



June 30, 2017

Tracking Number: 342525
Authorization Number: 261

REGISTERED MAIL

Copper Mountain Mine (BC) Ltd.
25th Floor, 700 West Georgia St
Vancouver BC V7Y 1B3

Dear Permittee:

Enclosed is Amended Permit 261 issued under the provisions of the *Environmental Management Act*. Your attention is respectfully directed to the terms and conditions outlined in the permit. An annual fee will be determined according to the Permit Fees Regulation.

This permit does not authorize entry upon, crossing over, or use for any purpose of private or Crown lands or works, unless and except as authorized by the owner of such lands or works. The responsibility for obtaining such authority rests with the Permittee. This permit is issued pursuant to the provisions of the *Environmental Management Act* to ensure compliance with Section 120(3) of that statute, which makes it an offence to discharge waste, from a prescribed industry or activity, without proper authorization. It is also the responsibility of the Permittee to ensure that all activities conducted under this authorization are carried out with regard to the rights of third parties, and comply with other applicable legislation that may be in force.

This decision may be appealed to the Environmental Appeal Board in accordance with Part 8 of the *Environmental Management Act*. An appeal must be delivered within 30 days from the date that notice of this decision is given. For further information, please contact the Environmental Appeal Board at (250) 387-3464.

Administration of this permit will be carried out by staff from the Environmental Protection Division's Regional Operations Branch. Plans, data and reports pertinent to the permit are to be submitted by email or electronic transfer to the Director, designated Officer, or as further instructed.

Yours truly,

A handwritten signature in black ink, appearing to read 'CDanyluk', is positioned above the typed name.

Carol Danyluk, P.Eng.
for Director, *Environmental Management Act*
Authorizations – Mining Operations

Enclosure

cc: Environment Canada



**MINISTRY OF
ENVIRONMENT**

PERMIT

261

Under the Provisions of the Environmental Management Act

Copper Mountain Mine (BC) Ltd.

**25th Floor, 700 West Georgia St
Vancouver BC. V7Y 1B3**

is authorized to discharge effluent to the environment from the operation of a Copper Mining and Milling facility located on Copper Mountain Road, approximately 20 km south of Princeton, British Columbia, subject to the terms and conditions listed below.

This permit supersedes and amends all previous versions of Permit PE-261, issued under Part 2, Sections 14 or 16 of the *Environmental Management Act*. Contravention of any of these conditions is a violation of the *Environmental Management Act* and may lead to prosecution.

1 AUTHORIZED DISCHARGES

1.1 Discharge of Tailings from Milling and Concentrator Operations

This section applies to the discharge of Tailings to the Tailings Pond. The site reference number for this discharge is E105586.

- 1.1.1 The maximum rate of discharge is 110, 000 cubic metres per day of tailings effluent at the maximum Mill production rate of 50,000 tonnes/day.
- 1.1.2 The supernatant from this discharge is to be reused to the maximum practical extent as supply water for concentrator processes.
- 1.1.3 The characteristics of the discharge are typical effluent/tailings from processing copper ore into concentrate.

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A handwritten signature in black ink, appearing to read "Carol Danyluk".

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for Director, *Environmental Management Act*
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- 1.1.4 The authorized works are the concentrator facility, tailings pipeline, tailings pond, seepage control works and related appurtenances approximately located as shown on Site Plan A.
- 1.1.5 The locations of the facilities from which the discharges originate, and the points of discharge, are PID 011-462-612 and PID 011-462-639.

1.2 Rotating Biological Contactor

This section applies to the discharge of treated effluent from a package sewage treatment plant (**Rotating Biological Contactor (RBC)**) treating black and grey water wastes from the concentrator facilities and discharging treated effluent to the Tailings Pipeline and Tailings pond for reuse as process water. The site reference number for this discharge is E286309.

- 1.2.1 The average rate of discharge is 14 cubic metres per day and must not exceed a maximum flow of 55.2 cubic metres per day.
- 1.2.2 The authorized discharge period is continuous.
- 1.2.3 The characteristics of the discharge must be equivalent to or better than typical municipal wastewater septic tank:
 - a maximum of 120 mg/L for BOD
 - a maximum of 120 mg/L for TSS
- 1.2.4 The authorized works are a package waste water treatment plant and related appurtenances approximately located as shown on Site Plan A.
- 1.2.5 The location of the facilities from which the discharge originates are located on Mining Lease No.339 (previously DL 366S), Copper Mountain Mine and the point of discharge is located on, DL 52S and DL 53S, Copper Mountain Mine

1.3 Cumulative Point and Non-point Discharges to Wolfe Creek

This section applies to potential future seepages as well as the various known mine site seepages along Wolfe Creek, including but not limited to, SW21, SW36 & SW37 seepages, the Waste Rock Storage Area Collection Pond and Tailings Seepage water not captured by the seepage return works that report to Wolfe Creek. The site reference number for this discharge is E500101

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- 1.3.1 The Permittee must manage the point and non-point discharges to Wolfe Creek such that water quality in Wolfe Creek at Site SW03, are equivalent to or less than:

567 mg/L of Sulphate as a monthly average;
100 µg/L of Total Molybdenum;
3 mg/l as N of Nitrate as a maximum monthly average, and
16 µg/L of Total Copper as maximum, and
4 µg/L of Total Selenium as a monthly average.

The characteristics of the discharge must not be acutely toxic to aquatic life.

These concentrations are subject to the findings of the Best Achievable Technology (BAT) Assessment requirements in section 3.6 of this permit. Should additional parameters of concern emerge following further Water Quality Modelling (Section 3.1), the Permittee may be required to investigate BAT options for those parameters as well as the parameters listed above. The Total Copper value is subject to the development of a Science Based Environmental Benchmark for Wolfe Creek as prescribed in Section 3.4 of the permit.

- 1.3.2 The authorized discharge period is continuous at typical annual average rate of 100 Litres/sec.
- 1.3.3 The authorized works are the Waste Rock Seepage Collection system, the East Dam Seepage Collection System, and other related appurtenances.
- 1.3.4 The location of these discharges and the compliance point is the Copper Mountain Mine, as generally shown on Site Plan A.

1.4 West Dam Seepage (SW07)

This section applies to the seepage water from the West Dam of the Tailings Management Facility to the Similkameen River. The site reference number for this discharge is E500076

- 1.4.1 The typical rate of discharge is 40 L/sec as an annual average.
- 1.4.2 The authorized discharge period is continuous up to and including December 31st, 2018. Effective January 1st 2019 the West Dam Seepage Dam return system must resume operations and return all the collected seepage to the Tailings Dam.

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- 1.4.3 The characteristics of the discharge must not exceed:

50 mg/L of Total Suspended Solids,
650 mg/L of Sulphate,
3 mg/L of Nitrate as N as a monthly average,
11 µg/L of Total Copper and 8 µg/L as monthly average,
100 µg/L of Total Molybdenum, and,
2 µg/L of total Selenium as a monthly average.

The characteristics of the discharge must not be acutely toxic to aquatic life.

- 1.4.4 The location of these discharges and the compliance point is the Copper Mountain Mine, as generally shown on Site Plan A.

1.5 Waste Rock Storage Area Wolfe Crk drainage Ditch & Collection Pond Discharge (SW45)

This section applies to the seepage water from the Waste Rock Storage Area to the Tailing pond or to Wolfe Creek. The site reference number for this discharge is E306784.

- 1.5.1 The typical rate of discharge is 40 L/sec as an annual average.
- 1.5.2 The authorized discharge period to the tailings pond is continuous. Overflow to Wolfe Creek is only permitted under emergency situations subject to the characteristics specified in section 1.5.3 and requirements specified in Section 2.1.
- 1.5.3 The characteristics of the discharge must not exceed:
50 mg/L of Total Suspended Solids during direct discharge to Wolfe Creek.

The characteristics of the discharge must not be acutely toxic to aquatic life.

- 1.5.4 The location of the discharge is as generally shown on Site Plan A.

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1.6 Level 6 Adit Seepage SW09

This section applies to the discharge of seepage water from the Level 6 Adit to water courses that lead to the Similkameen River. The site reference number for this discharge is E287169

- 1.6.1 The typical rate of discharge is 12 L/sec, as an annual average.
- 1.6.2 The authorized discharge period is continuous until December 31st, 2018. Effective January 1st 2019, this discharge must be captured and routed to the TMF, used within the mill and or used as dust suppression or a combination thereof.
- 1.6.3 The characteristics of the discharge must not be acutely toxic to aquatic life.
- 1.6.4 The location of the discharge is as generally shown on Site Plan A.

2 GENERAL REQUIREMENTS

2.1 Maintenance of works, Non-Compliance and Emergency Procedures

- 2.1.1 The Permittee must inspect the authorized works regularly and maintain them in good working order. In the event of a condition or emergency which prevents effective operation of the authorized works, leads to unauthorized discharge, or results in a permit exceedance, the Permittee must:
 - i. Comply with all applicable statutory requirements, including the Spill Reporting Regulation;
 - ii. Immediately contact the Director or an Officer designated by the Director by e-mail and/or telephone; and,
 - iii. Take appropriate remedial action for the prevention or mitigation of pollution.
- 2.1.2 The Director may require the Permittee to reduce or suspend operations to protect the environment during a condition or emergency until the authorized works have been restored and/or corrective steps have been taken to prevent unauthorized discharges.

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- 2.1.3 During and/or after the environmental emergency event or condition, the Permittee must conduct sampling and analysis of discharges and the receiving environment, which may be equivalent to or more stringent than the monitoring requirements of this permit and/or applicable statutory requirements. As the results of such sampling become available, the Permittee must provide the results to the Director. The Director may require additional monitoring or reporting at any time by specifying such in writing to the Permittee.

2.2 Emergency Response Plan

The Permittee must maintain an Emergency Response Plan (the Plan) to the satisfaction of the Director. The Plan is to be kept on site, and be available to facility personnel and Environmental Protection staff. The Plan must include steps to be taken, including monitoring and reporting in the event of an emergency or spill of the substances used and produced on site. The plan should also include notification procedures for other agencies, water users, the general public and First Nations that may be potentially impacted by emergency events. The Permittee may be required to update or amend the Plan at the Director's discretion.

2.3 Process Modifications

The Director must be notified prior to implementing changes to any process that may adversely affect the quality and/or quantity of the discharge. Despite notification under this section, permitted maximum discharge levels must not be exceeded.

2.4 Ownership

The Director must be notified of any change in ownership of the works authorized by this permit within 10 business days of an ownership change. Transfers of ownership and this permit do not take effect unless the Director has consented to it in writing.

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2.5 Qualified Professionals

All documents submitted to the Director must be signed by the author. Submissions where an opinion or recommendations is expressed regarding data analysis, interpretation, assessment and/or design must be signed by an appropriate Qualified Professional who in doing so takes professional responsibility for the content of the document. A Qualified Professional is defined as:

An applied scientist or technologist specializing in an applied science or technology applicable to the duty or function, including but not limited to agrology, biology, forestry chemistry, engineering, geoscience, geology or hydrogeology and who:

- a) Is registered in good standing with the appropriate professional organization, ie acting under that organizations code of ethics and is subject to disciplinary action by the organization, and
- b) Through suitable education experience accreditation and knowledge may be reasonably relied on to provide advice within their area of expertise.

3 SPECIFIC REQUIREMENTS

3.1 Water Quality Model

The Permittee must maintain and refine a Water Quality Model, predicting receiving water quality accounting for all effluent discharges influencing Wolfe Crk and the Similkameen River such as the Waste Rock seepages and tailings dam seepages, to the satisfaction of the Director. The model must also account for:

- i. wet and dry climatic variations and their associated hydrology,
- ii. variations in geochemistry of the ore, tailings and waste rock,
- iii. variations in production rates,
- iv. river water usage,
- v. variations in operational and closure conditions,
- vi. capture efficiency(s) of all Seepage Collection Works,
- vii. uncaptured seepages and ground water,
- viii. potential new seepages (such as SW38),
- ix. accounts for all reaches of Wolfe Crk (Flow and Concentrations),
- x. actual monitoring data,
- xi. and other factors that influence surface water quality.

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3.2 Explosives and Nitrogen Management Plan

The Permittee must submit an Explosive and Nitrogen Management Plan developed by a Qualified Professional by December 31, 2017. The plan must specifically target measures that prevent the loss of nitrogen species into the environment. The nitrogen management program must be implemented and any update to the plan submitted within 30 days of adoption to the Director.

3.3 Selenium Management Plan

The Permittee must submit a Selenium Management Plan (SMP) developed by a Qualified Professional by December 31, 2018. The SMP must specifically consider all surface and groundwater sources, current and planned mitigation strategies and the risk that those sources represent to the receiving environment over the life of the mine, including operation, remediation and closure. The SMP must be implemented and any update to the plan submitted within 30 days of adoption to the Director.

3.4 Science Based Environmental Benchmark for Total Copper in Wolfe Creek

The Permittee must submit a Development Plan to for a Science Based Environmental Benchmark (SBEB) for Total Copper in Wolfe Creek that accounts for background copper levels in Wolfe Creek upstream of the Mine site.

The SBEB Development Plan must be aligned with Technical Guidance 8 (http://www2.gov.bc.ca/assets/gov/environment/waste-management/industrial-waste/industrial-waste/mining-smelt-energy/guidance-documents/tg8_framework_for_sbebs.pdf).

The Development Plan must be submitted to the Director for review and approval by December 31, 2017.

3.5 Seepages

The Permittee must regularly inspect the Mine site to locate any new seepages that develop due to mining operations. Once a new seepage is identified, the Permittee must:

- i. Notify the Director,
- ii. Characterize the seepage by implementing monthly General, Metals and flow monitoring as defined in Section 8,
- iii. Toxicity testing at the discretion of the Director,
- iv. As a minimum develop and implement a sediment and erosion control plan for the seep, and,
- v. Implement further mitigation if necessary at the discretion of the Director.

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3.6 Best Available Treatment Technology Assessment

The Permittee is required to assess Best Achievable Treatment (BAT) Technology options to mitigate Sulphate, Molybdenum, Copper, Nitrate, Selenium and other parameters specified by the Director and/or identified by the Water Quality Modelling discussed in Section 3.1. Parameters of concern are those that exceed or are predicted to approach or exceed BC Water Quality Guidelines in the receiving Environment as modelled in section 3.1.

The BAT Assessment must consider and include a wide variety of technologies, or combinations of technologies that reduce the amount of the specified contaminants released into the receiving environment, including but not limited to seepages collection and treatment. The compiled assessments must include as a minimum:

- i. actual specifications, or projected treatment efficiencies (with respect to removal capabilities relative to parameters of concern),
- ii. siting requirements,
- iii. estimated capital and operating costs,
- iv. potential pilot work necessary to adapt it to the site,
- v. documentation of other successful applications,
- vi. potential environmental impacts of implementation;
- vii. Alignment with the current mine, remediation and closure plans, and
- viii. Other factors the BAT Assessment identifies as key to potential implementation

The compiled BAT Assessment of options must also identify a preferred technology and include an implementation plan, including preliminary implementation schedules.

The Permittee must submit the BAT Assessment and the proposed implementation plan on December 31, 2018 for the approval of the Director.

Based on the information provided and at the discretion of the Director, the Permittee may be required to implement the plan according to conditions specified by the Director.

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4 MONITORING PROGRAMS

4.1 Sampling Programs

The Permittee must implement and maintain the various monitoring programs specific to Permit 261 attached to this permit in Section 8 or any subsequent amendments to those programs approved in writing by the Director.

Within 90 days of the issuance of this permit amendment, the Permittee must submit an updated Biological Effects monitoring program for the approval of the Director that encompasses the following items:

- i. an updated Toxicity Monitoring Plan,
- ii. addresses concerns at WCRA (now impacted), WCNFA (impacted by East Dam expansion) and SRFF (retain or relocate, impacts multiple aspects of the Bio Effect monitoring program)
- iii. a periphyton monitoring plan which includes analysis of Chlorophyll-*a* and community structure,
- iv. a sediment monitoring plan
- v. a benthic invertebrate monitoring plan that follows Environment Canada CABIN protocol
- vi. updated benthic invertebrate tissue and fish tissue and organ testing programs

4.2 Additional Monitoring

Based on results of inspections, concerns and/or any other information available to the Director, the Director may require the Permittee to undertake and implement additional monitoring requirements including, but not limited to, additional monitoring sites, additional parameters, changes in frequency and/or modified procedures.

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5 MONITORING PROCEDURES

5.1 Sampling Procedures & Analytical Procedures

Sampling is to be carried out in accordance with the procedures described in the latest edition of "British Columbia Field Sampling Manual for Continuous Monitoring and the Collection of Air, Air-Emission, Water, Wastewater, Soil, Sediment, and Biological Samples. Suitable alternative procedures may also be used, if authorized by the Director in writing.

Analyses are to be carried out in accordance with procedures described in the "British Columbia Laboratory Manual (2009 Permittee Edition)", or the most recent edition, or by suitable alternative procedures as authorized by the Director

Copies of these manuals may be purchased from the Queen's Printer Publications Centre, P. O. Box 9452, Stn. Provo Gov't. Victoria, British Columbia, V8W 9V7 (1-800-663-6105 or (250) 387-6409) or via the internet at www.crownpub.bc.ca. A copy of the manual is also available for review at the Regional Environmental Protection offices.

Benthic Invertebrate sampling program must follow and be prepared by a Qualified Professional trained in the Environment Canada CABIN protocol. The Cabin protocol is available at www.ec.gc.ca/rcba-cabin.

The Sediment Sampling Program must analyze biologically relevant fine sediments less than 63 µm in size for total metals. The total metals analysis must include Aluminum, Antimony, Arsenic, Barium, Beryllium, Bismuth, Cadmium, Chromium, Cobalt, Copper, Iron, Lead, Lithium, Manganese, Molybdenum, Nickel, Selenium, Silver, Strontium, Thallium, Tin, Uranium, Vanadium and Zinc.

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5.2 Quality Control/Quality Assurance

The Permittee must conduct monitoring and laboratory procedures consistent with the provisions of a quality assurance plan (QAP). The QAP must be developed and implemented within 180 days of the amendment of this permit. The purpose of the QAP is to assure data collected and analyzed under this permit are valid and verifiable.

The facility-specific QAP, must meet all the requirements of this section. Throughout all sample collection and analysis activities, the Permittee must use QA/QC procedures, protocols and guidelines described in the QA/QC section of the latest edition of BC Field Sampling Manual.

At a minimum, the facility-specific QAP must include the following:

- a) Details on the type of sample containers, preservation of samples, holding times, analytical methods, analytical detection limits for each target compound, type and number of quality assurance field samples, precision and accuracy requirements, sample preparation requirements, sample shipping methods, and laboratory data delivery requirements
- b) Qualification and training of personnel.
- c) Name(s), address (es) and telephone number(s) of the laboratories, used by the Permittee.

The Permittee must amend the facility-specific QAP whenever there is a modification in sample collection, sample analysis, or other procedure addressed by the QAP. A copy of the QAP must be kept on site and made available to EPD staff upon request.

5.3 Minimum Detection Limit

Minimum analytical detection limits for each parameter required by this permit must be suitable for comparison with the applicable standards listed in the most recent Approved and Working Water Quality Guidelines prepared by Ministry of Environment or other applicable limits acceptable to the Director.

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6 REPORTING REQUIREMENTS

6.1 General Reporting Requirements

Whether specifically indicated in this permit or not, all notifications, plans, updates to plans, reports and results required under this permit must be submitted to the Director and the Upper and Lower Similkameen Indian Bands. Each of these parties must receive the notifications, plans, updates to plans, reports and results within the timelines specified within this permit for submission to the Director.

6.2 Annual Reporting

The Permittee must submit a comprehensive annual report, in a format suitable for public release, by April 30th following the end of each calendar to the satisfaction of the Director.

The annual report must also include an annual status report that self-assesses and identifies permit exceedances and/or compliance with the permit conditions and requirements. Further information on the Annual Status Form can be found at: <http://www2.gov.bc.ca/gov/content/environment/waste-management/waste-discharge-authorization/data-and-report-submissions/annual-status-form>

Copies of each Annual Report must also be provided to both the Upper and Lower Similkameen Indian Bands, as well as placed in the Princeton Public Library concurrent to the submission to the Director.

Submission to the Director of any environmental data required under this permit regardless of the required frequency, must also include submission to this specific Email address EnvAuthorizationsReporting@gov.bc.ca and must follow the conventions within the guidance documents located at <http://www2.gov.bc.ca/gov/content/environment/waste-management/waste-discharge-authorization/data-and-report-submissions/routine-environmental-reporting-submission-mailbox>

6.3 Non-Compliance Notification

The Permittee must immediately notify the Director or designate by phone or email, and send notification to the Non-Compliance Reporting Mailbox (EnvironmentalCompliance@gov.bc.ca) for any non-compliance with the requirements of this permit, and take appropriate remedial action. Written confirmation of all non-compliance events, including available test results is required within 24 hours of the original notification unless otherwise directed by the Director.

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Guidance on the above procedures is available at:

<http://www2.gov.bc.ca/gov/content/environment/waste-management/waste-discharge-authorization/data-and-report-submissions/non-compliance-reporting-mailbox>

6.4 Non-Compliance Reporting

For any noncompliance with the requirements of this permit, the Permittee must submit a written report to the Director within 30 days of the noncompliance occurrence. The report must include, but is not necessarily be limited to, the following:

- (a) all relevant test results related to the noncompliance;
- (b) an explanation of the most probable cause(s) of the noncompliance;
- (c) remedial action planned and/or taken.

7 FIVE YEAR MINE PLAN & DATA REVIEW PROCESS

Every five years, the Permittee must conduct and submit a comprehensive evaluation to the satisfaction of the Director, of the compiled monitoring results, (including but not limited to ML/ARD, Water Quality, Hydrology, Biological Effects monitoring), to assess the environmental impact of the mine, the effectiveness of various water management strategies, and refine and assess the Water Quality Modelling predictions as necessary. The submission and modelling must also include and account for the mine's operating and closure plans and be in keeping with the requirements of the Ministry of Energy, Mines and Petroleum Resources.

The next report must be submitted to the Director by September 30th, 2021 and every 5 years thereafter. Additional interim submissions may be required in support of major permit amendments and or to assess emerging environmental concerns.

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8 **Environmental Monitoring Plan - Permit 261**

8.1 **Surface Water Sampling**

The Permittee must sample and analyze the following surface water sites for the specified parameters at the specified frequencies.


General Parameters = Laboratory analysis of : pH, Specific Conductivity, Hardness, Alkalinity, Sulphate, Chloride, Fluoride, Calcium, Magnesium, Sodium, Potassium, Ammonia, Nitrate, Nitrite, Total Nitrogen, TKN, Total & Dissolved Phosphorous, Ortho Phosphate, Total & Dissolved Organic Carbon, Total Suspended Solids & Total Dissolved Solids as well as Turbidity.

General Parameters also includes Field sampling of Water Temperature, Specific Conductance, Dissolved Oxygen, and pH.

Metals = Low level ICP analysis of Total and Dissolved metals: Aluminum, Antimony Arsenic, Barium, Beryllium, Bismuth, Cadmium, Chromium, Cobalt, Copper, Iron, Lead, Lithium, Manganese, Molybdenum, Nickel, Selenium, Silver, Strontium, Thallium, Tin, Uranium, Vanadium and Zinc. (Total Metals analysis is not required for ground water sites.)

Copper Mountain Name	EMS Number	EMS Name	Metals & General	Flow / Level	5 In 30 Day Sampling	Additional Parameter(s)
Upper Wolfe Crk Monitoring Sites – Above East Dam						
SW46	E307368	Wolfe Crk Reference, PE261, SW46. Control site on headwaters of Wolfe Crk. SW46	Monthly	Monthly	fall low flow	
SW14	E287171	Seepage southeast side of WRSA, U/S Conflu with Collection Ditch, 700m Wolfe Belgie FSR, PE 261, SW14	Quarterly	Monthly		Toxicity (as per program in Section 4.1i)
SW04	E266462	Wolfe C PE 261, 7km U/S East Dam, 175m Wolfe Branch 2 FSR, SW04	Monthly	Monthly	fall low flow	
SW 17	E287173	Wolfe C PE 261, SW 17 Upper Reach (Midway Between Sw4 & SW 16)	Monthly	Continuous	Fall low flow	
SW21	E287174	PE 261 D4 WRSA Seepage U/S Conflu with Collection Ditch 850m U/S SW16	Quarterly	Monthly		Toxicity (as per program in Section 4.1i)
SW37	E287175	PE 261 D2 WRSA Seepage U/S Confl with Collection Ditch, 400m U/S SW16	Quarterly	Quarterly		Toxicity (as per program in Section 4.1i)
SW36	E287176	Lost Horse Gulch Seepage U/S Conflu with Collection Ditch, 150 M U/S SW16	Quarterly	Quarterly		Toxicity (as per program in Section 4.1i)
SW45	E306784	WRSA Collection Pond outflow, PE 261, SW45	Monthly	Monthly		
SW16	E254310	Wolfe C PE 261, 100m D/S Confl WRSA Collection Pond	Phased out... and replaced by SW17			
SW01	500397	Wolfe C –PE 261 - 50m U/S East Tailings Dam SW01	Monthly	Monthly	fall low flow	
Lower Wolfe Crk Monitoring Sites – D/S of East Dam						
SW02	E254309	Wolfe C PE 261, 500m D/S East Tailings Dam Just E Of Pumphouse SW2	Monthly	Monthly		
SW03	500101	Wolfe C PE 261, U/S Cop Mtn Rd 1.5 Km D/S East Tailing Dam SW 03	Monthly	Continuous	fall low flow	If either Toxicity fails at SW06, conduct acute and chronic at SW03 as part of SW06 follow-up
SW05	E254311	Wolfe C Pe261, 6.5km D/S East Dam SW05	Quarterly	Quarterly		
SW15	E287172	Wolfe Crk PE 261 Dns Willis Crk Ups Lorne Lk	Phased out at present			
Tailings Facility & In Pit Sampling Sites						
SW06	500398	East Dam Seepage Pe261 at pumphouse SW 6	Monthly.	Monthly		Toxicity (as per program in Section 4.1i);.PAX & MIBC quarterly
SW07	500076	Pe261 West Dam Seepage SW 7	Monthly	Monthly		Toxicity (as per program in Section 4.1i);.PAX & MIBC quarterly
SW08	500416	Pe261 Tailing Pond Supernatant SW 8	Quarterly	Level Monthly		Toxicity (as per program in Section 4.1i);.PAX & MIBC quarterly
SW10	E249473	PE 261 Ingerbelle Pit Water SW 10	Quarterly	Level Quarterly		
SW22	E307464	PE 261 Pit 2 water	Quarterly	Weekly (pump hrs)		
Similkameen River Monitoring Sites & Seepages						
SW11	500075	Similkameen R Reference @ Placer FSR Approx 19km U/S Pe261 SW11	Monthly		Fall low flow	
SW12A	E286689	Similkameen R D/S of mine, SW12A	Monthly		Fall low flow	
SW13	E287170	Similkameen R Immed Ups Of Freshwater Intake, PE 261 SW13	Monthly		Fall low flow	
SW09	E287169	PE 261 Level 6 Adit Drainage SW 9	Monthly	Monthly		Toxicity (as per program in Section 4.1i).
SW38	E307367	Seepage southwest side of WRSA, adj GW06, PE 261, SW38	Monthly	Monthly		Toxicity (as per program in Section 4.1i).

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Date amended: June 30, 2017
(most recent)


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Copper Mountain Name	EMS Number	EMS Name	Metals & General.	Flow / Level
Ground Water Monitoring				
GW01	E287177	SIMILCO PE261 WELL SE OF UPPER WOLFE CRK EAST BRANCH GW1	Quarterly - Level General & Dissolved Metals	
GW02	E287178	SIMILCO PE261 WELL ADJ WEST BRCH WPPER WOLFE CRK UPS OF SW14 GW02	Quarterly - Level General & Dissolved Metals	
GW03	E287185	SIMILCO PE261 WELL ADJ WOLF CRK 200M DNS OF SW4 GW03	Quarterly - Level General & Dissolved Metals	
GW04	E287188	SIMILCO PE261 WELL ADJ PROPOSED SEEPAGE DITCH 200 S OF SW 17 GW04	Quarterly - Level General & Dissolved Metals	
GW05	E287189	SIMILCO PE261 WELL AT OUTLET OF LOST HORSE GULCH GW05	Quarterly - Level General & Dissolved Metals	
GW06	E287190	SIMILCO PE261 WELL SW OF PROPOSED SOUTH WASTE ROCK DUMP GW06	Quarterly - Level General & Dissolved Metals	
GW07	E287191	SIMILCO PE261 WELL 200M SOUTH OF E SEEPAGE PUMPHOUSE ADJ WOLFE CRK GW07	Quarterly - Level General & Dissolved Metals	
GW08	E287192	SIMILCO PE261 WELL ADJ WOLFE CRK & SW3, BY COP. MTN RD. GW08	Quarterly - Level General & Dissolved Metals	
GW10	E287194	SIMILCO PE261 WELL GW10 ON SW CORNER OF THE PAG STOCKPILE	Quarterly - Level General & Dissolved Metals	
GW11	E287195	SIMILCO PE261 WELL GW11 BY PROPOSED SEEPAGE DITCH BY WOLFE CRK 200M S OF SW4	Quarterly - Level General & Dissolved Metals	
GW12	E287196	SIMILCO PE 261 WELL GW12 ADJ PIT 1 ABOVE SIMILKAMEEN RIVER	Quarterly - Level General & Dissolved Metals	
GW14	E287290	SIMILCO PE 261 GW14 WELL ON E TAILING DAM UPGRADE OF COLLECTION	Quarterly - Level General & Dissolved Metals	

8.2 Domestic Treated Effluent

The Permittee must monitor the treated effluent flow volumes discharged to the tailings pipeline (E286309) and report them as a weekly average and once per month sample the discharge to determine the 5 day Biological Oxygen Demand and the Total Suspended Solids concentrations present in the treated effluent prior to discharge to the Tailing Pipeline.

8.3 EMS

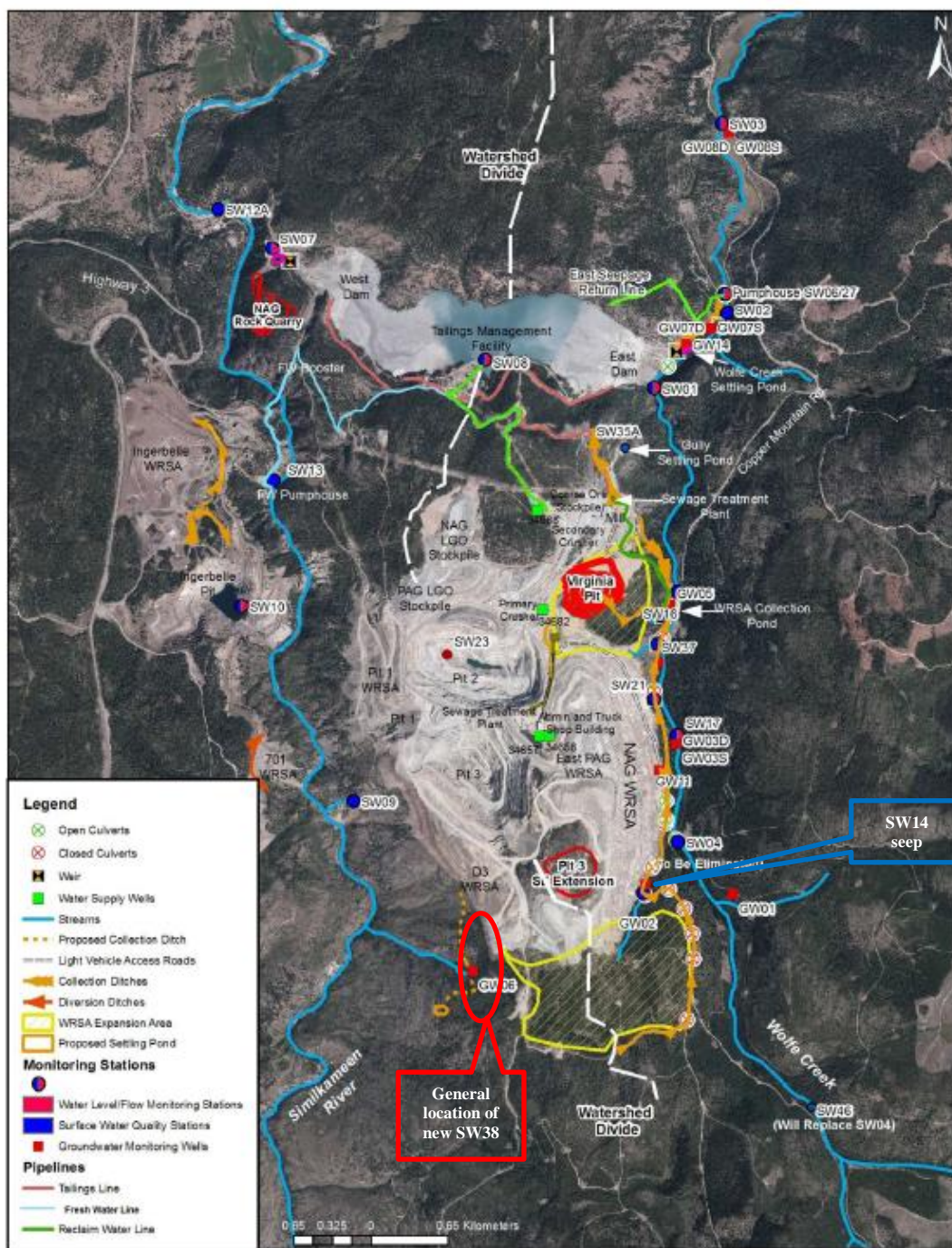
The Permittee must ensure that all data collected under this monitoring plan is uploaded into the Environmental Monitoring System (EMS database). Further, the Permittee must ensure that the available historic data for all the monitoring sites contained in this monitoring plan is also uploaded by December 31, 2018.

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Site Plan A



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