab method, as per the current Permit

3. Has the effluent been analyzed for any other parameters than those identified in question E.4.? ☐ YES ☒ NO  
If yes, attach results and label as attachment E.4. This data must clearly show the date, method and location of sampling. (*Note: Ecology may require additional testing.*)

4. Provide measurements or range of measurements for treated wastewater prior to discharge to the POTW for the parameters with an “X” in the left column. If you obtain the application from the internet, contact Ecology’s regional office to see if testing for a subset of these parameters is permissible. All analyses (except pH) must be conducted by a laboratory registered or accredited by Ecology (WAC 173-216-125). If this is an application for permit renewal, provide data for the last year for those parameters that are routinely measured. For parameters measured only for this application, place the values under “Maximum.” Report the values with units as specified in the parameter name or in the detection level.

The Permittee must use the specified analytical methods, detection limits (DLs) and quantitation levels (QLs) in the following table unless Ecology approves an alternate method **or the method used produces measurable results in the sample and EPA has listed it as an EPA approved method in 40 CFR Part 136. If the Permittee uses an alternative method as allowed above, it must report the test method, DL, and QL on the discharge monitoring report or in the required report.**

Wastewater quality information is provided in Section E.4 tables, attached.

X	Parameter	Measurement Values			Number of Analyses	Analytical Method Std. Methods 19 <sup>th</sup> ,20 <sup>th</sup> edition or EPA	Detection Limit/Quantitation Level
		Minimum	Maximum	Average			
	BOD (5 day)					SM 5210 B	/2 mg/l
	COD					SM 5220 D	/10 mg/l
	Total suspended solids					SM 2540 D	/5 mg/l
	Fixed Dissolved Solids					SM 2540 E	
	Total dissolved solids					SM 2540 C	
	Conductivity (micromhos/cm)					SM 2510 B	
	Ammonia-N as N					SM 4500-NH <sub>3</sub> C	/0.3 mg/L
	pH					SM 4500-H	0.1 standard units
	Fecal coliform (organisms/100 mL)					SM 9221 E or 9222 D	
	Total coliform (organisms/100 mL)					SM 9221 B or 9222 B	
	Dissolved oxygen					SM 4500-O C/G	
	Nitrate + nitrite-N as N					SM 4500-NO <sub>3</sub> E	100 µg/L
	Total kjeldahl N as N					SM 4500-N <sub>org</sub> C/E/FG	300 µg/l
	Ortho-phosphate-P as P					SM 4500-P E/F	10 µg/l
	Total-phosphorous-P as P					SM 4500-P E/P/F	10 µg/l
	Total Oil & grease					EPA 1664A	1.4/5 mg/l
	NWTPH - Dx					Ecology NWTPH Dx	250/250 µg/l
	NWTPH - Gx					Ecology NWTPH Gx	250/250 µg/l
	Calcium					EPA 200.7	10 µg/l
	Chloride					SM 4500-Cl C	0.15 µg/l
	Fluoride					SM 4500-F E	.025/0.1 mg/l
	Magnesium					EPA 200.7	10/50 µg/l
	Potassium					EPA 200.7	700/ µg/l

X	Parameter	Measurement Values			Number of Analyses	Analytical Method Std. Methods 19 <sup>th</sup> ,20 <sup>th</sup> edition or EPA	Detection Limit/Quantitation Level
		Minimum	Maximum	Average			
	Sodium					EPA 200.7	29/ µg/l
	Sulfate					SM 4500-SO <sub>4</sub> C/D	/200 µg/l
	Alkalinity as CaCO <sub>3</sub>					SM 2320 B	/5 mg/L as CaCO <sub>3</sub>
	Arsenic(total)					EPA 200.8	0.1/0.5 µg/l
	Barium (total)					EPA 200.8	0.5/2 µg/l
	Cadmium (total)					EPA 200.8	.05/.25 µg/l
	Chromium (total)					EPA 200.8	0.2/1 µg/l
	Copper (total)					EPA 200.8	0.4/2 µg/l
	Iron (total)					EPA 200.7	12.5/50 µg/l
	Lead (total)					EPA 200.8	0.1/.5 µg/l
	Manganese (total)					EPA 200.8	0.1/0.5 µg/l
	Mercury (total) pg/L					EPA 1631E	0.2/0.5 pg/l
	Molybdenum(total)					EPA 200.8	0.1/0.5 µg/l
	Nickel(total)					EPA 200.8	0.1/0.5 µg/l
	Selenium (total)					EPA 200.8	1/1 µg/l
	Silver (total)					EPA 200.8	.04/.2 µg/l
	Zinc (total)					EPA 200.8	0.5/2.5 µg/l

Detection level (DL) or detection limit means the minimum concentration of an analyte (substance) that can be measured and reported with a 99% confidence that the analyte concentration is greater than zero as determined by the procedure given in 40 CFR part 136, Appendix B.

Quantitation Level (QL) also known as Minimum Level of Quantitation (ML) – The lowest level at which the entire analytical system must give a recognizable signal and acceptable calibration point for the analyte. It is equivalent to the concentration of the lowest calibration standard, assuming that the lab has used all method-specified sample weights, volumes, and cleanup procedures. The QL is calculated by multiplying the MDL by 3.18 and rounding the result to the number nearest to (1, 2, or 5) x 10<sup>n</sup>, where n is an integer. (64 FR 30417).

ALSO GIVEN AS:

The smallest detectable concentration of analyte greater than the Detection Limit (DL) where the accuracy (precision & bias) achieves the objectives of the intended purpose. (Report of the Federal Advisory Committee on Detection and Quantitation Approaches and Uses in Clean Water Act Programs Submitted to the US Environmental Protection Agency December 2007).

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5. Does this facility use any of the following chemicals as raw materials in production, produce them as part of the manufacturing process, or are they present in the wastewater? (*The number following the chemical name is the Chemical Abstract Service (CAS) reference number to aid in identifying the compound.*) ☒ YES ☐ NO

If yes, specify how the chemical is used and the quantity used or produced (*Use additional sheets, if necessary and label as attachment E5.*): Arsenic is not used on-site but found naturally in this highly mineralized area.

Acrylamide/79-06-1  
Acrylonitrile/107-13-1  
Aldrin/309-00-2  
Aniline/62-53-3  
Aramite/140-57-8  
Arsenic/7440-38-2  
Azobenzene/103-33-3  
Benzene/71-43-2  
Benzidine/92-87-5  
Benzo(a)pyrene/50-32-8  
Benzotrichloride/98-07-7  
Benzyl chloride/100-44-7  
Bis(chloroethyl)ether/111-44-4  
Bis(chloromethyl)ether/542-88-1  
Bis(2-ethylhexyl) phthalate/ 117-81-7  
Bromodichloromethane/75-27-4  
Bromoform/75-25-2  
Carbazole/86-74-8  
Carbon tetrachloride/56-23-5  
Chlordane/57-74-9  
Chlorodibromomethane/124-48-1  
Chloroform/67-66-3  
Chlorthalonil/1897-45-6  
2,4-D/94-75-7  
DDT/50-29-3  
Diallate/2303-16-4  
1,2 Dibromoethane/106-93-4  
1,4 Dichlorobenzene/106-46-7  
3,3' Dichlorobenzidine/91-94-1  
1,1 Dichloroethane/75-34-3  
1,2 Dichloroethane/107-06-2

Nitrofurazone/59-87-0  
N-nitrosodiethanolamine/ 1116-54-7  
N-nitrosodiethylamine/55-18-5  
N-nitrosodimethylamine/62-75-9  
N-nitrosodiphenylamine/86-30-6  
N-nitroso-di-n-propylamine/ 621-64-7  
N-nitrosopyrrolidine/930-55-2  
N-nitroso-di-n-butylamine/ 924-16-3  
N-nitroso-n-methylethylamine/  
10595-95-6  
PAH/NA  
PBBs/NA  
PCBs/1336-36-3  
1,2 Dichloropropane/78-87-5  
1,3 Dichloropropene/542-75-6  
Dichlorvos/62-73-7  
Dieldrin/60-57-1  
3,3' Dimethoxybenzidine/119-90-4  
3,3 Dimethylbenzidine/119-93-7  
1,2 Dimethylhydrazine/540-73-8  
2,4 Dinitrotoluene/121-14-2  
2,6 Dinitrotoluene/606-20-2  
1,4 Dioxane/123-91-1  
1,2 Diphenylhydrazine/122-66-7  
Endrin/72-20-8  
Epichlorohydrin/106-89-8  
Ethyl acrylate/140-88-5  
Ethylene dibromide/106-93-4  
Ethylene thiourea/96-45-7  
Folpet/133-07-3  
Furmecyclohex/60568-05-0

Heptachlor/76-44-8  
Heptachlor epoxide/1024-57-3  
Hexachlorobenzene/118-74-1  
Hexachlorocyclohexane (alpha)/  
319-84-6  
Hexachlorocyclohexane (tech.)/  
608-73-1  
Hexachlorodibenzo-p-dioxin,  
mix/19408-74-3  
Hydrazine/hydrazine sulfate/ 302-01-2  
Lindane/58-89-9  
2 Methylaniline/100-61-8  
2 Methylaniline hydrochloride/  
636-21-5  
4,4' Methylene  
bis(N,N- dimethyl)aniline/101-61-1  
Methylene chloride  
(dichloromethane)/75-09-2  
Mirex/2385-85-5  
O-phenylenediamine/106-50-3  
Propylene oxide/75-56-9  
2,3,7,8-Tetrachlorodibenzo-p-dioxin/  
1746-01-6  
Tetrachloroethylene/127-18-4  
2,4 Toluenediamine/95-80-7  
o-Toluidine/95-53-4  
Toxaphene/8001-35-2  
Trichloroethylene/79-01-6  
2,4,6-Trichlorophenol/88-06-2  
Trimethyl phosphate/512-56-1  
Vinyl chloride/75-01-4

6. Are any other pesticides, herbicides, or fungicides used at this facility? ☐ YES ☒ NO  
If yes, specify the material and quantity used.

7. Are there other pollutants that you know of or believe to be present? ☒ YES ☐ NO

If yes, specify the pollutants and their concentration if known  
(attach laboratory analyses if available). See Section E.4 Tables.

☐ DON'T KNOW

## SECTION F. GROUND WATER INFORMATION

Provide available data measurements or range of measurements from monitoring wells or supply wells in the area of discharge. Provide the analytical method and detection limit, if known. Provide the location of each well on the map required in G.3 below. Attach well logs when available. Copy this page as necessary for each well. Provide the latitude and longitude in decimal format.

Ecology Well Tag ID # \_\_\_\_\_

(example AAB123)

Latitude: \_\_\_\_\_

Well ID # See Attached Section F Tables (example MW-1)

See also Figure F.3 for well location map.  
Longitude: \_\_\_\_\_

Well Elevation (to the nearest 0.01 feet) \_\_\_\_\_ Check the appropriate box; the elevation measurement is relative to: the NAVD88 standard ☐ mean sea level ☐

Parameter	Units	Range of Measurements	Number of Analyses	Analytical Method	Detection Limit
BOD (5 day)	mg/L				
COD	mg/L				
Total organic carbon	mg/L				
Total dissolved solids	mg/L				
Dissolved Fixed Solids	mg/L				
pH	Standard units				
Conductivity	(micromhos/cm)				
Alkalinity	mg/L as CaCO <sub>3</sub>				
Total hardness	mg/L				
Fecal coliform	organisms/100mL				
Total coliform	organisms/100mL				
Dissolved oxygen	mg/L				
Ammonia-N	mg/L				
Nitrate + nitrite-N, nitrate as N	mg/L				
Total kjeldahl N as N	mg/L				
Ortho-phosphate-P as P	mg/L				
Total-phosphate-P as P	mg/L				
Total Oil and Grease	mg/L				
Total petroleum hydrocarbon	<input type="checkbox"/> mg/L <input type="checkbox"/> µg/l				
Calcium	<input type="checkbox"/> mg/L <input type="checkbox"/> µg/l				
Chloride	<input type="checkbox"/> mg/L <input type="checkbox"/> µg/l				
Fluoride	<input type="checkbox"/> mg/L <input type="checkbox"/> µg/l				
Magnesium	<input type="checkbox"/> mg/L <input type="checkbox"/> µg/l				
Potassium	<input type="checkbox"/> mg/L <input type="checkbox"/> µg/l				
Sodium	<input type="checkbox"/> mg/L <input type="checkbox"/> µg/l				
Sulfate	<input type="checkbox"/> mg/L <input type="checkbox"/> µg/l				
Barium	<input type="checkbox"/> mg/L <input type="checkbox"/> µg/l				
Cadmium	<input type="checkbox"/> mg/L <input type="checkbox"/> µg/l				
Chromium	<input type="checkbox"/> mg/L <input type="checkbox"/> µg/l				
Copper	<input type="checkbox"/> mg/L <input type="checkbox"/> µg/l				
Iron	<input type="checkbox"/> mg/L <input type="checkbox"/> µg/l				
Lead	<input type="checkbox"/> mg/L <input type="checkbox"/> µg/l				
Manganese	<input type="checkbox"/> mg/L <input type="checkbox"/> µg/l				

Parameter	Units	Range of Measurements	Number of Analyses	Analytical Method	Detection Limit
Mercury	<input type="checkbox"/> mg/L <input type="checkbox"/> µg/l				
Selenium	<input type="checkbox"/> mg/L <input type="checkbox"/> µg/l				
Silver	<input type="checkbox"/> mg/L <input type="checkbox"/> µg/l				
Zinc	<input type="checkbox"/> mg/L <input type="checkbox"/> µg/l				
Depth to water level (to the nearest .01 feet)					

## SECTION G. SITE ASSESSMENT

**The local library and local city or county planning offices may be helpful in providing the information required in this section. You may consult the Department of Ecology Water Resources Program to help identify wells within one mile of your site.**

1. Land Application Sites: Provide the information below for each land application site. Provide the latitude/longitude (approximate center of the site; NAD83/WGS84 reference datum.) Attach a copy of the contract(s) authorizing use of any private land(s) used for each treatment site. Add table rows as necessary.

Legal Description (section/township/range) NA			
Latitude	Longitude	Acreage	Owner
Legal Description (section/township/range)			
Latitude	Longitude	Acreage	Owner
Legal Description (section/township/range)			
Latitude	Longitude	Acreage	Owner
Legal Description (section/township/range)			
Latitude	Longitude	Acreage	Owner

2. If this is a new discharge, list all environmental control permits or approvals needed for this project; for example, SEPA review, engineering reports, hydrogeologic reports, , , or air emissions permits.

NA

3. Attach an original United States Geological Survey (USGS) 7.5 minute topographic map and aerial photograph(s) from an internet mapping site that shows the processing facility and sprayfield site(s). **USGS topographical maps are available from the Department of Natural Resources (360 902-1234), Metsker Maps (206 588-5222), some local bookstores, and internet sites.** Show the following on this map:
  - a. Location and name of internal and adjacent streets.
  - b. Surface water drainage systems within ¼ mile of the site.
  - c. All wells within 1 mile of the site.
  - d. Wastewater discharge points.
  - e. Land uses and zoning adjacent to the wastewater application site.
  - f. Groundwater gradient.
4. Describe the soils on the site using information from local soil survey reports. **Soils information is available from your local County Conservation District or from information contained in the sites hydrogeologic report.** *(Submit on separate sheet and label as attachment G.4.)*
5. Describe the local geology and hydrogeology within one mile of the site. Include any groundwater quality data. **The local library or local Soil Conservation Service may have this information.** *(Submit on separate sheet and label as attachment G.5.)*
6. List the names and addresses of contractors or consultants who provided information and cite sources of information by title and author.

NA

## SECTION H. STORMWATER

1. Do you have coverage under the Washington State Industrial Stormwater NPDES General permit? ☒ YES ☐ NO  
If yes, please list the permit number here. WAR001539

If no, have you applied for coverage under the Washington State Industrial Stormwater NPDES general permit? ☐ YES ☐ NO

**Note:** If you answered "no" to both questions above, complete the following questions 2 through 8.

2. Describe the size of the stormwater collection area.
- a. Unpaved area \_\_\_\_\_ sq.ft.
  - b. Paved area \_\_\_\_\_ sq.ft.
  - c. Other collection areas (roofs) \_\_\_\_\_ sq.ft.
3. Does your facility's stormwater discharge to: *(Check all that apply)*
- ☐ Storm sewer system; name of storm sewer system *(operator)*:
  - ☐ Sanitary sewer
  - ☐ Directly to surface waters of Washington State *(e.g., river, lake, creek, estuary, ocean)*.  
Specify waterbody name \_\_\_\_\_
  - ☐ Indirectly to surface waters of Washington State *(i.e., flows over adjacent properties first)*.
  - ☐ Directly to ground waters of Washington State via:
    - ☐ Dry well
    - ☐ Drainfield
    - ☐ Other
4. Areas with industrial activities at facility: *(check all that apply)*
- ☐ Manufacturing building
  - ☐ Material handling
  - ☐ Material storage
  - ☐ Hazardous waste treatment, storage, or disposal *(refers to RCRA, Subtitle C facilities only)*
  - ☐ Waste treatment, storage, or disposal
  - ☐ Application or disposal of wastewaters
  - ☐ Storage and maintenance of material handling equipment
  - ☐ Vehicle maintenance
  - ☐ Areas where significant materials remain
  - ☐ Access roads and rail lines for shipping and receiving
  - ☐ Other \_\_\_\_\_

5. Material handling/management practices

a. Types of materials handled and/or stored outdoors: *(check all that apply)*

☐ ☐ Solvents

☐ ☐ Hazardous wastes

☐ ☐ Scrap metal

☐ ☐ Acids or alkalies

☐ ☐ Petroleum or petrochemical products

☐ ☐ Paints/coatings

☐ ☐ Plating products

☐ ☐ Woodtreating products

☐ ☐ Pesticides

☐ ☐ Other *(please list)*: \_\_\_\_\_

b. Identify existing management practices employed to reduce pollutants in industrial storm water discharges: *(check all that apply)*

☐ ☐ Oil/water separator

☐ ☐ Detention facilities

☐ ☐ Containment

☐ ☐ Infiltration basins

☐ ☐ Spill prevention

☐ ☐ Operational BMPs

☐ ☐ Surface leachate collection

☐ ☐ Vegetation management

☐ ☐ Overhead coverage

☐ ☐ Other *(please list)*: \_\_\_\_\_

6. Attach a map showing stormwater drainage/collection areas, disposal areas and discharge points. This may be a hand drawn map if no other site map is available. Label this as attachment H.8.

## SECTION I. OTHER INFORMATION

1. Describe liquid or solid wastes generated that are not disposed of in the waste stream(s) and describe the method of disposal. For each type of waste, provide type of waste, name, address, and phone number of hauler.

The site is an inactive mine site, solids wastes that require disposal are not routinely generated on site.

2. Describe any storage areas used for raw materials, products, and wastes.

The site is an inactive mine site.

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### Summary of attachments that may be required for this application:

(Please check those attachments that are included)

- ☒ C.2. Production schematic flow diagram and water balance
- ☐ C.4. Wastewater treatment improvements
- ☐ C.7. Additional incidental materials
- ☐ E.4. Additional results of effluent testing
- ☐ G.1. Copies of land use contracts
- ☐ G.3. USGS topographical map
- ☐ G.4. Soils description
- ☐ G.5. Local geology and hydrology
- ☐ H.8. Stormwater drainage map

*If you need this document in a format for the visually impaired, call the Water Quality Program at 360-407-6600. Persons with hearing loss can call 711 for Washington Relay Service. Persons with a speech disability can call 877-833-6341.*

**Section E. Wastewater Information**  
**Aspen Seep Monitoring**

X	Parameter	Measurement Values <sup>1,2</sup>			Number of Analyses	Analytical Method Std. Methods 19 <sup>th</sup> , 20 <sup>th</sup> edition or EPA <sup>3</sup>	Detection Limit/Quantitation Level
		Minimum	Maximum	Average			
	BOD (5 day)					SM 5210 B	/2 mg/l
	COD					SM 5220 D	/10 mg/l
	Total suspended solids					SM 2540 D	/5 mg/l
	Fixed Dissolved Solids					SM 2540 E	
	Total dissolved solids	2680	3200	3048	4	SM 2540 C	
	Conductivity (micromhos/cm)	2590	3560	3038	4	EPA 120.1	
	Ammonia-N as N	0.126	0.556	0.266	4	EPA 350.1	0.013/0.03 mg/l
	pH	7.0	7.2	-	4	SM 4500-H	0.1 standard units
	Fecal coliform (organisms/100 mL)					SM 9221 E or 9222 D	
	Total coliform (organisms/100 mL)					SM 9221 B or 9222 B	
	Dissolved oxygen					SM 4500-O C/G	
	Nitrate + nitrite-N as N <sup>4</sup>	1.05	2.3	1.76	4	EPA 300.0	0.013/0.05 mg/l
	Total kjeldahl N as N	<0.5	1.16	0.74	4	EPA 351.2	0.31/0.50 mg/l
	Ortho-phosphate-P as P					SM 4500-P E/F	10 µg/l
	Total-phosphorous-P as P					SM 4500-P E/P/F	10 µg/l
	Total Oil & grease					EPA 1664A	1.4/5 mg/l
	NWTPH - Dx					Ecology NWTPH Dx	250/250 µg/l
	NWTPH - Gx					Ecology NWTPH Gx	250/250 µg/l
	Calcium	373	455	408	4	EPA 200.7	0.035/0.10 mg/l
	Chloride	28.5	42.5	34.3	4	EPA 300.0	1.1/10 mg/l
	Fluoride					SM 4500-F E	.025/0.1 mg/l
	Magnesium	128	165	144	4	EPA 200.7	0.045/0.50 mg/l
	Potassium	11.8	17.5	14.5	4	EPA 200.7	0.09/0.50 mg/l
	Sodium	247	320	292	4	EPA 200.7	0.06/0.50 mg/l
	Sulfate	1920	2200	2095	4	EPA 300.0	9.0/15.0 mg/l
	Alkalinity as CaCO <sub>3</sub>	187	202	192	4	SM 2320 B	/1.0 as CaCO <sub>3</sub>
	Arsenic(total)	<0.002	0.008	0.003	4	EPA 200.8	0.00021/0.002 mg/l
	Barium (total)					EPA 200.8	0.5/2 µg/l
	Cadmium (total)					EPA 200.8	.05/.25 µg/l
	Chromium (total)					EPA 200.8	0.2/1 µg/l
	Copper (total)					EPA 200.8	0.4/2 µg/l
	Iron (total)	<0.1	0.255	0.139	4	EPA 200.7	0.028/0.10 mg/l
	Lead (total)					EPA 200.8	0.1/.5 µg/l
	Manganese (total)	0.88	4.42	2.17	4	EPA 200.7	0.0017/0.008 mg/l
	Mercury (total) pg/L					EPA 1631E	0.2/0.5 pg/l
	Molybdenum(total)					EPA 200.8	0.1/0.5 µg/l
	Nickel(total)					EPA 200.8	0.1/0.5 µg/l
	Selenium (total)	0.00244	0.0079	0.0045	4	EPA 200.8	0.00024/0.002 mg/l
	Silver (total)					EPA 200.8	.04/.2 µg/l
	Zinc (total)	<0.01	0.033	0.020	4	EPA 200.7	0.0027/0.01 mg/l

Notes:

1. Units as mg/L unless otherwise noted in the parameter column.
2. if dataset include non-detect values, the detection limit was used for averaging purposes.
3. Analytical methods used are either as specified by the application, specified by the permit, or as 40 CFR 136/EPA approved methods.
4. Results are for Nitrate only

**Section E. Wastewater Information**  
**Mine Water Monitoring**

X	Parameter	Measurement Values <sup>1,2</sup>			Number of Analyses	Analytical Method Std. Methods 19 <sup>th</sup> , 20 <sup>th</sup> edition or EPA <sup>3</sup>	Detection Limit/Quantitation Level
		Minimum	Maximum	Average			
	BOD (5 day)					SM 5210 B	/2 mg/l
	COD					SM 5220 D	/10 mg/l
	Total suspended solids					SM 2540 D	/5 mg/l
	Fixed Dissolved Solids					SM 2540 E	
	Total dissolved solids	2460	2930	2747	3	SM 2540 C	
	Conductivity (micromhos/cm)	2480	3020	2803	3	EPA 120.1	
	Ammonia-N as N	0.86	1.01	0.92	3	EPA 350.1	0.013/0.03 mg/l
	pH	6.2	6.5	-	3	SM 4500-H	0.1 standard units
	Fecal coliform (organisms/100 mL)					SM 9221 E or 9222 D	
	Total coliform (organisms/100 mL)					SM 9221 B or 9222 B	
	Dissolved oxygen					SM 4500-O C/G	
	Nitrate + nitrite-N as N <sup>3</sup>	<0.05	0.061	0.054	3	EPA 300.0	0.013/0.05 mg/l
	Total kjeldahl N as N	0.85	1.05	0.96	3	EPA 351.2	0.31/0.50 mg/l
	Ortho-phosphate-P as P					SM 4500-P E/F	10 µg/l
	Total-phosphorous-P as P					SM 4500-P E/P/F	10 µg/l
	Total Oil & grease					EPA 1664A	1.4/5 mg/l
	NWTPH - Dx					Ecology NWTPH Dx	250/250 µg/l
	NWTPH - Gx					Ecology NWTPH Gx	250/250 µg/l
	Calcium	358	435	395	3	EPA 200.7	0.035/0.10 mg/l
	Chloride	14.2	15.3	14.7	3	EPA 300.0	1.1/10 mg/l
	Fluoride					SM 4500-F E	.025/0.1 mg/l
	Magnesium	103	128	115	3	EPA 200.7	0.045/0.50 mg/l
	Potassium	10.5	12.7	11.4	3	EPA 200.7	0.09/0.50 mg/l
	Sodium	199	217	207	3	EPA 200.7	0.06/0.50 mg/l
	Sulfate	1750	1860	1823	3	EPA 300.0	9.0/15.0 mg/l
	Alkalinity as CaCO <sub>3</sub>	146	171	160	3	SM 2320 B	/1.0 as CaCO <sub>3</sub>
	Arsenic(total)	0.458	0.561	0.507	3	EPA 200.8	0.00021/0.002 mg/l
	Barium (total)					EPA 200.8	0.5/2 µg/l
	Cadmium (total)					EPA 200.8	.05/.25 µg/l
	Chromium (total)					EPA 200.8	0.2/1 µg/l
	Copper (total)					EPA 200.8	0.4/2 µg/l
	Iron (total)	65.0	75.7	71.9	3	EPA 200.7	0.028/0.10 mg/l
	Lead (total)					EPA 200.8	0.1/.5 µg/l
	Manganese (total)	2.92	3.33	3.15	3	EPA 200.7	0.0017/0.008 mg/l
	Mercury (total) pg/L					EPA 1631E	0.2/0.5 pg/l
	Molybdenum(total)					EPA 200.8	0.1/0.5 µg/l
	Nickel(total)					EPA 200.8	0.1/0.5 µg/l
	Selenium (total)	<0.002	<0.005	<0.003	3	EPA 200.8	0.00024/0.002 mg/l
	Silver (total)					EPA 200.8	.04/.2 µg/l
	Zinc (total)	0.021	0.087	0.047	3	EPA 200.7	0.0027/0.01 mg/l

Notes:

1. Units as mg/L unless otherwise noted in the parameter column.
2. if dataset include non-detect values, the detection limit was used for averaging purposes.
3. Analytical methods used are either as specified by the application, specified by the permit, or as 40 CFR 136/EPA approved methods.
4. Results are for Nitrate only

## Section F. Well Information

Well ID: 94-1

Latitude:  
48°40'4.18"N

Longitude:  
118°45'14.66"W

Parameter	Units	Range of Measurements	Number of Analyses	Analytical Method	Detection Limit
BOD (5 day)	mg/L				
COD	mg/L				
Total organic carbon	mg/L				
Total dissolved solids	mg/L	781 - 2340	4	SM 2540 C	/40
Dissolved Fixed Solids	mg/L				
pH	Standard units	6.6-6.8	4	SM 4500-H	0.1 standard units
Conductivity	(micromhos/cm)	1080-2800	4	EPA 120.1	
Alkalinity	mg/L as CaCO <sub>3</sub>	71.8-114	4	SM 2320 B	/1.0 as CaCO <sub>3</sub>
Total hardness	mg/L				
Fecal coliform	organisms/100mL				
Total coliform	organisms/100mL				
Dissolved oxygen	mg/L				
Ammonia-N	mg/L			EPA 351.2	0.31/0.50 mg/l
Nitrate + nitrite-N, nitrate as N	mg/L	0.52-0.884	4	EPA 300.0	0.013/0.05 mg/l
Total kjeldahl N as N	mg/L				
Ortho-phosphate-P as P	mg/L				
Total-phosphate-P as P	mg/L				
Total Oil and Grease	mg/L				
Total petroleum hydrocarbon	mg/L				
Calcium	mg/L	107-351	4	EPA 200.7	0.035/0.10 mg/l
Chloride	mg/L	5.78-17.4	4	EPA 300.0	1.1/10 mg/l
Fluoride	mg/L	0.131-0.546	4	SM 4500-F E	0.017/0.10 mg/l
Magnesium	mg/L	26.9-90	4	EPA 200.7	0.045/0.50 mg/l
Potassium	mg/L	5.02-11.9	4	EPA 200.7	0.09/0.50 mg/l
Sodium	mg/L	104-240	4	EPA 200.7	0.06/0.50 mg/l
Sulfate	mg/L	485-1680	4	EPA 300.0	9.0/15.0 mg/l
Barium	mg/L				
Cadmium	mg/L				
Chromium	mg/L				
Copper	mg/L				
Iron	mg/L	0.1-0.99	4	EPA 200.7	0.028/0.10 mg/l
Lead	mg/L				
Manganese	mg/L	0.008/0.044	4	EPA 200.7	0.0017/0.008 mg/l
Mercury	mg/L				
Selenium	mg/L	0.02-0.105	4	EPA 200.8	0.00024/0.002 mg/l
Silver	mg/L				
Zinc	mg/L	0.010-0.018	4	EPA 200.7	0.0027/0.01 mg/l
Depth to water level (to the nearest .01 feet)					

## Section F. Well Information

Well ID: 94-2

Latitude:  
48°40'5.80"N

Longitude:  
118°45'17.31"W

Parameter	Units	Range of Measurements	Number of Analyses	Analytical Method	Detection Limit
BOD (5 day)	mg/L				
COD	mg/L				
Total organic carbon	mg/L				
Total dissolved solids	mg/L	1360	1	SM 2540 C	/40 mg/l
Dissolved Fixed Solids	mg/L				
pH	Standard units	7.2	1	SM 4500-H	0.1 standard units
Conductivity	(micromhos/cm)	1640	1	EPA 120.1	
Alkalinity	mg/L as CaCO3	135	1	SM 2320 B	/1.0 mg/l as CaCO3
Total hardness	mg/L				
Fecal coliform	organisms/100mL				
Total coliform	organisms/100mL				
Dissolved oxygen	mg/L				
Ammonia-N	mg/L			EPA 351.2	0.31/0.50 mg/l
Nitrate + nitrite-N, nitrate as N	mg/L	0.794	1	EPA 300.0	0.013/0.05 mg/l
Total kjeldahl N as N	mg/L				
Ortho-phosphate-P as P	mg/L				
Total-phosphate-P as P	mg/L				
Total Oil and Grease	mg/L				
Total petroleum hydrocarbon	mg/L				
Calcium	mg/L	235	1	EPA 200.7	0.035/0.10 mg/l
Chloride	mg/L	11.7	1	EPA 300.0	1.1/10 mg/l
Fluoride	mg/L	0.117	1	SM 4500-F E	0.017/0.10 mg/l
Magnesium	mg/L	81.6	1	EPA 200.7	0.045/0.50 mg/l
Potassium	mg/L	6.33	1	EPA 200.7	0.09/0.50 mg/l
Sodium	mg/L	78.5	1	EPA 200.7	0.06/0.50 mg/l
Sulfate	mg/L	874	1	EPA 300.0	9.0/15.0 mg/l
Barium	mg/L				
Cadmium	mg/L				
Chromium	mg/L				
Copper	mg/L				
Iron	mg/L	<0.1	1	EPA 200.7	0.028/0.10 mg/l
Lead	mg/L				
Manganese	mg/L	<0.008	1	EPA 200.7	0.0017/0.008 mg/l
Mercury	mg/L				
Selenium	mg/L	0.0601	1	EPA 200.8	0.00024/0.002 mg/l
Silver	mg/L				
Zinc	mg/L	<0.01	1	EPA 200.7	0.0027/0.01 mg/l
Depth to water level (to the nearest .01 feet)					

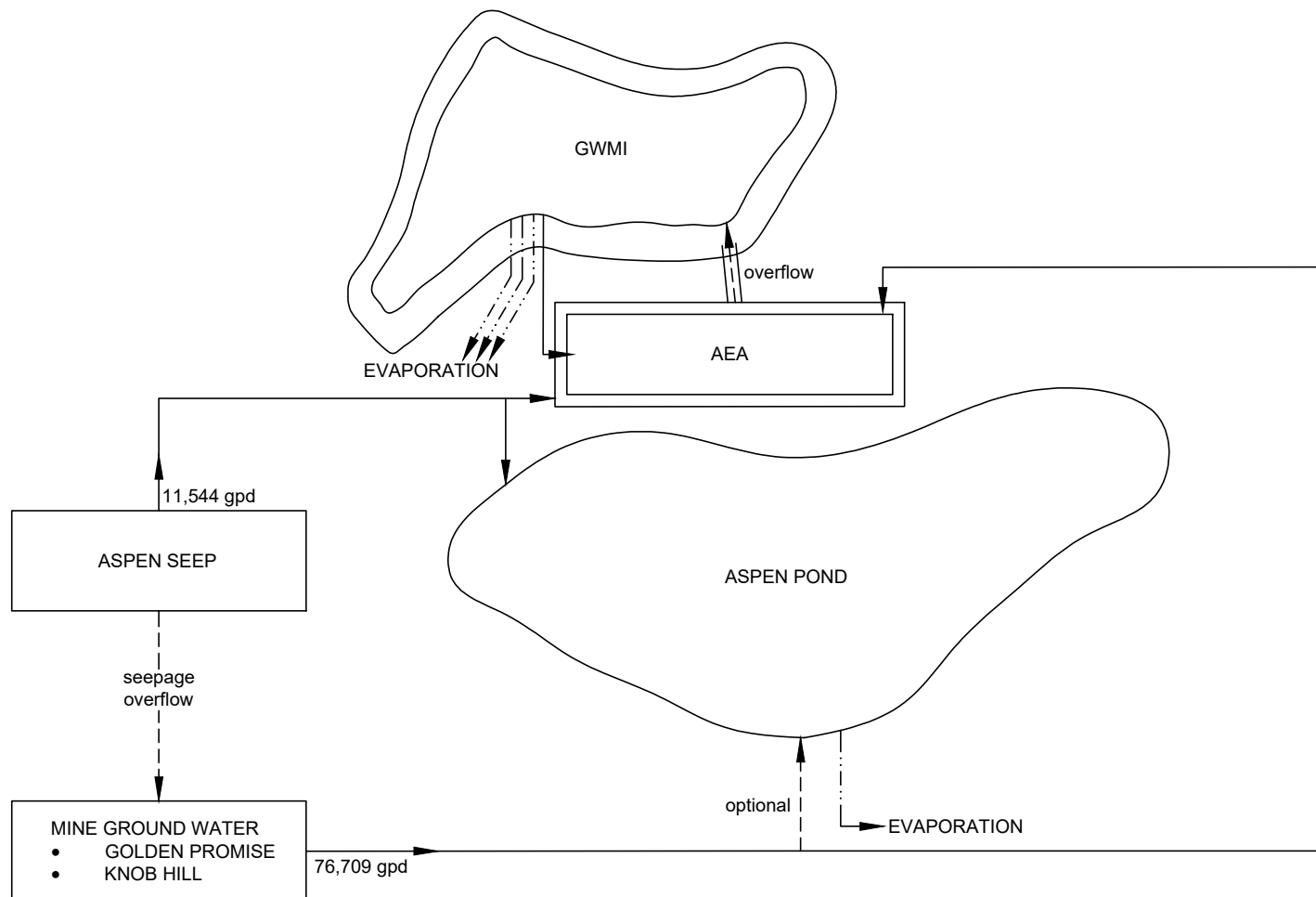
## Section F. Well Information

Well ID: 10-1-DG

Latitude:  
48°39'55.66"N

Longitude:  
118°45'12.38"W

Parameter	Units	Range of Measurements	Number of Analyses	Analytical Method	Detection Limit
BOD (5 day)	mg/L				
COD	mg/L				
Total organic carbon	mg/L				
Total dissolved solids	mg/L	1310-2100	4	SM 2540 C	/40
Dissolved Fixed Solids	mg/L				
pH	Standard units	6.6-6.8	4	SM 4500-H	0.1 standard units
Conductivity	(micromhos/cm)	1650-2210	4	EPA 120.1	
Alkalinity	mg/L as CaCO <sub>3</sub>	82.8-105	4	SM 2320 B	/1.0 as CaCO <sub>3</sub>
Total hardness	mg/L				
Fecal coliform	organisms/100mL				
Total coliform	organisms/100mL				
Dissolved oxygen	mg/L				
Ammonia-N	mg/L			EPA 351.2	0.31/0.50 mg/l
Nitrate + nitrite-N, nitrate as N	mg/L	0.524-0.871	4	EPA 300.0	0.013/0.05 mg/l
Total kjeldahl N as N	mg/L				
Ortho-phosphate-P as P	mg/L				
Total-phosphate-P as P	mg/L				
Total Oil and Grease	mg/L				
Total petroleum hydrocarbon	mg/L				
Calcium	mg/L	117-336	4	EPA 200.7	0.035/0.10 mg/l
Chloride	mg/L	10.2-15.5	4	EPA 300.0	1.1/10 mg/l
Fluoride	mg/L	0.266-0.433	4	SM 4500-F E	0.017/0.10 mg/l
Magnesium	mg/L	44.4-85.2	4	EPA 200.7	0.045/0.50 mg/l
Potassium	mg/L	5.97-8.21	4	EPA 200.7	0.09/0.50 mg/l
Sodium	mg/L	128-176	4	EPA 200.7	0.06/0.50 mg/l
Sulfate	mg/L	865-1340	4	EPA 300.0	9.0/15.0 mg/l
Barium	mg/L				
Cadmium	mg/L				
Chromium	mg/L				
Copper	mg/L				
Iron	mg/L	0.1-0.138	4	EPA 200.7	0.028/0.10 mg/l
Lead	mg/L				
Manganese	mg/L	<0.008 - <0.008	4	EPA 200.7	0.0017/0.008 mg/l
Mercury	mg/L				
Selenium	mg/L	0.0568-0.0692	4	EPA 200.8	0.00024/0.002 mg/l
Silver	mg/L				
Zinc	mg/L	0.01-0.20	4	EPA 200.7	0.0027/0.01 mg/l
Depth to water level (to the nearest .01 feet)					



**LEGEND**

- WATER FLOW
- INTERMITTENT FLOW
- EVAPORATION
- LINED IMPOUNDMENT/STRUCTURE

**NOTES**

AEA = LINED ASPEN EVAPORATION AREA

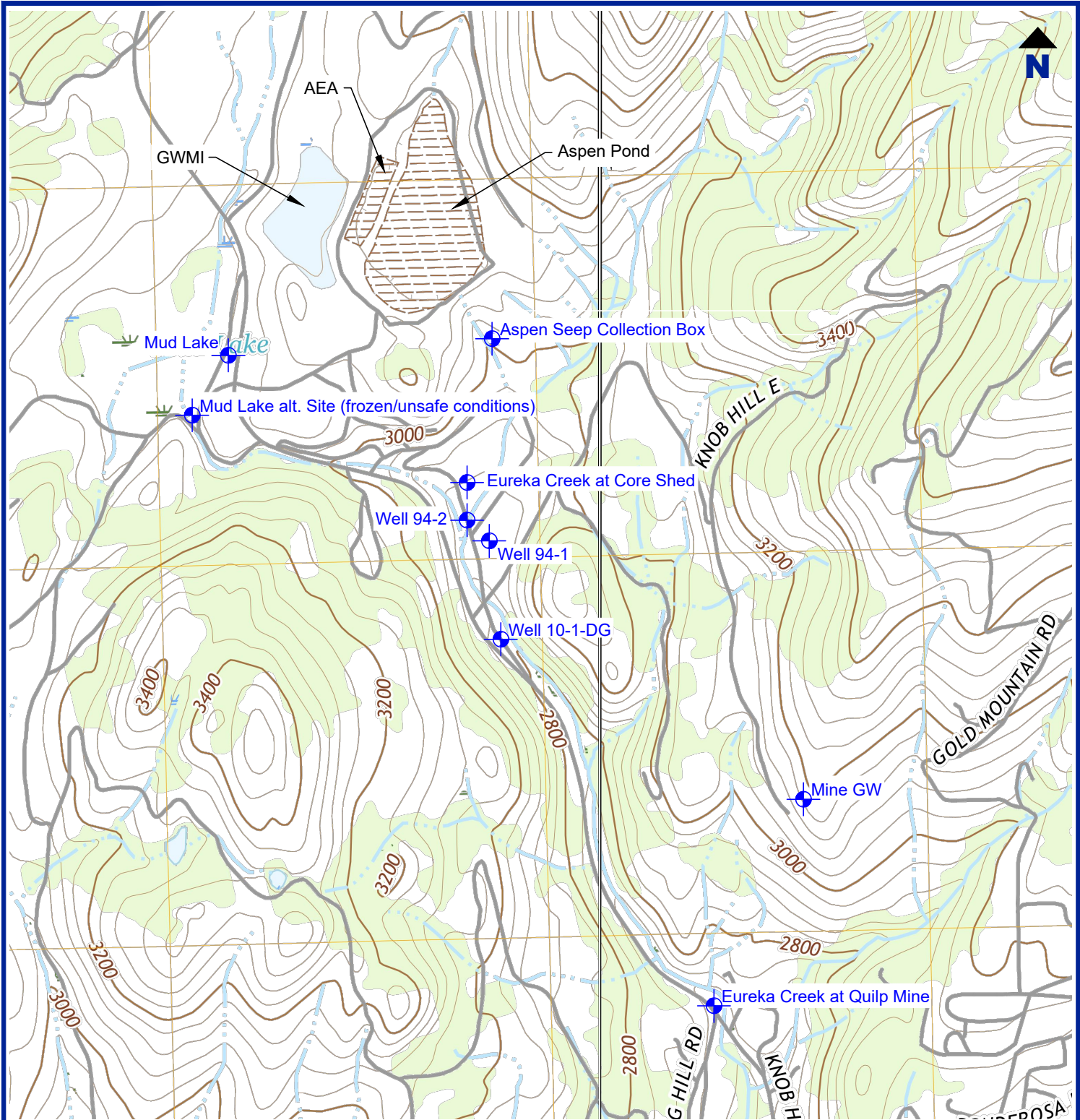
GWMI = LINED GROUNDWATER MANAGEMENT IMPOUNDMENT

FLows PROVIDED ARE ANNUAL AVERAGE (gpd).  
SEE COVER LETTER FOR FACILITY WATER FLOW DESCRIPTION.



HECLA LIMITED - REPUBLIC UNIT REPUBLIC, WA			
Report STATE WASTE DISCHARGE PERMIT APPLICATION			
Drawing WATER FLOW DIAGRAM			
Date	February 21, 2023	Scale	
File Name	Water Flow Diagram	Project No.	123.00632.00032
Figure			C2

Drawing path: N:\Portland\Figures\123.00632 - Hecla LEUCAD\Republic\_NPDES\_Topo.dwg



**LEGEND**  
Mine GW — SAMPLING LOCATIONS

**NOTES**  
TOPOGRAPHIC MAP REFERENCED FROM USGS 7.5 MINUTE QUADRANGLE  
REPUBLIC AND STORM KING MOUNTAIN, WA; 2020

0 1,200 2,400 3,600 FT



## HECLA LIMITED - REPUBLIC UNIT REPUBLIC, WA

Report  
STATE WASTE DISCHARGE PERMIT  
APPLICATION

Drawing  
SAMPLING LOCATIONS

Date February 23, 2023

Scale

Figure

File Name Republic\_NPDES\_Topo

Project No. 123.00632.00032

F3