

PROVINCE OF BRITISH COLUMBIA  
MINISTRY OF ENERGY, MINES AND PETROLEUM RESOURCES

**PERMIT**

**APPROVING WORK SYSTEM AND RECLAMATION PROGRAM**

(Issued pursuant to Section 10 of the *Mines Act* R.S.B.C. 1996, c. 293)

Permit: **M-29**

Mine #: **0300009**

Issued to: **Similco Mines Ltd.**  
**Suite 1700- 700 West Pender Street**  
**Vancouver, British Columbia**  
**V6C 1G8**

for work located at the:

**Similco Mine**

This permit contains the following sub-sections:

**Issue Date**

**Permit**

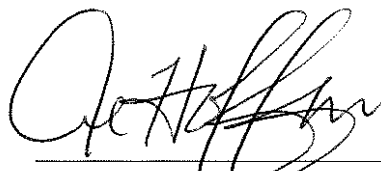
April 1, 2010

Permit Approving the Reclamation Program

**Amendments**

As listed on page 2

Issued at Victoria, British Columbia this 1st day of April in the year 2010.



Al Hoffman, P. Eng.  
Chief Inspector of Mines

### Amendments

February 1, 1971	Smelter Lake Tailings Dam
August 24, 1979	Tailings Dam Modification
July 2, 1982	Modified Construction
July 2, 1982	Smelter Lake tailings – Dams Modified Construction
July 19, 1984	Copper Mountain
February 14, 1985	Smelter lake Tailings Impoundment Raise
July 24, 1989	Copper Mountain D2 Waste Dump
July 24, 1989	Copper Mountain D3 Waste Dump
September 22, 1989	Copper Mountain Pit 1 haulage Road – Construction Plans
March 1, 1990	Smelter Lake Tailings System and Cable Belt Check Procedures
March 22, 1990	Copper Mountain Pit 3 Work System
June 1, 1990	Smelter lake Tailings Impoundment Raise to 3075 ft.
May 17, 1991	Virginia Pit Work Area
September 8, 1992	Pit 3 Waste Dump Operations
December 8, 1992	Pit 1 In-Pit Waste Dump
May 10, 1994	Reclamation Program
June 16, 1995	Ingerbelle Pit, 1995 – 1996 Phase I Mine Plan and Access Road
December 12, 2001	Reduction in Security
March 28, 2002	Reduction in Security
September 22, 2009	Approving Mill Foundation Construction
April 1, 2010	Approving Mine Plan and Reclamation Program for Copper Mountain

**AMENDMENT TO PERMIT**

**APPROVING MINE PLAN AND RECLAMATION PROGRAM  
FOR COPPER MOUNTAIN**

Permit: **M-29**


Mine: **0300009**

Issued to: **Similco Mines Ltd.  
Suite 1700 – 700 West Pender Street  
Vancouver, British Columbia  
V6C 1G8**

for work located at the:

**Similco Mine**

Issued at Victoria, British Columbia this 1st day of April in the year 2010.

A handwritten signature in black ink, appearing to read 'Al Hoffman', is written over a horizontal line.

Al Hoffman, P.Eng.  
Chief Inspector of Mines

## **PREAMBLE**

An application for permission to commence work including a report on the mine plan and reclamation program entitled "Copper Mountain Porphyry Copper Gold Mine, Princeton BC, Application to Amend Mines Act Permit M-29" 3 Volumes (Application), dated March, 2009 was submitted to the Chief Inspector of Mines (Chief Inspector) in accordance with Part 10.1.2 of the Health, Safety and Reclamation Code for Mines in British Columbia (Code) on April 6, 2009.

A series of reports required by the Chief Inspector also form part of the application, as follows:

- Electrical Single Line Drawings - Hatch, October 23, 2009.
- Concentrator Architectural and General Arrangement Drawings – Hatch, October 23, 2009.
- Mine Maintenance Building Architectural Drawings – Hatch, October 23, 2009.
- SRK Consulting report entitled "Copper Mountain Porphyry Copper-Gold Mine, Princeton, BC, Application to Amend Mines Act Permit M-29, Response to Regulator Comments dated July 2009.
- SRK Consulting report entitled "Copper Mountain Porphyry Copper-Gold Mine, Princeton, BC, Application to Amend Mines Act Permit M-29, Response to Supplemental Review Comments", dated November 2009.
- Klohn Crippen Berger report entitled, "Assessment of Fish Flows in Wolf Creek", dated January 28, 2010.
- SRK Consulting report entitled "Wolfe Creek Sulphate Adaptive Management Strategy", dated January 2010.
- Wildeor Wildlife Research and Consulting report entitled "Management Plan for Ecosystems and Species at Risk", dated February 5, 2010.
- SRK Report entitled "Copper Mountain Metal Leaching and Acid Rock Drainage Prediction and Prevention Plan", Copper Mountain Mine, dated February 2010.
- Similco Mines Ltd, Map showing "Final LGO Dump Limits, 1.5 Segregation Criteria", dated February 2010.
- Similco Mines Ltd, Map showing "Proposed End of Life Mine Footprint, 1.5 Segregation Criteria", dated February 2010.

The Application was referred to other agencies on April 2, 2009 in accordance with Part 10.3.1 of the Code.

A meeting of the South Central Mine Development Review Committee was held on June 24, 2008, in Princeton, and again on August 28, 2008, in Princeton to seek input on the permit applications prior to their submission. Another meeting of the South Central Mine Development Review Committee was held on May 28, 2009 in Penticton and again on February 4, 2010 in Penticton, to review the application. A separate meeting of the Water Quality

subcommittee was held on October 15, 2009 to review submissions relating to water quality and metal leaching and acid rock drainage.

This permit contains the requirements of the Ministry of Energy, Mines and Petroleum Resources. It is also compatible, to the extent possible, with the requirements of other provincial ministries. The amount of security required by this permit and the manner, to which this security may be applied, will also reflect the requirements of those ministries. However, nothing in this permit limits the authority of other provincial ministries to set other conditions, or to act independently, under their respective permits and legislation.

Decisions made pursuant to this permit by staff of the Ministry of Energy, Mines and Petroleum Resources will be made in consultation with other provincial ministries and federal departments and agencies, within reasonable timeframes. Where these decisions directly affect the Ministry of Environment, Ministry of Agriculture and Lands, Ministry of Forests and Range, and Ministry of Transportation and Infrastructure, all decisions will be made in concurrence with the appropriate Manager or Director.

The Upper Similkameen Indian Band (USIB) and the Lower Similkameen Indian Band (LSIB) have asserted aboriginal interests in the lands and minerals comprising the area of this permit. These interests have been expressed during pre-permit consultations between the Ministry of Energy, Mines and Petroleum Resources and the two Bands. A number of measures have been incorporated as conditions in the permit, in order to accommodate these interests.

## CONDITIONS

The Chief Inspector hereby approves the Mine Plan and Reclamation Program as submitted in the Application, subject to compliance with the following conditions:

### A. General

#### 1. Compliance with *Mines Act* and Code

All work shall be in compliance with all sections and parts of the *Mines Act* and the Health, Safety and Reclamation Code for Mines in B.C. (Code), and the owner, agent or manager (Permittee) shall obey all orders issued by the Chief Inspector of Mines (Chief Inspector) or their delegate.

#### 2. Departure from Approval

The Permittee shall notify the Chief Inspector in writing of any intention to depart from the approved Application and this *Mines Act* permit (M-29) to any substantial degree, and shall not proceed to implement the proposed changes without the written authorization of the Chief Inspector.

3. Permit

This Permit is not transferable or assignable.

4. Reclamation Responsibility

- (a) This permit supersedes the M-29 *Mines Act* permit approving the reclamation program issued June 11, 1992. Any outstanding reclamation on the Ingerbelle side of the property shall remain the responsibility of the Permittee under the updated terms and conditions of this permit.
- (b) By March 31, 2012, the Permittee shall submit to the Chief Inspector for approval, a detailed closure plan for the Ingerbelle Mine with a schedule of reclamation activities that addresses all outstanding closure obligations.

5. Copper Mountain Advisory Committee (CMAC)

- (a) Within 60 days after the issuance of this permit, the Permittee shall establish an Advisory Committee to provide advice to the Chief Inspector on environmental management and monitoring, reclamation and closure activities of the Copper Mountain Mine. The committee will be chaired by a representative of the Ministry of Energy, Mines and Petroleum Resources. Terms of Reference and Operating Procedures for the Advisory Committee will be established by the Chief Inspector in consultation with the committee members. The committee shall consist of five (5) members comprising representatives from the Ministry of Energy, Mines and Petroleum Resources, Ministry of Environment, Upper Similkameen Indian Band, Lower Similkameen Indian Band and the Permittee. The meeting costs shall be borne by the Permittee.
- (b) Copies of all reports submitted to the Chief Inspector pertaining to this permit, including annual monitoring reports and any changes to the approved Reclamation and Closure plans shall also be sent to the Chair of the CMAC, Ministry of Environment, Upper Similkameen Indian Band and Lower Similkameen Indian Band.

**B. Health and Safety**

1. Occupational Health and Safety Management Plan and an Emergency Preparedness Plan

- (a) The Permittee shall prepare and submit to the Chief Inspector within 30 days after the issuance of this permit, an Occupational Health and Safety Management Plan and an Emergency Preparedness Plan relevant to the planned construction activities.
- (b) The Permittee shall prepare and submit to the Chief Inspector within 60 days prior to the start of operations an Occupational Health and Safety Management Plan and an Emergency Preparedness Plan relevant to the planned operational activities. The plan shall reference relevant policies and establish proactive procedures to provide direction for operational management and monitoring and shall include the following plans:
  - Hazardous Material Management Plan,
  - Petroleum Management Plan,
  - Explosives Management Plan,
  - Occupational Health and Safety Management Plan, and
  - Traffic Plan.

The plans shall be kept up to date and be made available at the mine site at all times.

- (c) The Permittee shall ensure that mine site employees and contractors are knowledgeable and accountable for fulfilling the actions of the Occupational Health and Safety Plan and Emergency Preparedness Plans.

2. Copper Mountain Road Access

- (a) The Permittee shall commit to partnering with the Ministry of Transportation and Infrastructure and/or other agencies and/or other stakeholders and towards the cost of improving the existing road surface on Copper Mountain Road.
- (b) The Permittee shall submit within 60 days of the issuance of this permit, a Trip Distribution Study for Copper Mountain Road, to the Operations Manager (Penticton) of the Ministry of Transportation and Infrastructure, with copies to the Chief Inspector. The study shall be prepared by a qualified Traffic Engineer who shall determine the current distribution of traffic on Copper Mountain Road, showing the percentage of industrial traffic and light passenger vehicle traffic that can be attributed to the mine operation versus all other current, and projected, industrial and light passenger vehicle traffic.

- (c) Needed improvements identified in the study shall be the responsibility of the Permittee to construct to the Ministry of Transportation and Infrastructure standards. The Permittee's financial contribution to any needed improvements shall be prorated based on the results of the Trip Distribution Study.
- (d) Other road users include, but are not limited to: other mining activities, forest industry, residents and recreationalists. The Trip Distribution Study shall be calculated and projected over a three year period (2010, 2011 and 2012) and the average will be used to determine annual estimated values.
- (e) The Permittee shall submit within 60 days of the issuance of this permit, a Traffic Impact Study for the intersection of Highway 3 and Copper Mountain Road to the Operations Manager (Penticton) of the Ministry of Transportation and Infrastructure, with copies to the Chief Inspector. The report, prepared by a qualified Traffic Engineer, shall identify any needed improvement to this intersection as a result of increased traffic volumes due to mine activity and any recommended geometric changes that may be required to accommodate ore hauling trucks.
- (f) Any necessary intersection upgrades, required as a result of increased mine traffic, shall be completed by fall 2011, prior to anticipated regular mine ore concentrate haul commencing.

**B. Mine Plan**

1. Tailings Storage Facility (TSF)

- (a) Design
  - (i) The Permittee shall prepare a final design of the tailings storage facility (TSF) including the East and West dams and seepage recovery ponds following completion of the additional site investigation program to be completed in 2010. The results of the site investigation and detailed design of the tailings impoundment, seepage recovery ponds and associated dams, shall be submitted to the Chief Inspector for review and approval prior to construction.
  - (ii) As part of the final design, the Permittee shall assess the potential effect of natural landslides and/or snow avalanches on the design and operation of the tailings storage facility.
  - (iii) The design and location of the Wolfe Creek diversion channel at the toe of the East Dam shall be submitted to the Chief Inspector for review and approval prior to construction.



- (iv) The Permittee shall prepare a final design of the tunnel plug required to seal the old tailings pipeline access tunnel following completion of the proposed drilling program. The results of the drilling program and detailed design of the tunnel plug shall be submitted to the Chief Inspector for review and approval prior to construction.
- (v) The design, installation and serviceability characteristics for the proposed Multi-Flow drainage system shall be submitted to the Chief Inspector for review and approval prior to installation.

(b) Construction

- (i) The Permittee shall submit a copy of the tailings dam construction specifications and QA/QC procedures to the Chief Inspector at least 60 days prior to dam construction.
- (ii) The Permittee shall ensure that impoundment dams are constructed under the supervision of a licensed Professional Engineer, suitably experienced in the design and construction of dams.
- (iii) Materials that are potentially acid generating shall not be used in construction of the downstream dam shell.

(c) Operation

- (i) Operation of the tailings storage facility with deposition of mill tailings shall not commence until an approval to operate the facility has been issued by the Chief Inspector.
- (ii) The Permittee shall prepare and submit an Operation, Maintenance and Surveillance (OMS) manual to the Chief Inspector at least 30 days prior to operation of the tailings storage facility.
- (iii) The Permittee shall prepare and submit an Emergency Preparedness Plan, incorporating the results of a dam breach inundation study, to the Chief Inspector within 6 months of commencement of operation of the tailings facility with the deposition of mill tailings.

(d) Monitoring

- (i) A water level gauge or other suitable pond water level monitoring system shall be installed to monitor water level and freeboard.

- (ii) The Permittee shall install instrumentation in the tailings embankment dams to monitor piezometric levels, dam fill settlement and foundation movement. The location of instrumentation, instrument reading frequency, trigger levels and response criteria shall be included in the OMS manual.
- (iii) The Permittee shall install suitable instrumentation to monitor the performance of the tunnel plug and include the monitoring procedure in the OMS manual.

(e) Reporting

- (i) An annual dam safety inspection of all dams and diversion ditches on the mine site shall be completed by a licensed Professional Engineer and a copy of the inspection report shall be submitted to the Chief Inspector within 3 months of the inspection.
- (ii) Dam safety reviews shall be completed in accordance with the Canadian Dam Association, Dam Safety Guidelines (2007).
- (iii) Details of dam construction and tunnel plug construction shall be included in an 'as-built' report, and submitted to the Chief Inspector within 6 months of completion.

2. Open Pit

(a) Design

- (i) The preliminary pit slope design is approved subject to an annual review by a licensed Professional Engineer, with experience in the design of pit slopes.
- (ii) The minimum final width of catchment berms shall be 8 m, as required by the Health, Safety and Reclamation Code.
- (iii) A design for controlled blasting shall be developed to minimize blast damage at and near the final pit wall.

(b) Operation

- (i) Final pit walls shall be carefully scaled during pit development to limit rock fall and raveling.

- (ii) Production blast patterns shall be developed to reduce pit wall and bench crest disturbance.
  - (iii) If access cannot be gained to clean a catchment berm and a danger exists to a person working below, a safe work procedure shall be developed.
- (c) Monitoring
- (i) The Permittee shall prepare a pit slope monitoring and safe work procedure prior to development in areas of Pit 2 and Pit 3 where the potential for pit slope raveling and multi-bench failure have been identified.
  - (ii) An inspection and instrumentation monitoring program shall be established to detect early evidence of any potentially dangerous pit wall instability.
  - (iii) Regular geological mapping, geotechnical mapping and evaluation of pit wall performance shall be undertaken.
  - (iv) The pit slope design, blasting practices and pit wall monitoring program shall be inspected and reviewed annually by a licensed Professional Engineer to ensure safe working conditions and a copy submitted to the Chief Inspector within 3 months of the inspection.

(d) Reporting

An annual pit slope performance report will be required if excessive rock fall, raveling or multi-bench failure is experienced during mine operations.

3. Waste Rock Dumps and Low Grade Ore Stockpile

(a) Design

The Permittee shall submit the final designs for the waste rock dumps and low grade ore stockpile, including site investigation results and stability analyses for the South Dump, to the Chief Inspector for review and approval prior to construction.

(b) Construction

- (i) Foundation preparation shall include tree clearing, removal of weak, organic soils and any other unsuitable surficial materials. The foundation for the waste rock dumps and low grade ore stockpile shall be confirmed by the design consultant.
- (ii) The Permittee shall prepare procedures for dump construction where dumps are planned to be constructed above active haul roads, the mine access road or buildings. The procedures shall address the risks of dump failure, boulder roll-out and where dumps are to be advanced over steep terrain.

(c) Reporting

An annual report on the monitoring and stability performance of waste rock dumps identified as high failure consequence (e.g. East Dump and existing D3, Pit 1 and 701 Dump) shall be prepared by a licensed Professional Engineer and shall be submitted to the Chief Inspector.

4. Surface Water Management Structures and Sediment Control Structures

(a) Design and Construction

- (i) The Permittee shall submit the design of water management facilities and dams to the Chief Inspector prior to construction for review and approval. Where water management facilities require a water license an application shall be submitted to Ministry of Environment.
- (ii) The Permittee shall ensure that impoundment dams are constructed under the supervision of a licensed Professional Engineer.

(b) Operation

Cleaning of the sedimentation ponds shall be carried out on a regular basis. A procedure shall be incorporated into the tailings storage facility OMS manual.

(c) Monitoring

- (i) Regular inspection of surface water management structures, sediment control structures and water diversion ditches shall be undertaken and the results included the annual dam safety inspection report for the Tailings Storage Facility.

- (ii) The Permittee shall include in the tailings storage facility OMS manual, all surface water management structures, diversion channels and stream crossings.

(d) Reporting

The Permittee shall submit to the Chief Inspector an 'as built' report for sediment ponds and water management structures within 6 months of completion of construction.

5. Mill Concentrator and Ancillary Facilities

All buildings shall be constructed in accordance with the Health, Safety and Reclamation Code and the British Columbia Building Code.

6. Mine Roads

All mine roads shall be designed and constructed according to current engineering standards and in accordance with the criteria specified in the Health, Safety and Reclamation Code.

**C. Protection of Land and Watercourses**

1. Environmental Management System

- (a) The Permittee shall prepare and submit to the Chief Inspector within 30 days after the issuance of this permit, the following Environmental Management Plans relevant to construction activities.
  - Water Management Plan, and
  - Surface Erosion and Sediment Control Plan
- (b) The Permittee shall prepare and submit to the Chief Inspector by June 30, 2010 (prior to preproduction), Standard Operating Procedures for ML/ARD Prediction and Prevention Plan as per Permit Condition C. 3. (d) (ii). This plan shall be incorporated into the Environmental Management System.
- (c) The Permittee shall prepare and file with the Chief Inspector, the Environmental Management System (EMS) consisting of the environmental management plans within 60 days prior to the start of operation. The EMS shall reference relevant policies and establish proactive procedures to provide direction for operational management and monitoring and shall include the following plans:

- Water Management Plan,
- Surface Erosion and Sediment Control Plan,
- Landscape, Soils and Vegetation Management Plan,
- Invasive Weed Management Plan,
- Archaeological and Cultural Heritage Resources Management Plan,
- Bio-solid Storage and Monitoring Plan, and,

The plans shall be kept up to date and be made available at the mine site at all times.

- (d) The Permittee shall implement the Environmental Management System and environmental management plans.
- (e) The Permittee shall implement the Management Plan for Ecosystems and Species at Risk, dated February 5, 2010, developed by Wildeor Wildlife Research and Consulting.
- (f) The Permittee shall ensure that all mine site employees and contractors are knowledgeable and accountable for acting consistent with the requirements of the Environmental Management System and environmental management plans.

2. Environmental Site Manager

- (a) The Permittee shall ensure that an on-site environmental site manager (or their designate) is appointed at the commencement, and for the duration, of the construction and operational mining phases. The on-site environmental site manager shall be a qualified professional and shall be identified in writing to the Chief Inspector.
- (b) The environmental site manager shall be familiar with the objectives, procedures and requirements of the Environmental Management System and permit requirements.
- (c) The environmental site manager shall have the authority to implement remedial actions as may be necessary to ensure maintenance of environmental standards and permit requirements. If suspension of mining occurs due to environmental concerns, the Permittee or environmental site manager shall immediately notify the Chief Inspector and appropriate personnel with the Ministry of Environment.

3. Metal Leaching (ML) and Acid Rock Drainage (ARD)

(a) General

- (i) All materials with the potential to generate ML/ARD shall be placed in a manner that minimizes the production and release of metals and contaminants to levels that assure protection of environmental quality.
- (ii) Unless otherwise approved, all plans for the prediction, and if necessary, the prevention, mitigation and management of metal leaching and acid rock drainage shall be prepared in accordance with the *Guidelines for Metal Leaching and Acid Rock Drainage at Minesites in British Columbia*.
- (iii) No changes shall be made to the criteria for PAG/ML definition, waste handling procedures, mitigation strategies, or materials monitoring program without the approval of the Chief Inspector.

(b) Definition of Potentially ARD Generating (PAG) Materials

- (i) Zone 1, 3, 4 and 9 waste rock is considered non-PAG unless operational monitoring data demonstrates otherwise.
- (ii) Zone 2 waste rock is defined as PAG if  $CNP/AP < 1.5$ , where AP is calculated using total sulphur and CNP is calculated using total carbon analyses.
- (iii) All Zone 5 waste rock is defined as PAG.
- (iv) Low grade ore is defined as PAG if  $CNP/AP < 1.5$ , where AP is calculated using total sulphur and CNP is calculated using total carbon analyses.
- (v) Tailings are defined as non-PAG, unless operational monitoring data demonstrates otherwise.

(c) Construction Material Handling, Mitigation, and Monitoring

- (i) No PAG materials shall be used for construction purposes, except for areas located within the open pit that will be permanently flooded at closure.

- (ii) Construction materials used outside of the ultimate flooding levels of the open-pit shall be tested and characterized for their potential to generate ML/ARD. Monitoring results shall be reported in the Annual Reclamation Report.

(d) Waste Rock Handling and Mitigation

- (i) The Permittee shall implement the SRK Report entitled "Copper Mountain Metal Leaching and Acid Rock Drainage Prediction and Prevention Plan", Copper Mountain Mine, dated February 2010. Where inconsistencies exist between the plan and the conditions of this permit, the permit conditions shall take precedence.
- (ii) Prior to pre-production mining and as part of the Environmental Management System, the Permittee shall develop Standard Operating Procedures (SOPs) for the ML/ARD Prediction and Prevention Plan that includes procedures for mine materials sampling, identification, segregation, transporting, and analytical testing. The plan shall also include communication and operational protocols, as well as a confirmation monitoring program to ensure proper mine waste and low grade ore handling has occurred.
- (iii) All personnel directly involved with mine waste and low grade ore handling shall be trained in the SOPs and approved ML/ARD Prediction and Prevention Plan, and the conditions of this permit.
- (iv) Waste rock that is characterized as PAG shall be segregated and placed in the PAG waste rock dump, or immediately backfilled in the open pits below the ultimate flooding level.
- (v) At the end of mining, all PAG waste rock stored in the PAG waste rock dump shall be backfilled into open pits 2 and 3 below the ultimate flooding level where they will be stored in a permanently flooded state.
- (vi) Non-PAG waste rock shall be identified, segregated and placed in the non-PAG portion of the waste rock dump.
- (vii) Mining of Zone 7 and 8 materials is prohibited.

(e) Low Grade Ore Handling and Mitigation

- (i) PAG low grade ore shall be milled or placed in the PAG low grade ore stockpile.



- (ii) To minimize the volume stored on site, PAG low grade ore shall be given priority for processing over non-PAG low grade ore.
- (iii) At the end of milling, any un-milled PAG low grade ore shall be backfilled into the open pits below the ultimate flooding level where it will be stored in a permanently flooded state.
- (iv) Prior to construction of the low grade ore stockpile that is in the Similkameen River catchment, a seepage collection ditch shall be constructed to capture and direct any seepage from the stockpile to the open pit.

(f) Tailings & Impoundment Mitigation

If operational data suggests tailings have the potential for ML/ARD, mitigation plans shall be developed.

(g) ML/ARD Operational Monitoring

- (i) Concurrent with mine operations and development, the Permittee shall characterize excavated materials produced and mine surfaces exposed, to determine ML/ARD generating potential, validate pre-mining predictions, confirm lithogeochemical model, guide material management decisions, confirm effectiveness of waste handling procedures, and determine the need for mitigation and contingency measures that ensure environmental protection.
- (ii) The Permittee shall maintain an inventory of mine waste materials stored on the mine site including the PAG and non-PAG waste rock dumps, PAG and non-PAG low grade ore stockpiles, tailings storage facility, and open pit. The inventory should include material type, composition, mass, volume, waste sources, waste disposal location, geochemical classification and geochemical monitoring data.
- (iii) The monitoring frequency and parameters to be analysed shall be conducted in accordance with Table 1 of this permit. Where there is a contradiction between Table 1 and the approved "Copper Mountain Metal Leaching and Acid rock Drainage Prediction and Prevention Plan", Table 1 shall be considered the correct monitoring program.

- (iv) No changes shall be made to the sampling and analytical parameters outlined in Table 1 without the written permission of the Chief Inspector.

(h) Analytical Requirements

- (i) The on-site laboratory shall be in-place and operational prior to pre-production mining of waste rock and low grade ore movement from the open pit.
- (ii) Until the on-site laboratory has been demonstrated to be providing reliable results by achieving acceptable levels of precision and accuracy, all samples shall be re-analyzed at an off-site laboratory facility. Once the on-site laboratory performance is demonstrated, off-site analysis can be decreased to levels that provide QA/QC.
- (iii) Laboratory analytical methods shall be outlined in a Standard Operations and Procedures Manual as part of the Environmental Management System.

(i) ML/ARD Reporting

Results of the ML/ARD analytical testwork (including raw data, sample descriptions, QA/QC and deposition inventory), shall be reported in the Annual Reclamation Report.

4. Water Management, Sediment Control and Monitoring

(a) General

- (i) The Permittee shall, when required to do so by the Ministry of Environment, obtain permits and licenses for water diversion and discharge.
- (ii) In the event that seepage and other drainages from the mine site are not of acceptable discharge quality, the Permittee shall collect and treat, or otherwise mitigate drainage for as long as is necessary.

(b) Sediment and Erosion Control

- (i) Sediment control and water management structures shall be constructed and operational prior to any significant soil disturbance which has the potential to result in sediment release, including grubbing activities.

- (ii) The Permittee shall initiate progressive reclamation where possible to control erosion around the mine area.

(c) Surface Water and Ground Water Quality Monitoring

- (i) The Permittee shall monitor and track changes to surface and groundwater quality from the open pit, tailings supernatant, seepage recovery ponds below the tailings storage facility, waste rock, Level 6 Adit, low grade ore stock piles and groundwater monitoring wells below the tailings storage facility. The program shall be capable of providing early warning about the onset of acid rock drainage or an increase in contaminant loading. Triggers for implementing any mitigation works shall be provided in the Water Management Plan.
- (ii) Pit sump water quality shall be monitored quarterly.
- (iii) A seepage survey shall be conducted annually during the freshet period along the toes of the new PAG and non-PAG low grade ore stockpiles, the PAG and non-PAG waste rock dumps, and existing waste rock dumps.
- (iv) A groundwater quality monitoring program shall be developed and implemented to the satisfaction of the Ministry of Environment.
- (v) Water quality monitoring parameters shall include ph, sulphate, alkalinity, acidity, major cations and dissolved elements.
- (vi) Detection limits shall be sufficient to compare to provincial water quality guidelines and permit requirements established by the British Columbia Ministry of Environment.
- (vii) An effective QA/QC program for the surface water, groundwater and seepage monitoring program shall be implemented.
- (viii) Monitoring results of water quality and water quantity, including interpretation of the results and any implications for management, shall be reported in the Annual Reclamation Report.

(d) Wolfe Creek Flow Monitoring and Similkameen River Fisheries Assessment

- (i) The Permittee shall provide a water balance calculation, to the Chief Inspector and Ministry of Environment that incorporates all mining related water use and includes the results of the seepage collection system assessment, diversion operations and potable groundwater sources from the Wolfe Creek drainage.
- (ii) As part of the Ministry of Environment requirement for the Permittee to achieve no net loss of flow reduction to Wolfe Creek, the Permittee shall propose and implement continuous flow monitoring and recording program at the Copper Mountain Road crossing of Wolfe Creek to the satisfaction of the Ministry of Environment. Flow monitoring shall be in place by September 30, 2010.
- (iii) The Permittee shall develop a fisheries stock assessment program in the Similkameen River to the satisfaction of the Ministry of Environment. The program shall be completed by September 30, 2010.

(e) Sulphate Adaptive Management Strategy

- (i) The Permittee shall implement strategies of the Sulphate Adaptive Management Strategy, dated January 2010 to reduce the sulphate loadings reporting to Wolfe Creek.
- (ii) The Permittee shall ensure that the waste dump seepage and east dam seepage collection and return systems operate to maintain water quality to levels that meet Ministry of Environment permit requirements under authorization PE-00261.
- (iii) The Permittee shall undertake additional studies of hydrology, hydrogeology, fisheries habitat, biological assessment work etc, to the satisfaction of the Ministry of Environment and the Chief Inspector, for the purpose of updating the water quality modeling and the Wolfe Creek Sulphate Adaptive Management Strategy. Refined water quality modeling and an updated Adaptive Management Strategy shall be submitted to the Chief Inspector by December 31, 2011. Long-term sulphate management plans and cost estimates shall be included if required.

(f) Operational Water Management

- (i) The Permittee shall within 30 days of the receipt of this permit, submit to the Ministry of Environment and the Chief Inspector a plan to assess the current east dam seepage collection and pump return system.
- (ii) Once approved the Permittee shall initiate field testing and upgrade these systems as necessary to the satisfaction of the Ministry of Environment and the Chief Inspector, to ensure sufficient collection of dam seepage, without significant collection of uncontaminated groundwater.
- (iii) Seepage from the west embankment of the tailings impoundment shall be monitored and if required by the Ministry of Environment to meet the permit requirements under authorization PE-00261, it will be captured and returned to the impoundment for as long as is necessary.
- (iv) The Permittee shall monitor flows and water quality from Level 6 Adit and shall collect and redirect if required by the Ministry of Environment to meet the permit requirements under authorization PE-00261.
- (v) The Permittee shall submit a report to the Chief Inspector prior to the commencement of operations that evaluates and proposes alternative measures to minimize the use of fresh water from offsite sources.

(g) Post Closure Water Management

- (i) During operations the Permittee shall develop and implement a program to determine post-closure water management for the entire mine, including open pits, tailings impoundment and waste rock areas. This information shall be included with the Five Year Reclamation Plan due December 31, 2015.
- (ii) The updated post-closure water management program (as set out in permit condition C. 4. (g) (i)), shall include assessment on the feasibility and level of flooding that can be achieved in pits 2 and 3, along with details on the flooded storage volume available for backfilled mine wastes and updates on the existing and projected volumes of PAG waste rock and PAG low grade ore to the end of mine life. The program shall include a hydrological assessment, a conceptual design for the plugging of the Level 6 Adit if necessary and updated contingency plans for any unflooded PAG mine waste or un-milled PAG low grade ore.

(h) Updated Water Quality Predictions

During operations, the Permittee shall track water quality and flow monitoring data to enable updating and refinement of water quality predictions based on site-specific performance information. Updated water quality predictions shall be submitted with the Five Year Reclamation Plan due December 31, 2015.

5. Soil Salvage and Storage

- (a) The Permittee shall salvage and stockpile topsoil for use in reclamation and protect topsoil stockpiles through revegetation and other practices as described in the application.
- (b) A suitably qualified professional shall be on site to ensure that suitable materials for reclamation are salvaged and properly stored to the maximum extent possible.
- (c) Soil stockpiles shall be located in areas that reduce handling requirements during site preparation and mine operations. Stockpiles shall be clearly marked to ensure that they are protected during construction activities; the locations, origins and quantities of material shall be documented and reported in the Annual Reclamation Report.
- (d) Stockpiled topsoil and organic materials shall be re-vegetated using an approved weed-free native seed mix, to reduce erosion during the storage period.
- (e) The Permittee shall provide a soils monitoring program as part of the 2011 Annual Reclamation Report, which specifies the sampling parameters and performance criteria, which will be used to evaluate the success of reclamation.
- (f) Soil suitable for use in reclamation that is recoverable shall not be used as fill.

6. Vegetation Management

- (a) Revegetation is primarily for the purpose of creating diversity, wildlife habitat and traditional aboriginal uses where appropriate. Revegetation practices shall be conducted to provide appropriate species and densities which are similar to naturally occurring ecosites at similar elevations and climatic conditions. Riparian areas shall be revegetated with appropriate riparian species.
- (b) The Permittee shall limit disturbance of vegetation to those areas approved in the permit application.
- (c) The Permittee shall make reasonable efforts to salvage and relocate rare plants.

- (d) The Permittee shall provide a vegetation monitoring program as part of the 2011 Annual Reclamation Report, which specifies the sampling parameters and performance criteria, which will be used to evaluate the success of revegetation.
- (e) The Permittee shall manage and control weeds that are or will become established on the site and shall take reasonable efforts to ensure that weeds do not move from the site to adjacent areas. The Permittee shall submit to the Chief Inspector in the 2011 Annual Reclamation Report, a plan for the control of weeds on the mine access road and mine lease area. Care shall be taken to ensure seed that is used for reclamation is free of weed seed contamination.

7. Wildlife Protection

- (a) The Permittee shall, where reasonably possible, avoid wildlife sensitive periods for construction activities and, where avoidance is not reasonably possible, will minimize the adverse impacts of these activities.
- (b) The Permittee shall take reasonable steps to minimize physical impact to wildlife habitat.
- (c) The Permittee shall implement a policy of no fishing and hunting for all employees and contractors while on company business or while commuting to and from the mine.

8. Archaeological Resources and Traditional Use Assessment

- (a) Prior to beginning any mechanized surface disturbance, the Permittee shall have completed an Archaeological Impact Assessment for the area of the proposed works. This study shall be designed and implemented in consultation with USIB and LSIB. A copy of the assessment shall be provided to the Chief Inspector and to the USIB and LSIB.
- (b) Within one year of issuance of this permit, the Permittee shall have completed a Traditional Use Overview Study over the Copper Mountain permit area. This study shall be designed and implemented in consultation with USIB and LSIB. A copy shall be provided to the Chief Inspector and to the USIB and LSIB.
- (c) Archaeological and heritage sites which are identified during field archaeological studies shall be clearly marked and avoided where possible during construction activity.

- (d) For those sites which cannot be avoided, the Permittee shall use the "Chance Find Recovery" process and shall contact the Chief Inspector, USIB, LSIB, and the Archaeology Branch of the Ministry of Tourism, Culture and the Arts and make arrangements under appropriate permits to scientifically excavate, record and report findings. Where practicable, this work should be done in a manner that respects the cultural heritage policies of USIB and LSIB.

**D. Reclamation and Closure Program**

1. Reclamation Security

- (a) The Permittee shall cause to be deposited with the Minister of Finance additional security in the amount of Four Million, Four Hundred and Sixty Nine Thousand dollars (\$4,469,000.00), bringing the total security for this permit to Eight Million dollars (\$8,000,000.00). The additional security shall be posted in accordance with the schedule shown below. The security will be held by the Minister of Finance for the proper performance of the approved program and all the conditions of this permit in a manner satisfactory to the Chief Inspector.

<u>Date</u>	<u>\$</u>	<u>Cumulative</u>
Security as of January, 2010		\$3,531,000.00
With 90 days of receipt of permit	\$469,000.00	\$4,000,000.00
June 30, 2011	\$500,000.00	\$4,500,000.00
June 30, 2012	\$3,500,000.00	\$8,000,000.00

- (b) The amount of security will be reviewed each year following the submission of the Annual Reclamation Report which will document the outstanding liability and associated costs to complete the reclamation and closure activities in accordance with the approved Reclamation Plan.
- (c) The Permittee shall conform to all forest tenure and special use permit requirements of the Ministry of Forests and Range. Should the Permittee not conform to these requirements then all or part of the security may be used to cover the costs of these requirements.
- (d) The Permittee shall conform to all Ministry of Environment, Ministry of Agriculture and Lands and Ministry of Transportation and Infrastructure approval, license, and permit conditions, including the *Environmental Management Act*, Contaminated Sites and Special Waste regulations, as well as requirements under the *Wildlife Act*, *Domestic Drinking Water Act* and *Transportation Act*. Should the Permittee not conform to these conditions then all or part of the security may be used to fulfill these requirements.



- (e) The Permittee shall conform to all *Land Act* tenure (permit, license of occupation, statutory right of way or lease) or *Water Act* license terms and conditions. Should the Permittee not conform to these conditions then all or part of the security may be used to fulfill these requirements.
- (f) Over the life of the mine the security will be adjusted to cover all the costs associated with carrying out all the conditions of this permit. Upon application by the Permittee, the amount of security in condition D.1.(a) may be reduced if initial mining or development work will create less disturbance and liability, or to reflect reduced liability due to reclamation work completed.

2. Annual Reclamation Report

By March 31st of each year an Annual Reclamation Report, with the first report due March 31, 2012, shall be submitted in a form containing the information required by the Chief Inspector. The Annual Reclamation Report shall document the current status of the mine plan, reclamation obligations, and outstanding liability and associated costs to complete the reclamation and closure activities in accordance with the approved Reclamation Plan, and all monitoring including water quality, and relevant and material ongoing maintenance activities.

3. Land Use

- (a) The land surface shall be reclaimed to re-establish pre mining capability and productivity conditions to the following end land use objectives: wildlife habitat (with specific attention to re-establishing ungulate winter range) and re-establishment of opportunities for traditional use of the land by First Nations.
- (b) Borrow and gravel pits belonging to the mine development and operations shall be reclaimed to the approved end land use when they are no longer required.

4. Re-vegetation

- (a) The Permittee shall ensure the land is revegetated to a self-sustaining state using appropriate/native plant species including culturally important native species, where practicable.
- (b) Within 5 years of closure, the Permittee shall establish a native plant nursery to provide native plant feedstock. This shall include plants of traditional value, which shall be determined in consultation with First Nations, as well as species that will aid in achieving the re-establishment of winter ungulate range as per Ministry of Environment land use polygons associated with this area.

5. Growth Medium

- (a) Soil replacement depths shall be monitored, and the results presented in the Annual Reclamation Report, to ensure that minimum depths proposed in the Reclamation Plan are achieving the expected results in returning the site to the designated land uses.
- (b) All severely compacted areas shall be deeply ripped prior to placement of growth media and/or vegetation.

6. Erosion Control

Reduction of erosion shall be achieved through landform configuration, development of maintenance-free vegetation covers and the development of stable, erosion-resistant watercourses.

7. Watercourses

Watercourses shall be reclaimed to a condition that ensures;

- (a) long-term water quality is maintained to a standard acceptable to the Chief Inspector,
- (b) drainage and riparian communities are restored either to original watercourses or to new watercourses which will sustain themselves without maintenance, and
- (c) the level of productive capacity shall not be less than existed prior to mining unless the Permittee can provide evidence, which demonstrates, to the satisfaction of the Chief Inspector, the impracticality of doing so.

8. Waste Dumps

- (a) Waste dumps shall be re-contoured so that final reclamation is consistent with the end land use.
- (b) Dump slopes shall be reclaimed to a minimum of 2:1 to ensure,
  - (i) long-term stability, and
  - (ii) long-term erosion control, and
  - (iii) land use, capability and productivity objectives are achieved.

- (c) The historical waste spoils on the Ingerbelle side, located along the Similkameen River Valley, are exempt from the requirement to be re-sloped to 2:1. The Permittee shall make every effort to revegetate as large an area on these spoils as possible.

9. Tailings Impoundment

- (a) Final re-sloping and erosion protection of the embankment dams and tailings beaches shall be done in accordance with the approved geotechnical and reclamation design.
- (b) A flood control spillway shall be constructed in accordance with the closure design.

10. Open Pits

- (a) Pit walls, including benches constructed in rock, and/or steeply sloping footwalls, are not required to be re-vegetated.
- (b) Where the pit floor is free from water and safely accessible, vegetation shall be established.

11. Seepage Collection and Recycle Ponds

All seepage collection and recycle ponds shall be reclaimed to the approved end land use.

12. Roads and Power Line

- (a) All roads and power lines shall be reclaimed in accordance with land use objectives unless permanent access is required to be maintained.
- (b) Individual roads or the power line may be exempted from the requirement for total reclamation under condition E.12.(a) if either:
  - (i) the Permittee can demonstrate that an agency of the Crown has explicitly accepted responsibility for the operation, maintenance and ultimate deactivation and abandonment of the road and/or power line, or

- (ii) the Permittee can demonstrate that another private party has explicitly agreed to accept responsibility for the operation, maintenance and ultimate deactivation and abandonment of the road and/or power line and has, in this regard, agreed to comply with all the terms and conditions, including bonding provisions, of this reclamation permit, and to comply with all other relevant provincial government (and federal government) regulatory requirements.
- (c) All access roads shall be effectively blocked to prevent inadvertent vehicular access to surface areas of the mine that may be dangerous.

13. Temporary Shutdown

- (a) If the mine ceases operation, the Permittee shall,
  - (i) continue to carry out the conditions of the permit, and
  - (vi) carry out a program of site monitoring and maintenance including implementation of the Environmental Management System where relevant.
- (b) If the mine ceases operation for a period longer than one year, the Permittee shall apply for a permit amendment setting out a revised program for approval by the Chief Inspector.

14. Five Year Reclamation Plan

On or before March 31, 2015, and every 5 years thereafter, the Permittee shall submit a Reclamation Plan, providing the current status of the mine plan and reclamation obligations, a compilation and interpretation of all monitoring including ML/ARD prediction, water quality, refined water quality modeling, updated Adaptive Sulphate Management Plan, closure and maintenance activities, any changes to the reclamation program that affect long-term mitigation, reclamation research program, contingency plans, schedule for completion of reclamation works, and a breakdown of outstanding liabilities and associated costs.

15. Closure Management Manual

Six months prior to planned closure, or within one month after an unplanned closure, the Permittee shall submit a Closure Management Manual which describes and documents key aspects of the operational surveillance and monitoring requirements used to track important changes that could affect long-term mitigation performance, monitoring and maintenance requirements. This document shall be a living document with updates submitted to this Ministry whenever material changes occur.

16. Closure Plan

- (a) Six months prior to final closure, the Permittee shall submit a Closure Plan describing closure objectives and criteria for each mine component and, providing the current status of the mine plan and reclamation obligations, a compilation and interpretation of all monitoring including ML/ARD prediction, water quality, closure and maintenance activities, any changes to the reclamation program that affect long-term mitigation, reclamation research program, contingency plans, schedule for completion of reclamation works, and a breakdown of outstanding liabilities and associated costs.
- (b) The Permittee shall meet with the South Central Mine Development Review Committee and Copper Mountain Advisory Committee at least once prior to the submission of the final Closure Plan, to identify specific information and methodologies that may be required for preparation of the plan.

17. Post Closure Monitoring

The Permittee shall undertake monitoring programs, as required by the Chief Inspector to demonstrate that reclamation objectives including land use capability, productivity, water quality, and stability of structures are being achieved. Programs will be discussed at the Copper Mountain Advisory Committee, and recommendations may be made to the Chief Inspector prior to implementation.

All other terms and conditions remain the same.

**TABLE 1: M-29 ML/ARD MONITORING REQUIRMENTS SUMMARY**

BLAST HOLE SAMPLING REQUIRMENTS							
Material Type & Sampling Frequency	Paste pH	Total S	Sulphate	TC	Modified Sobek NP	Metals ICP	Mineralogy
Zones 1, 3, 4, and 9 (One composite per blast, about 200,000 tonnes; no compositing over multiple lithogeochemical zone boundaries)		✓		✓			Physical and geological description required; annual sample for first two years for XRD Rietveld on each material type.
Zones 2 (One composite for 20 blast holes, about 40,000 tonnes; no compositing over multiple lithogeochemical zone boundaries)		✓	✓ On all samples sent to external lab**	✓	✓ On all samples sent to external lab**		Physical and geological description required; annual sample for first two years for XRD Rietveld.
Zones 5 (One composite for 20 blast holes, about 40,000 tonnes; no compositing over multiple lithogeochemical zone boundaries)	✓	✓	✓	✓	✓	✓	Physical and geological description required; three samples for XRD Rietveld mineralogy first year, one sample second year.
Low Grade Ore (One composite for 20 blast holes, about 40,000 tonnes; no compositing over multiple lithogeochemical zone boundaries)	✓ On all samples sent to external lab**	✓	✓ On all samples sent to external lab**	✓	✓ On all samples sent to external lab**	✓ On all samples sent to external lab**	Physical and geological description required; annual sample for first two years for XRD Rietveld.

\*\*applies to samples sent as regular QA/QC program, after on-site laboratory calibration with external labs demonstrates reliable results.

WASTE DUMP MONITORING REQUIRMENTS							
Material Type & Sampling Frequency	Paste pH	Total S	Sulphate	TC	Modified Sobek NP	Metals ICP	Mineralogy
Non-PAG Waste Rock Dump (Monthly composite)	✓ Every 2 <sup>nd</sup> sample, <2mm & >2mm	✓ <2mm & >2mm	✓ Every 2 <sup>nd</sup> sample, <2mm & >2mm	✓ <2mm & >2mm	✓ Every 2 <sup>nd</sup> sample, <2mm & >2mm	✓ Every 2 <sup>nd</sup> sample, <2mm & >2mm	
PAG Waste Rock Dump (Monthly composite)	✓ Every 2 <sup>nd</sup> sample, <2mm & >2mm	✓ <2mm & >2mm	✓ Every 2 <sup>nd</sup> sample, <2mm & >2mm	✓ <2mm & >2mm	✓ Every 2 <sup>nd</sup> sample, <2mm & >2mm	✓ Every 2 <sup>nd</sup> sample, <2mm & >2mm	

LOW GRADE ORE STOCKPILE MONITORING REQUIREMENTS							
Material Type & Sampling Frequency	Paste pH	Total S	Sulphate	TC	Modified Sobek NP	Metals ICP	Mineralogy
Non-PAG Low Grade Ore Stockpile (Monthly composite)	✓ Every 2 <sup>nd</sup> sample, <2mm & >2mm	✓ <2mm & >2mm	✓ Every 2 <sup>nd</sup> sample, <2mm & >2mm	✓ <2mm & >2mm	✓ Every 2 <sup>nd</sup> sample, <2mm & >2mm	✓ Every 2 <sup>nd</sup> sample, <2mm & >2mm	
PAG Low Grade Ore Stockpile (Monthly composite)	✓ Every 2 <sup>nd</sup> sample, <2mm & >2mm	✓ <2mm & >2mm	✓ Every 2 <sup>nd</sup> sample, <2mm & >2mm	✓ <2mm & >2mm	✓ Every 2 <sup>nd</sup> sample, <2mm & >2mm	✓ Every 2 <sup>nd</sup> sample, <2mm & >2mm	

**TABLE 1: CONTINUED**

TAILINGS MONITORING REQUIREMENTS							
Material Type & Sampling Frequency	Paste pH	Total S	Sulphate	TC	Modified Sobek NP	Metals ICP	Mineralogy
Tailings (Monthly composite)		✓		✓			
Tailings (Annual transect)	✓	✓	✓	✓	✓	✓	Physical and geological description required; annual sample for XRD Rietveld.