QUARTZ MINING LICENSE QML- 0007
Undertaking: Carmacks Copper Project

Pursuant to section 135(2) of the *Quartz Mining Act,* S.Y. 2003, c.14, the following License is hereby issued:

Mining License No:	QML-0007
Issued to:	Carmacks Copper Limited #2050 – 1111 West Georgia St. Vancouver, BC V6E 4M3
Undertaking:	Carmacks Copper Project
Location:	NTS 115I-07; Latitude: 62° 21'N, Longitude: 136° 41'W Whitehorse Mining District
Effective Date:	The date upon which the signature of the Minister is affixed
Expiry Date:	April 1, 2034
Purpose:	Development and production associated with an open pit copper mine and heap leach solvent extraction and electrowinning processing facility for the Carmacks Copper Project as set out in this License

Dated this 15 day of April, 2009

Minister of Energy, Mines and Resources

Two (2) Original Signed Copies

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PART I
GENERAL PROVISIONS

1.0 Definitions

1.1 In this License,

"Access Road" means the new road to be constructed by the Licensee in order to access the Site;

"Act" means the *Quartz Mining Act*, S.Y. 2003, c.14, as amended from time to time;

"Annual Report" means the report required to be submitted by the License in accordance with 16.5;

"ARD/ML" means acid rock drainage and/or metal leaching;

"Board" means the Water Board established pursuant to the *Waters Act*, S.Y. 2003, c.19, as amended from time to time;

"CDA Dam Safety Guidelines" means the *Canadian Dam Association Dam Safety Guidelines*, Canadian Dam Association, Edmonton, AB, 2007, as amended from time to time;

"Chief" means the Chief of Mining Land Use as set out in Section 129 (1) of the Act;

"day" means a calendar day;

"Engineer" means a professional engineer as defined in, and licenced under, the *Engineering Professions Act*, R.S.Y. 2002, c.75, as amended from time to time;

"Environmental Management System" includes the hazardous materials management plan, the spill contingency plan, and the emergency response plan, as described in 14.0 of this License;

"Environmental Protection Plans" includes the waste management plan, the monitoring and surveillance plan, the wildlife protection plan, the heritage resources protection plan, the hazardous material management plan, the emergency response plan, and the spill contingency plan as described in 14.0 of this License;

"HDS" means high density sludge;

"Historic Object" has the same meaning as in the *Historic Resources Act*, R.S.Y. 2002, c.109, as amended from time to time;

"Heap Leach Facility" includes the heap leach pad and liner system, any contained ore, the containment berms and embankments, raffinate distribution system and pregnant leachate collection system, and the events pond and sediment pond;

"Human Remains" has the same meaning as in the *Historic Resources Act*, R.S.Y. 2002, c.109, as amended from time to time;

"License" means Quartz Mining License QML-0007;

"Licensee" means the person to whom this License is issued;

"Mine" includes the open pit, Ore Preparation Facilities, Waste Rock Storage Area, and any connecting roads;

"Mine Operation Plans" includes the development and operation plan for the Mine, the construction and operation plan for the Heap Leach Facility, and the construction and operation plan for the Processing Facility as each plan is described in 15.0 of this License;

"Minister" responsible under the Act, being the Minister of Energy, Mines and Resources;

"Ore Preparation Facilities" includes the 'run-of-mine' ore and 'live/dynamic' ore stockpiles, the crushing plant, agglomeration facilities and ore conveyor systems;

"Permanent Closure" means the cessation of all on-going and active mining, leaching, and processing activities, but excludes Temporary Closure;

"Processing Facilities" includes the power plant, sulphuric acid plant, solvent extraction-electrowinning facilities, reagents area, and a HDS water treatment plant;

"Regulation" means the Quartz Mining Land Use Regulation, O.I.C. 2003/64, as amended from time to time;

"Start-up Date" means 30 days following the day on which agglomerated ore is placed on the heap leach pad, provided that this placement occurs for 2 successive days, but not including ore placed for the purpose of conducting field trials of leaching, rinsing and neutralizing effectiveness;

"Site" includes the entire area used by the Licensee for the Undertaking, including, but not limited to, the Access Road, the Mine, the Processing Facilities and Heap Leach Facilities.

"Temporary Closure" means:

a) the cessation of any and all activities undertaken before the Start-up Date as authorized by Part II of the License that extends for more than a continuous six month period other than normal seasonal suspension of work, unless otherwise agreed to in writing by the Chief; or

b) the cessation of any and all activities undertaken after the Start-up Date as authorized by Part III and where no ore is leached for a period exceeding 2 consecutive months;

"Undertaking" includes any and all development and production activities relating to the extraction of minerals from the mineral claims identified in Schedules A and B;

"Waste Rock Storage Area" means the waste rock dump and associated facilities;

"Water Licence" means any licence issued pursuant to the *Waters Act* in relation to the use of water or deposit of waste required for the Undertaking;

"*Waters Act*" means the *Waters Act*, S.Y. 2003, c.19, as amended from time to time; and

"Waters Regulation" means O.I.C. 2003/58, as amended from time to time.

1.2 Any term not defined in this License that is defined in the Act has the same meaning as in the Act.

1.3 Schedules A, B, C and D form part of this License.

2.0 Coming into Effect

2.1 The authorizations, obligations, and requirements set out in Parts I and II of this License come into effect upon the date of signing of this License by the Minister.

2.2 The authorizations, obligations, and requirements set out in Part III come into effect after a Water Licence has been issued to the Licensee and the Chief has approved all of the Environmental Protection Plans required under this License.

3.0 Term of the License

3.1 This License expires on April 1, 2034.

4.0 General Powers of the Chief

4.1 Upon request by the Licensee, the Chief may consider, and subsequently approve, an extension of time beyond the time limits set out in any of the provisions of this License.

4.1.1 Any request made under 4.1 must be made by the Licensee before the expiry of the time limit which is in question.

5.0 General Conditions Regarding Approval of Plans

5.1 If the Licensee is required to submit a plan for approval under this License, the plan must be submitted to the Chief for approval in writing.

5.2 The Licensee must ensure that any and all plans submitted with respect to the laying out the design of any structures, works, and installations related to the Undertaking are under the seal of an Engineer.

5.2.1 The Licensee must provide proof of such seal to the Chief with respect to:

5.2.1.1 any plan describing or proposing the construction of a structure, work, or installation; and

5.2.1.2 any report submitted to the Chief for the purposes of documenting as-built structures, works, and installations.

5.3 Upon receiving a submitted plan, the Chief may reject the plan, approve the plan, or approve the plan subject to any terms or conditions considered appropriate.

5.3.1 Upon receipt of a submitted plan, the Chief will acknowledge such receipt in writing to the Licensee along with providing an estimated timeline for response.

5.4 If the Chief approves the plan subject to any terms or conditions, the Chief will provide such terms or conditions in writing to the Licensee.

5.4.1 Any terms or conditions provided in writing shall be considered to form a part of the approved plan or amend the approved plan to the extent practicable.

5.4.2 The Licensee must ensure that any such terms or conditions that form a part of the plan or amend the plan are implemented when the activities in the approved plan are undertaken.

5.5 Approval of a submitted plan that has been granted by the Chief under 5.3 shall not be construed as approval to the Licensee to undertake any of the activities specified in the plan in question.

5.6 If the Licensee wishes to include an activity that is not described in an approved plan or in an amendment to an approved plan, the Licensee must submit to the Chief for approval either:

5.6.1 a document describing the proposed activity and any possible amendments required to the existing approved plan; or

5.6.2 a document updating the entire approved plan that includes the proposed change.

5.7 Upon receiving a document under 5.6, the Chief will make a decision in accordance with 5.3 as though the document was submitted as a plan under that section.

5.8 If a document submitted under 5.6 is approved by the Chief, the document shall replace any and all previously approved plan(s) to the extent practicable.

5.9 If the Chief believes that it is necessary that a plan be amended, then the Chief may direct, in writing, the Licensee to prepare such an amendment to the respective plan and submit the amendment for approval under 5.6.

6.0 Correspondence

6.1 Any written communication, notice or report required to be given by the Licensee pursuant to this License may be provided by personal delivery to the persons identified below or by facsimile or by registered mail to the addresses set out below.

To the Licensee:

Dale Corman, President or
Julien François, Chief Financial Officer
Carmacks Copper Limited,
#2050 – 1111 West Georgia Street
Vancouver, British Columbia
V6E 4M3
Fax: (604) 669-2926

To the Chief:

Director, Mineral Resources
Department of Energy, Mines and Resources
P.O. Box 2703
Whitehorse, Yukon
Y1A 2C6
Fax: (867) 456-3899

6.2 Either the Licensee or the Chief may change its address for service while this License is in effect by notifying the other in writing. All written communications, notices or reports will be considered to have been received by the Licensee or the Chief, as the case may be, 10 days after the mailing thereof, or if personally delivered or sent by facsimile, on the day of delivery.

7.0 Other Applicable Legislation

7.1 At all times, the Licensee must conform to all applicable laws, licenses, permits, approvals, or authorizations issued to the Licensee in relation to the Undertaking.

7.2 No term or condition of this License limits the application of any applicable laws.

PART II
INITIAL DEVELOPMENT, FINANCIAL SECURITY, AND APPROVAL OF SPECIFIC PLANS

8.0 Approval of the General Site Plan and Undertaking of Associated Activities

8.1 The general site plan attached in Schedule C and dated October 2008 is hereby approved subject to any terms and conditions specified by the Chief and provided in writing to the Licensee within 30 days of the effective date of the License ("General Site Plan").

8.2 Subject to 8.3 to 9.10, the Licensee may undertake the activities as set out and described in the General Site Plan.

8.3 The Licensee must ensure that the portions of the General Site Plan regarding construction, surface water management, waste management, environmental monitoring, health and safety and emergency response, heritage resource protection, and wildlife protection are implemented during the construction phase.

8.4 Subject to 8.1, the Licensee shall carry out the Undertaking only on the mineral claims listed in Schedules A and B.

8.5 No equipment shall be moved by the Licensee onto ground that is to remain undisturbed for the life of the Undertaking, unless the ground surface is capable of fully supporting the equipment without rutting or gouging.

8.6 The Licensee shall retain and stockpile all organic material that has been stripped in a manner so as to ensure effective reuse for reclamation activities and in the manner described by 4-4 of the General Site Plan.

8.7 The Licensee must test all borrow sites and road cuts identified in the General Site Plan prior to use in order to determine their potential for ARD/ML.

8.8 The Licensee may only use borrow or fill material that does not demonstrate a potential for ARD/ML as is determined by application of the ARD protocol for testing of construction materials as set out in Appendix F of the General Site Plan.

8.9 If material with potential for ARD/ML must be disturbed, the Licensee must submit a mitigation plan to the Chief for approval 30 days prior to any disturbance activity.

9.0 Specific Conditions of the General Site Plan with Respect to Construction of the Access Road

9.1 Subject to 8.2, the Licensee shall construct the Access Road in accordance with the General Site Plan and only on the mineral claims listed in Schedule B.

9.2 Prior to initiating construction of the Access Road, the Licensee must submit to the Chief for approval a heritage and historic resources assessment of the proposed routing for the Access Road that identifies:

9.2.1 any historic sites;

9.2.2 Historic Objects;

9.2.3 works of archaeological, paleontological, pre-historic, historic, scientific or aesthetic value; and

9.2.4 appropriate mitigation to protect such resources.

9.3 Construction of the Access Road shall not commence until the Chief has granted approval in writing of the heritage and historic resource assessment.

9.4 Within 30 days of commencing construction of the Access Road, the Licensee must install the gate as set out in the General Site Plan.

9.5 The Licensee shall construct the span bridge over Merrice Creek in a manner that does not to restrict moose passage.

9.6 Snow clearing of the Access Road shall leave breaks for snowmobile safe passage where there are established crossing points.

9.7 The Licensee must take all reasonable measures to prevent use of the Access Road by the public.

9.8 The Licensee shall construct the Access Road in a manner that avoids permafrost exposure where possible.

9.8.1 If a disturbance of permafrost is necessary, the Licensee shall employ proper engineering design to minimize disturbance.

9.9 Within 120 days of completing the construction of the Access Road, the Licensee must submit a report to the Chief containing:

9.9.1 as-built drawings of the Access Road;

9.9.2 site plans of all borrow sites;

9.9.3 as-built drawings of any stream crossing, drainage, or sediment control structures installed during construction of the Access Road;

9.9.4 as-built drawings of any staging areas, pull-outs, or other similar features;

9.9.5 as-built drawings of the gate referred to in 9.4; and

9.9.6 descriptions of any reclamation activities undertaken, or to be undertaken, in relation to any borrow sites used in construction of the Access Road.

9.10 The Licensee may only use the Access Road for the purposes of the Undertaking unless otherwise authorized by the Chief in writing.

10.0 Approval of the Reclamation and Closure Plan

10.1 The preliminary reclamation and closure plan attached in Schedule C and dated December 2008 is hereby approved subject to any terms and conditions specified by the Chief and provided in writing to the Licensee within 30 days of the effective date of the License (the "Preliminary Reclamation and Closure Plan").

10.2 Within a minimum of 6 months before the Start-up Date, the Licensee must submit to the Chief for approval a revision of the Preliminary Reclamation and Closure Plan that addresses the decommissioning and reclamation of the Site at Permanent Closure, as well as care and maintenance of the site during any Temporary Closure (the "Revised Reclamation and Closure Plan").

10.2.1 The Revised Reclamation and Closure Plan must include:

10.2.1.1 an analysis of the measures required to be implemented to ensure the ongoing physical and chemical stability of the site;

10.2.1.2 a description of how the Licensee will meet the performance standards set out in attached Schedule D, unless other standards are agreed to in writing by the Chief in advance;

10.2.1.3 any target indicators to ensure that reclamation objectives have been met;

10.2.1.4 designs for the closure of all structures, works, and installations associated with the Undertaking, including embankments and other containment structures, heap leach pad, spillways, diversion ditches, waste rock and overburden dumps, the Access Road and any other roads at the Site, and ore stockpiles;

10.2.1.5 a description of the methodology for the removal of all infrastructure at the Site, including the processing plant and all infrastructure, camp, and roads;

10.2.1.6 a plan and implementation schedule for ensuring the long term stability and closure of the heap leach pad and contents;

10.2.1.7 a program and related implementation schedule for progressive reclamation to be carried out;

10.2.1.8 a progressive revegetation program for disturbed areas, including a description of the testing of soils for quality and quantity of nutrients and organic matter to support plant growth and a description of the seed mix to be utilized;

10.2.1.9 details of an evaporative or transpiration soil cover to be placed over the heap after detoxification;

10.2.1.10 a monitoring and maintenance program together with implementation schedule to obtain surface and hydrogeological information adequate to verify that performance objectives and discharge requirements applicable for all structures, works, and installations are met at closure and post-closure;

10.2.1.11 a cost estimate prepared by an Engineer to implement the plan, including a cost estimate for post closure monitoring, inspections, interim care, and maintenance;

10.2.1.12 details respecting maintenance of security at the Site, including any requirements for continuous care by an on-site caretaker;

10.2.1.13 updates on the collection and further interpretation of hydrogeological information, related geochemical effects and open pit discharge;

10.2.1.14 effects on the receiving environment during closure and post-closure, including details of monitoring of geochemical and physical stability of all facilities at the Site and other matters as appropriate;

10.2.1.15 details of material stockpiles and on-site equipment required to ensure that the Licensee can provide adequate response to an unexpected water management event, spill, or release of a hazardous substance.

10.2.1.16 details of incorporation of technological developments in best management practices;

10.2.1.17 details respecting management of a Temporary Closure, which address the following:

10.2.1.17.1 how the Licensee will maintain the Site during Temporary Closure and ensure that all structures, works, and installations remain stable;

10.2.1.17.2 how all structures, works, and installations required to resume mining, processing, hauling, and waste treatment will be maintained in good order on the Site;

10.2.1.17.3 how the Access Road and the gate will be monitored to prevent public use;

10.2.1.17.4 security at the Site, including use of an on-site care-taker;

10.2.1.17.5 material stockpiles and on-site equipment required to ensure that any unexpected water management event or other contingencies is properly managed by the Licensee;

10.2.1.17.6 monitoring and reporting schedules for ensuring the geochemical and physical stability of all structures, works, and installations associated with the Undertaking, and

10.2.1.17.7 a cost estimate to implement 10.2.1.17.1 to 10.2.1.17.6, as well as any other elements of

the activities required for a Temporary Closure for a period of 5 years.

10.2.1.18 any other information that the Chief considers necessary.

10.3 Upon approval by the Chief, the Revised Reclamation and Closure Plan shall replace the Preliminary Reclamation and Closure Plan.

10.4 The Licensee will submit to the Chief for approval an updated version of the Revised Reclamation and Closure Plan every 2 years from the anniversary of the Start-up Date.

10.5 If start-up does not occur, the Licensee will submit to the Chief for approval an updated version of the Revised Reclamation and Closure Plan every 2 years commencing at the anniversary date of the 3rd year of the term of the License.

10.6 Upon approval by the Chief, any updated version of the Revised Reclamation and Closure Plan will replace any and all previously approved updated versions of the Revised Reclamation and Closure Plans.

10.7 The Licensee agrees that in addition to any other obligations of the Licensee to update the Revised Reclamation and Closure Plan, the Chief may, at any time by written notice to the Licensee, require the Licensee to prepare an amendment to the Revised Reclamation and Closure Plan if, in the opinion of the Chief, circumstances have occurred that necessitate such an amendment.

10.7.1. Upon receipt of the written notice, the Licensee must amend the Revised Reclamation and Closure Plan as requested and submit it to the Chief for approval.

10.7.2 Upon approval by the Chief, the amendment shall replace any and all relevant parts of the Revised Reclamation and Closure Plan and form a part of the Revised Reclamation and Closure Plan.

11.0 Approval and Implementation of the Contingency Plan

11.1 Within 9 months of the effective date of this License, the Licensee shall submit to the Chief for approval a contingency plan that describes possible alternative approaches to decommissioning the Heap Leach Facility and the Mine, including the estimated costs to implement and monitor triggers that would indicate that such contingencies are likely ("Contingency Plan").

11.1.1 The Contingency Plan must include the following:

11.1.1.1 a failure modes and effects analysis providing:

11.1.1.1.1 an assessment of the failure modes under operational conditions and post closure,

11.1.1.1.2 an assessment of the likelihood of failure and consequence of failure,

11.1.1.1.3 identification of any significant risks, and

11.1.1.1.4 prioritization of risks which are considered significant enough to warrant further investigation and mitigation;

11.1.1.2 identification of potential contingency mitigations or alternative designs to reduce risks identified in the failure modes and effects analysis;

11.1.1.3 identification of existing monitoring and surveillance techniques, along with any additional monitoring and surveillance or other investigations recommended, that will provide additional information on the risks identified in the failure modes and effects analysis;

11.1.1.4 identification of further investigative work recommended to further develop the contingency mitigations or alternative designs, along with triggers for implementation of such contingencies and costs to implement; and

11.1.1.5 any other information the Chief considers necessary.

11.2 Upon approval by the Chief, the Contingency Plan will be included in Schedule C and the Licensee will be required to implement:

11.2.1 the monitoring and surveillance or other investigations recommended in the contingency plan;

11.2.2 the recommended further investigative work to develop contingency mitigations or alternative designs; and

11.2.3 any other conditions of the approval required by the Chief.

11.3 The Licensee will submit to the Chief for approval an updated version of the Contingency Plan at the same time and in the same manner as the Revised Reclamation and Closure Plan as set out in 10.4 and 10.5.

12.0 Permanent Closure and Temporary Closure

12.1 The Licensee must provide at least 60 days written notice of Permanent Closure of the Undertaking to the Minister.

12.2 Upon provision of the notice referred to in 12.1, the Licensee must immediately implement the components of the Preliminary Reclamation and Closure Plan or the Revised Reclamation and Closure Plan, as the case may be, related to Permanent Closure.

12.3 The Licensee must provide written notice to the Chief of any Temporary Closure within 1 week of that closure and must immediately implement the activities described in the Preliminary Reclamation and Closure Plan or the Revised Reclamation and Closure Plan, as the case may be, that relate to Temporary Closure.

12.4 If the Licensee does not provide the notice described in 12.3, the Minister may, based upon information available to the Minister, declare the Undertaking to be in a Temporary Closure and the Licensee must immediately implement the activities described in the Preliminary Reclamation and Closure Plan or the Revised Reclamation and Closure Plan, as the case may be, that relate to Temporary Closure.

12.5 If the Licensee is required to implement any aspect of the Preliminary Reclamation and Closure Plan or the Revised Reclamation and Closure Plan in respect of a Temporary Closure, the Licensee may not undertake any development or production activities that would otherwise be authorized by this License unless otherwise approved by the Chief in writing.

12.6 If a Temporary Closure exceeds 5 continuous years, the Undertaking will be considered in Permanent Closure and the Licensee must implement those portions of the Preliminary Reclamation and Closure Plan or the Revised Reclamation and Closure Plan that relate to Permanent Closure unless otherwise directed by the Chief or unless the Chief allows a delay in the implementation.

12. 7 Within 30 days of a Temporary Closure, whether closure is determined as a result of 12.3 or 12.4, the Licensee must provide to the Chief:

12.7.1 written notice indicating for which structures, works, or installations

associated with the Undertaking it has already provided as-built drawings; and

12.7.2 copies of as-built drawings for those structures, works, or installations for which no such drawings have been previously provided to the Chief.

12.8 The Licensee must notify the Chief in writing at least 30 days before the resumption of activity after a period of Temporary Closure.

13.0 Financial Security

13.1 The Licensee must furnish and maintain security with the Minister in the amount of $3,040,132, prior to the Start-Up Date.

13.1.1 The schedule for payment of the security is as follows:

13.1.1.1 $80,300 within 30 days of the date of signing of the License by the Minister;

13.1.1.2 $175,257 no later than 30 days before commencing the construction of the Access Road;

13.1.1.3 $1,392,280 no later than 30 days before commencing construction of the Mine, Processing Facilities or Heap Leach Facility; and

13.1.1.4 $1,392,280 no later than 30 days before the Start-up Date.

13.2 The Licensee agrees that the amount of security set out in 13.1 will be reviewed by the Minister each time the Licensee submits for approval an update of the Preliminary Reclamation and Closure Plan or the Revised Reclamation and Closure Plan under 10.2, 10.4 and 10.5.

13.3 The Minister may require the Licensee to furnish and maintain security in a greater or lesser amount than that identified in 13.1.

13.4 If the Minister requires the Licensee to furnish and maintain security in an amount greater than that identified in 13.1 as a result of the review referred to in 13.2, the Minister shall provide written notice of this requirement to the Licensee and the Licensee must furnish and maintain with the Minister any security required to be provided in accordance with the payment schedule included in the notice.

13.5 As a result of a request from the Licensee, or at the Minister's own discretion, the Minister may periodically review the amount of security furnished and maintained by the Licensee.

13.6 If the Minister determines that additional security should be provided, the Licensee must furnish and maintain with the Minister the additional amount of security required within 60 days of receiving written notice from the Minister of the increase, provided that the Minister has, prior to issuing the notice, given the Licensee an opportunity to be heard respecting the need for and amount of security.

13.7 The written notice of the Minister referred to in 13.4 and 13.6 will, upon issuance, amend 13.1 and the requirement to furnish and maintain security in accordance with the payment schedule included in the notice will be considered a requirement of this License as of the date of the notice.

14.0 Approval and Implementation of Environmental Protection Plans

14.1 The Licensee must submit to the Chief for approval a waste management plan that describes the mitigations and methods used to manage solid wastes and special wastes to ensure protection of the environment and human health.

14.1.1 The waste management plan must include the following:

14.1.1.1 a description of the handling, collection, storage, and disposal of solid and liquid wastes for the various waste streams generated by the Undertaking, including non-hazardous solid wastes and special wastes;

14.1.1.2 methods proposed to store or remove waste materials so that they do not attract wildlife and are not potentially harmful to wildlife;

14.1.1.3 a description of an incinerator that will be used to incinerate solid waste;

14.1.1.4 a description of any landfill used to store solid waste;

14.1.1.5 a description of the management of wastes produced by the events pond and settlement ponds and disposal methods of any resulting sludges; and

14.1.1.6 any other information the Chief considers necessary.

14.2 The Licensee must submit to the Chief for approval a monitoring and surveillance plan that describes methods and techniques for collecting monitoring information regarding conditions of engineered structures and environmental conditions at the Undertaking, as well as quantitative thresholds which trigger the implementation of adaptive management strategies.

14.2.1 The monitoring and surveillance plan must include the following:

14.2.1.1 details of a surface and groundwater characterization and quality monitoring program for the Site for all phases of the Undertaking, including sampling station locations for the open pit, processing facilities, waste rock and overburden stockpiles, events and sediment ponds and other possible sources of Site discharge to the environment, along with acute lethality testing;

14.2.1.2 monitoring of conditions at and below natural ground level in the areas of the heap leach pad and Waste Rock Storage Area, specifically addressing potential permafrost conditions;

14.2.1.3 an adaptive management plan for the waste rock storage area, including monitoring methods, frequencies and reporting, along with identifying trigger levels and action items, as well as employee responsibilities;

14.2.1.4 details of regular engineering inspections for physical stability of all ditches, dams, spillways, liners and related structures of the Heap Leach Facility, including all instrumentation proposed;

14.2.1.5 description of proposed containment embankment monitoring methods, consistent with the requirements of the *CDA Dam Safety Guidelines*;

14.2.1.6 details of a weather monitoring program, including precipitation, evaporation rates and solar radiation at the Site;

14.2.1.7 details of an open pit wall monitoring program, to provide an early warning for potential open pit wall failure;

14.2.1.8 details of a geotechnical testing program between the heap leach pad and the open pit, to ensure that heap loading will not contribute to open pit wall failure;

14.2.1.9 proposed humidity cell or other testing to monitor any ARD/ML potential of waste rock dumps and any changes to mitigation required to accommodate the results of testing;

14.2.1.10 a sediment, benthos, fish and periphyton monitoring program for the life of the Undertaking, including comparisons to baseline conditions;

14.2.1.11 a reclamation effectiveness monitoring program, to monitor the effectiveness of progressive reclamation and post closure reclamation; and

14.2.1.12 any other information the Chief considers necessary.

14.3 The Licensee must submit to the Chief for approval a wildlife protection plan that describes the mitigation measures or practices pertaining to wildlife attractants, vehicle use, habitat management, wildlife harassment and wildlife health.

14.3.1 The wildlife protection plan must include the following:

14.3.1.1 measures to deter wildlife access to the Undertaking, including, but not limited to, fencing and netting, more specifically, indicating how the heap leach pad, events pond and processing areas will be restricted using fencing, and how the events pond shall be restricted to exclude birds and waterfowl;

14.3.1.2 measures to restrict public access to the Site during development, production, Temporary Closure and during eventual decommissioning and post-closure of the Mine, including signage and fencing;

14.3.1.3 a program for monitoring wildlife interactions at and within the immediate vicinity of the Site and appropriate adaptive management strategies to reduce such interactions, including reporting of wildlife encounters;

14.3.1.4 identification and posting of appropriate speed limits to reduce wildlife casualties and the method of ensuring that such limits are not exceeded by the employees or contractors of the Licensee;

14.3.1.5 methods to be used to limit private on-road and off-road vehicles on the Access Road and Mine, including any provision of transportation to the Site to be offered by the Licensee;

14.3.1.6 mechanisms to ensure that firearms are restricted on Site, including employees, management and contractor restrictions pertaining to hunting and fishing, throughout the life of the Undertaking;

14.3.1.7 commitments to use existing trails and disturbed areas where suitable to minimize addition of new corridors;

14.3.1.8 mechanisms to prevent disturbance of wildlife habitat, including denning or nesting sites and to protect wildlife corridors;

14.3.1.9 description of a wildlife harassment policy, which shall be provided to employees and encompass the avoidance of contact, attraction and harassment of wildlife;

14.3.1.10 methods to reduce disturbance to riparian areas;

14.3.1.11 mechanisms for avoiding disturbance of any trap line or traditional trails that may be affected by the project;

14.3.1.12 strategies and schedules for reducing the impediment to wildlife movements, including the plowing back of snow banks, ensuring breaks in snow banks to allow for escape of wildlife from the Access Road, and prevention of windrows that could restrict wildlife movements; and

14.3.1.13 any other information the Chief considers necessary.

14.4 The Licensee must submit to the Chief for approval a heritage resource protection plan that identifies measures designed to identify and protect historic sites, historic objects, and works of archaeological, paleontological, pre-historic, historic, scientific or aesthetic value.

14.4.1 The heritage resource protection plan must include the following:

14.4.1.1 a schedule for training all employees and contractors of the Licensee respecting its heritage awareness policy;

14.4.1.2 a protocol for the identification, reporting and protection of Historic Objects and Human Remains discovered by the Licensee at or on the Site, including notification of appropriate authorities; and

14.4.1.3 any other information the Chief considers necessary.

14.5 The Licensee must submit to the Chief for approval a spill contingency plan that describes the measures designed to minimize the potential impact to the environment following a fuel or chemical spill.

14.5.1 The spill contingency plan must include the following:

14.5.1.1 spill response strategies for all hazardous substances used in the Undertaking;

14.5.1.2 a schedule for informing all employees and contractors of the Licensee about the hazardous substances used at the Site and training them as to the appropriate spill response strategies;

14.5.1.3 a protocol for ensuring that spill response strategies are posted at all times in various locations at the Site, including the Processing Facilities, all explosive storage areas and the camp;

14.5.1.4 a list of equipment required and available for responding to, cleaning up and disposing of spilled or released hazardous substances;

14.5.1.5 protocols to ensure that vehicles carrying hazardous materials are equipped with a spill kit and personnel trained in spill response measures;

14.5.1.6 a reporting chart assigning responsibility to on-site employees of the Licensee, an obligation for reporting spills or any release of hazardous substances into the environment and for implementing the appropriate spill response strategy;

14.5.1.7 a detailed training course for all employees who may be required to work in or near the sulphuric acid plant; and

14.5.1.8 any other information the Chief considers necessary.

14.6 The Licensee must submit to the Chief for approval a hazardous materials management plan that provides details of the storage and handling of various hazardous chemicals utilized in the Undertaking.

14.6.1 The hazardous materials management plan must include the following:

14.6.1.1 material safety data sheets for all hazardous substances used in the Undertaking;

14.6.1.2 commitments for training of all employees involved in handling hazardous material;

14.6.1.3 commitments that all dangerous/hazardous materials are segregated and stored to ensure integrity of product containers, avoidance of accidental mixing and safety from weather effects;

14.6.1.4 plans to ensure that proper signage and monitoring are in place;

14.6.1.5 plans to ensure that secondary containment measures are in place, including secondary containment measures for handling facilities; and

14.6.1.6 any other information the Chief considers necessary.

14.7 The Licensee must submit to the Chief for approval an emergency response plan that provides details of plans and responsibilities for response to emergency situations that may be encountered.

14.7.1 The emergency response plan must include the following:

14.7.1.1 mine health and safety protocols and procedures;

14.7.1.2 monitoring procedures of hazardous substance levels and description of appropriate responses;

14.7.1.3 on site emergency response and first aid measures, including emergency transportation provisions;

14.7.1.4 training plans for emergency response and first aid;

14.7.1.5 provision for an on site health and safety officer;

14.7.1.6 identification of key contacts;

14.7.1.7 identification of specific high risk situations and chemicals along with treatment protocols;

14.7.1.8 commitments to provide protocols to appropriate Government of Yukon contacts;

14.7.1.9 commitments to work with Government of Yukon to ensure that responsibilities of all parties are clearly understood;

14.7.1.10 fire or water systems to be installed with redundant pumping equipment and power sources in the event of a forest fire or other extreme event;

14.7.1.11 fire safety and response planning and on-site training in fire fighting for emergency response personnel; and

14.7.1.12 any other information the Chief considers necessary.

14.8 The Environmental Management System shall be implemented immediately should an accidental spill or release of dangerous materials occur.

14.9 Immediately upon the approval of each of the Environmental Protection Plans, the Licensee must immediately implement the activities described in each respective plan.

15.0 Approval of Plans for Construction and Operations

15.1 The Licensee must submit to the Chief for approval a plan for the development and operation of the Mine that provides details of the construction, operation, and monitoring of the Mine.

15.1.1 The plan for the development and operation of the Mine must include the following:

15.1.1.1 a geotechnical assessment of the open pit design factors;

15.1.1.2 a description of the Mine development plans, including plans and maps showing all related structures, equipment, works and installations associated with the Mine;

15.1.1.3 a summary of ore reserves, including grades and dilution and recovery factors;

15.1.1.4 a summary of services, such as power, communications and dewatering;

15.1.1.5 a description of ore and waste handling procedures and plans, including details of all quality assurance or quality control protocols to be used by the Licensee during development and operation of the open pit, waste rock dump, ore stockpiles, or other structures, works or installations associated with the Mine;

15.1.1.6 a description and analysis of the results of a foundation investigation program and geotechnical analysis carried out by the Licensee for all structures, works or installations associated with the Mine;

15.1.1.7 a description of additional measures carried out to determine permafrost presence under the Waste Rock Storage Area and results obtained;

15.1.1.8 a description of the design of the subgrade and foundation of the Waste Rock Storage Area, including foundation stabilization options, which could include removal of thaw unstable soils and construction of a toe berm at the Waste Rock Storage Area;

15.1.1.9 a description of the layout, configuration and staging of the use of the open pit, waste rock dump and any ore stockpiles, including any design elements associated with the collection, treatment and monitoring of run-off;

15.1.1.10 a description of sampling and testing to identify any potential for ARD/ML in the proposed open pit and in the Waste Rock Storage Area and appropriate adaptive management measures;

15.1.1.11 a description of the design and proposed construction methods for the waste rock dump, including a dumping plan;

15.1.1.12 methods used for suppressing dust, such as water or calcium chloride, throughout the area of the Undertaking;

15.1.1.13 methods for erosion protection along roads and facilities and methods to minimize riparian removal and ensure drainage channels are maintained and debris free;

15.1.1.14 a strategy and implementation protocol for any required dewatering of the open pit;

15.1.1.15 any other information the Chief considers necessary.

15.2 The Licensee must submit to the Chief for approval a plan for the construction and operation of the Processing Facilities that provides details of the construction and operation of the Processing Facilities.

15.2.1 The plan for the construction and operation of the Processing Facilities must include the following:

15.2.1.1 a description of production rates, and metal and mineral products to be produced, including a flow sheet for the solvent extraction and electowinning portion of the Processing Facilities;

15.2.1.2 a summary of the processing methods to be employed, including equipment used, by-products produced, and reagents to be stored and consumed;

15.2.1.3 description of the designs which are employed to minimize emissions from the SX/EW Facility and the sulphuric acid plant;

15.2.1.4 description of how emissions will be monitored and methods employed (such as scrubbers or filters) to reduce these emission levels where necessary;

15.2.1.5 techniques for maximizing energy efficiencies including techniques to reduce diesel fuel use;

15.2.1.6 drawings and designs of the Processing Facilities and equipment, including the HDS water treatment facility;

15.2.1.7 plans for the use and disposal of water used in the Processing Facilities operations;

15.2.1.8 plans for the management of any waste materials generated, including plans for temporary storage in a bermed, lined area of any sludge from the HDS water treatment facility;

15.2.1.9 a summary of operating practices particularly with regard to management and control of the production of sulphuric acid, all wastes and any hazardous substances;

15.2.1.10 description of product storage, handling and transportation;

15.2.1.11 plans for electrical sub-stations and stand-by generators;

15.2.1.12 methods of fuel storage and handling;

15.2.1.13 any other information the Chief considers necessary.

15.3 The Licensee must submit to the Chief for approval a plan for the construction and operation of the Heap Leach Facility that provides details of the construction and operation of the Heap Leach Facility.

15.3.1 The plan for the construction and operation of the Heap Leach Facility must include the following:

15.3.1.1 final designs and specifications of all structures forming part of the Heap Leach Facility, including the leaching systems and controls, leakage identification and collection systems, and diversion ditches;

15.3.1.2 a description of additional measures carried out to determine permafrost presence under the Heap Leach Facility;

15.3.1.3 a description of the design of the subgrade and foundation of the heap leach pad, including foundation stabilization options which were considered, such as removal of thaw unstable soils;

15.3.1.4 quality assurance and quality control measures for construction of all structures forming part of the Heap Leach Facility, including dams and liners;

15.3.1.5 an operations and maintenance manual for the Heap Leach Facility including details of how the crushed and agglomerated ore will be placed within the lined impoundment;

15.3.1.6 descriptions of measures to be in place to respond to any emergencies including descriptions of location and quantities of stockpiled construction materials and equipment always to be available on site;

15.3.1.7 detailed designs of monitoring systems for the heap liner system, including liner leakage rates and allowable limits, as well as an adaptive management plan;

15.3.1.8 an update of the Preliminary Reclamation and Closure Plan or the Revised Reclamation and Closure Plan, as the case may be, that includes details of reclamation optimization of heap rinsing and neutralization, including plans for laboratory and field scale trials of rinsing and neutralizing of heap acidity, optimization of leaching, rinsing and neutralizing processes and adaptive management approaches, which includes a description of the following:

15.3.1.8.1 the scientific basis of the field scale trial, which would utilize at a minimum the first cell of the Heap Leach Facility, including the location of the trial, the operational variables that can be adjusted, and how they will be tested;

15.3.1.8.2 a description of the methods to be used to test leaching, neutralization, rinsing and covering aspects of the operation and decommissioning of the Heap Leach Facility;

15.3.1.8.3 any additional large column leach and rinsing and neutralization test work done concurrent with the field trial, such as work concerning primary and secondary mineral characterization, rinse time and volume, refined high density sludge treatment options, and post rinsing and neutralization water quality characterization;

15.3.1.8.4 identification of performance standards and criteria;

15.3.1.8.5 expected time required for good feedback information on which to make adjustments, and

15.3.1.8.6 adaptive management approaches;

15.3.1.9 any other information the Chief considers necessary.

16.0 Reporting and Inspections

16.1 The Licensee must ensure that an annual physical inspection is conducted by an Engineer of all of the structures, works, and installations located at the Site by August 1 of each year of the term of this License.

16.1.1 For greater certainty, such structures, works, and installations include:

16.1.1.1 Heap Leach Facility;

16.1.1.2 Mine, including Waste Rock Storage Area;

16.1.1.3 Processing Facilities;

16.1.1.4 Ore Preparation Facilities, including temporary ore stockpiles;

16.1.1.5 diversion structures; and

16.1.1.6 any other engineered structures, works or installation associated with the Undertaking.

16.2 Within 60 days of the inspection referred to in 16.1, the Licensee must submit to the Chief a written report by an Engineer documenting the results of the inspection, including a:

16.2.1 summary of the stability and status of all of the inspected structures, works, and installations;

16.2.2 the results of the laboratory and field scale monitoring of heap leaching and rinsing and neutralizing optimization, as described in 15.3;

16.2.3 any further updates of these test procedures; and

16.2.4 any recommendations for remedial actions made as a result of these investigations and evaluations.

16.3 The Licensee must take immediate steps to implement any of the recommendations for remedial action made as a result of the inspection referred to in 16.1.

16.4 The Licensee must evaluate data gathered as a result of implementation of the monitoring and surveillance plan referred to in 14.2 on a semi-annual basis, and take immediate steps to address any results from the monitoring and surveillance activities that indicate any change in environmental performance of the Undertaking or non-compliance with the Act, the Regulation, this License, or any of the plans in Schedule C.

16.5 On or before March 31 of each year of the term of this License, the Licensee must submit a written report to the Chief covering the period of January 1 to December 31 of the prior year, which includes the following information for the reporting year:

16.5.1 a summary of construction activities associated with the Undertaking;

16.5.2 a summary of mining activities;

16.5.3 a map showing the status of all structures, works, and installations associated with the Undertaking;

16.5.4 the total amount of ore and waste removed from the Mine;

16.5.5 the total amount and the average head grade of ore placed on the heap leach pad;

16.5.6 the total amount of cathode copper produced and removed from the Undertaking;

16.5.7 as-built drawings of the Mine and of all structures, works, and installations constructed or altered at the Undertaking during the year;

16.5.8 details respecting any action taken as a result of the recommendations made by the Engineer in relation to the inspection referred to in 16.1;

16.5.9 a summary of any updates to estimates of ore reserves and the life of the Mine, including reserve category, tonnage and grade;

16.5.10 a summary of any open pit stability incidents;

16.5.11 a summary of humidity cell or other geochemical tests undertaken on waste rock;

16.5.12 an evaluation of the performance of the heap leach pad and liner;

16.5.13 the data generated from the depth sampling below the heap leach pad;

16.5.14 a summary of any hydrogeology studies undertaken and related analysis of these data, including groundwater flow pathways impacting or impacted by the open pit;

16.5.15 a summary of surface water quality monitoring, including any acute lethality testing conducted;

16.5.16 a summary of groundwater quality monitoring in wells down-gradient of the open pit and Processing Facilities;

16.5.17 a summary of the programs undertaken for environmental monitoring and surveillance as outlined in the monitoring and surveillance plan and the wildlife protection plan, including an analysis of these data and any action taken or adaptive management strategies implemented to monitor or address any changes in environmental performance;

16.5.18 a summary of progressive and ongoing reclamation activities, including an update of outstanding financial security liability as described in 16.6;

16.5.19 a summary of proposed development and production for the coming year;

16.5.20 a summary of activities related to care and maintenance of the Undertaking, including any Temporary Closure activities, if applicable;

16.5.21 a summary of spills and accidents that occurred at the Undertaking; and

16.5.22 a summary of the previous and projected use of the Access Road, including maintenance work conducted, a summary of the level of traffic, access control issues, wildlife incidents and other accidents, and any upgrade or maintenance work planned for the upcoming year.

16.6 As part of the annual report described in 16.5, the Licensee must include a written report describing the following as per the status on December 31 of the previous calendar year:

16.6.1 a heap cell layout drawing, with the various cells numbered for ease of reference;

16.6.2 a brief explanation of the status of leaching, rinsing, neutralizing and covering in the various sections of the heap leach facility;

16.6.3 an annual schedule, for the overall life of the Undertaking, showing the outstanding financial liability at the end of each year for each cell, based on the progress of leaching, rinsing, neutralizing and covering that each cell has achieved, which is presented in a spreadsheet form and includes estimates of:

16.6.3.1 tonnage placed into each cell,

16.6.3.2 time of commencement and duration of leaching and of rinsing and neutralizing of each cell,

16.6.3.3 time of commencement and duration of placement of cover for each cell, and

16.6.3.4 costs for each activity for each year;

16.6.4 an estimate of progressive reclamation of the waste dump each year;

16.6.5 appropriate engineering contingencies for uncertainties in methods and quantities; and

16.6.6 an estimate of financial liability for each year of the life of the Undertaking.

PART III
FINAL DEVELOPMENT AND MINE OPERATIONS

17.0 Approval of Activities Related to the Construction and Operation of the Mine

17.1 The Licensee may undertake the activities as set out, and in accordance with, the approved plan for the development and operation of the Mine.

17.2 At least 10 days prior to undertaking the activities referred to in 17.1, the Licensee must provide the Chief written notice of its intention to commence such activities.

17.3 At least 60 days prior to commencement of the development of the open pit, the Licensee must submit to the Chief for approval detailed designs of the proposed development of the open pit prepared by an Engineer.

17.4 Despite any other provision in this License, the Licensee shall not remove more than 70 million tonnes of waste rock from the open pit over the life of the Undertaking.

17.5 Despite any other provision in this License, the Licensee shall not store more than 70 million tonnes of waste rock in the Waste Rock Storage Area over the life of the Undertaking.

17.6 Before excavating the extreme western and northern portions of the proposed open pit, the Licensee must provide to the Chief the results of testing and sampling of materials in order to determine the ARD/ML potential of this area.

17.7 The Chief may request additional information to confirm the ARD/ML potential of rock to be deposited in the Waste Rock Storage Area, and the Licensee shall not deposit any further material in the Waste Rock Storage Area until the Chief is satisfied that the information has been provided.

17.8 The Licensee shall maintain a minimum 6 meter buffer of oxide ore above the sulphide ore in the open pit.

18.0 Approval of Activities Related to the Operation of the Processing Facilities

18.1 The Licensee may undertake the activities as set out, and in accordance with, the approved plan for the construction and operation of the Processing Facilities.

18.2 The Licensee shall provide written notice to the Chief of the Start-up Date at least 6 months prior to that date.

18.3 Subject to the Chief's approval otherwise, no ore other than that obtained from the Mine located at the Undertaking may be processed at the Site.

18.4 The Licensee shall only process ore using the methods as set out in the approved plan for the construction and operation of the Processing Facilities.

18.5 Sludge from the HDS water treatment system shall not be placed on the heap until the Licensee demonstrates, to the satisfaction of the Chief, that the cell has been adequately decommissioned as described in the Preliminary Reclamation and Closure Plan or the Revised Reclamation and Closure Plan, as the case may be.

18.6 Water treatment facilities shall be kept operational until the Licensee demonstrates to the satisfaction of the Chief that the heap has been adequately decommissioned as described in the Preliminary Reclamation and Closure Plan or the Revised Reclamation and Closure Plan, as the case may be.

18.7 The Licensee may not deposit agglomerated ore on the Heap Leach Facility for a period that exceeds 2 successive days unless the notice in 18.2 has been provided to the Chief.

19.0 Heap Leach Facility Operations

19.1 Subject to 19.3 to 19.5, with respect to the Heap Leach Facility, the Licensee may:

19.1.1 place the liner;

19.1.2 complete remaining construction; and

19.1.3 operate the Heap Leach Facility, including placement of crushed and agglomerated ore

as described in the approved construction and operation plan for the Heap Leach Facility.

19.2 At least 60 days prior to the commencement of the construction of the Heap Leach Facility, the Licensee must submit to the Chief for information only, detailed construction designs, along with quality assurance and quality control procedures for the proposed development of the Heap Leach Facility prepared by an Engineer.

19.3 The Licensee shall not place more than 16.3 million tonnes of ore on the heap leach pad over the life of the Undertaking.

19.4. The Licensee shall not leach any ore on the heap leach pad until a HDS treatment plant has been constructed in accordance with the approved construction and operation plan for the Processing Facilities.

19.5 The events pond shall not be used to store solutions from the Heap Leach Facility other than in accordance with the provisions of a Water Licence for the Undertaking.

20.0 Submission of Post Construction Reports

20.1 Within 120 days of completing construction of the foundations for any structure, work, or installation at the Site, the Licensee must submit a written report to the Chief containing:

20.1.1 as-built drawings of all structures, works, and installations constructed; and

20.1.2 a summary of any quality assurance or quality control monitoring conducted by, or for, the Licensee in the course of constructing the structures, works and installations.

SCHEDULE A
CLAIMS COVERING THE MINE AND MINE FACILITIES

Grant Number	Claim Name	Claim Number
Y 91722	AC #	2
Y 51120	BOY	22
Y 51122	BOY	24
Y 51152 - 156	BOY	54 - 58
Y 51181	BOY	83
Y 51183	BOY	85
Y 59383 - 384	DUN	2 - 3
YB26708	W	1
YB26713 - 725	W	6 - 18
YB26728 - 729	W	21 - 22
YB26741 - 742	W	34 - 35
YB26744	W	37
YB36450 - 451	WAR	36 - 37
YB36962 - 964	X	5 - 7
YC65320	GAP	1

SCHEDULE B
CLAIMS COVERING THE ACCESS ROAD

Grant Number	Claim Name	Claim Number
YB97068	TT	1
YB97251	TT	2
YB96620	VW	11
YB96622	VW	13
YB96626 - 630	VW	17 - 21
YB96632	VW	23
YB96634	VW	25
YB96636 - 647	VW	27 - 38
YB96986 - 996	VW	40 - 50
YB96997 - 998	VW	60 - 61
YB26738 - 742	W	31 - 35
YB36249 - 252	W	50 - 53
YB36929 – 931	W	91 - 93
YB36933	W	95
YB36898 - 899	X	3 - 4
YC60390	WCC	10

SCHEDULE C
PLANS APPROVED BY THE CHIEF

General Site Plan:

Stage 1 Construction Site Plan, dated October 2008, and prepared by Access Consulting Group

Preliminary Reclamation & Closure Plan:

Preliminary Detailed Closure and Reclamation Plan, dated December 2008, and prepared by Access Consulting Group

SCHEDULE D
TERRESTRIAL PERFORMANCE STANDARDS

A. Overall Objectives

1. The protection of health and safety of the public and area wildlife by the elimination of unacceptable health hazards.
2. Reclamation for productive future use of the land where infrastructure (buildings, chemical and fuel storage, roads, sediment ponds, heap leach pads, waste rock storage areas, open pits, etc.) is or will be located.
3. Prevention of significant exposure to or release of substances that could damage the receiving environment.
4. Restoration of the site to a condition that is visually acceptable to the community.
5. Minimization or elimination of the need for maintenance and monitoring in the long term.
6. Minimization of liability and environmental risk.
7. Minimization of the footprint of mine site development.

B. Terrain Hazards

Objectives

The closure objective for decommissioning is that remaining terrain hazards at the site should present no more significant hazard to people and wildlife than is present in the surrounding vicinity.

Practice

Excavations, including borrow pits, and stripping zones must be backfilled or otherwise made safe in accordance with the approved reclamation and closure plan. In some cases, an embankment with a ditch in front may be accepted. Determinations for backfilling will account for risk and economic feasibility.

Access to areas of unsafe drop-offs must be blocked and posted appropriately. The requirements of the Occupational Health and Safety Regulations as set out in the *Occupational Health and Safety Act* must be followed.

Waste rock storage areas shall be re-contoured to a stable configuration and when specified in an approved reclamation and closure plan, left in a condition conducive to successful re-vegetation.

C. Erosion Control

Objectives

The objective of erosion control is physical stability, such that upon closure, slopes, excavations and other disturbed lands are in a condition that will limit the incidence of soil erosion, slumping and other instabilities that are likely to impede re-vegetation of a reclaimed site, pose a threat to public safety, lead to wildlife mortality, or cause excessive sediment loads to enter nearby water bodies.

Practice

As identified in an approved reclamation and closure plan, slopes must be stabilized by benching, contouring and levelling.

Erosion may occur while stabilization and re-vegetation are actively in progress. In some circumstances, erosion may be progressing such that unchecked, it will lead to conditions that are likely to pose a threat to wildlife, public safety or result in excessive sediment loading in nearby water bodies. Under anticipated post-closure site drainage conditions, advancing erosion (for example, from splash erosion to rills) should be reversed to a point where stabilization and re-vegetation are likely to be successful in site rehabilitation.

Diversion ditches, if needed, must be constructed to guide drainage away from reclaimed workings.

The selected soil cover material must contain adequate growth media (fines) to sustain re-vegetation.

Vegetative mat is to be sufficient to control erosion.

Appropriate pit ponds and decants should be in place to meet erosion prevention objectives.

D. Re-vegetation

Objectives

To ensure physical stability and to prevent a temporary loss of wildlife habitat utilization from becoming permanent, through the re-establishment of a vegetative mat (food source, hide, etc.) leading to self sustaining native vegetation.

Practice

As much as possible, decommissioning should focus on site preparation that is conducive to natural re-vegetation.

Vegetation is to be self sustaining, comprising native seed mixes, unless otherwise specified in an approved reclamation and closure plan. In designing ground cover and vegetation, consideration shall be given to altitude and orientation (e.g. north-facing slopes). Vegetation should normally be self sustaining within six years of the last application of cover, seed or fertilization.

The vegetative cover is to be capable of self-regeneration without continued dependence on fertilizer or reseeding.

Vegetative cover should demonstrate sufficient density and species diversity to stabilize the surface against the effects of long term erosion.

Where needed, cover is to be designed to inhibit uptake of metals by plants.

E. Watercourses

Objectives

Restore watercourses to meet current water management objectives.

Practice

Restore watercourse in accordance with the approved reclamation and closure plan. The plan shall take into account the intended future land use, as well as water management objectives that have been established under legislation

F. Site Contamination

Objectives

The objective of addressing contamination is to prevent exposure to and mobilization of substances that pose a risk to human health and the environment through physical and chemical stability.

Practice

Leading up to closure, a site contamination assessment plan must be prepared which:

- Locates through a site investigation program any and all contaminated material on the mine site arising from any operation, transportation, storage handling or processing;
- Characterizes the type, level and horizontal and vertical extent of the contamination; and
- Proposes methods for dealing with the contamination.

Whether through neutralizing, treating or disposing, soils, sub-soils and materials on the site must meet the appropriate level of decontamination, commensurate

with the proposed future land use objective set out in the approved reclamation and closure plan.

The requirements of the Occupational Health and Safety Regulations set out by the *Occupational Health and Safety Act*, for controlled substances under the *Hazardous Products Act* (Canada) must be met. So too are the requirements of the Special Waste Regulation of *the Environment Act*.

G. Roads and Other Access

Objectives

Protection of public safety is a key objective. As well, in decommissioning linear infrastructure the intention is to enable human and wildlife utilization in the area to revert to pre-development levels and types, all other factors being equal. If, however, an alternative future land use has been identified for the site, or population in the area has increased, alternative objectives may be identified in the approved reclamation and closure plan.

Practice

In planning and implementing road deactivation and reclamation, consideration shall be given to monitoring and maintenance requirements of any structures. Temporary fencing or surveillance may be necessary to prevent access until closure is complete.

Unless the Minister responsible under the *Highways Act* provides written notification of a public interest in maintaining identified roads for public use under the administration and control of the *Highways Act*, all on-site roads, trails and access corridors shall be decommissioned, including the following measures as needed:

- Removal of bridges, culverts and pipes; ramps and landings at the mine site. Streambeds re-established with appropriate stabilization of banks;
- Stabilization of road cuts and fills;
- Installation if diversion berms on steep slopes;
- Scarification of road and airstrip surfaces;
- Ensuring road cuts are stable;
- Restriction of access with appropriate signage for areas posing a safety risk; and
- Roads and trails identified for decommissioning in an approved reclamation and closure plan should be made impassable to vehicles.

Access to the mine site subject to an easement, right of way or lease under the *Lands Act* shall be subject to deactivation and reclamation pursuant to the authorization under the *Lands Act*. Reclamation of access to the mine site

traversing and located on First Nations Settlement Lands may be subject to the requirements of a First Nations Final Agreement.

H. Mine Infrastructure

Objectives

The objective following closure is to ensure physical stability and to remove potential threats to public health and safety; including identification and removal of hazards and hazardous materials.

Practice

All buildings and structures must be dismantled and disposed of in a manner consistent with the approved final land use of the site identified in an approved reclamation and closure plan and to meet the requirements of the Occupational Health and Safety Regulations as set out in the *Occupational Health and Safety Act*.

Waste arising from dismantling and demolition of structures is to be disposed of in an approved manner, which may include a waste disposal site authorized under the Solid Waste Regulations of the *Environment Act*.

All machinery, equipment and storage tanks must be cleaned and removed from the site or disposed of on site in an approved manner.

Sites of all buildings and structures shall be reclaimed so as to protect human safety and prevent wildlife mortality.

All concrete structures, foundations and slabs shall be removed and levelled to surface and where indicated in an approved reclamation and closure plan, covered and re-vegetated.

All power transmission lines, pipelines and railways shall be dismantled and removed from the site or otherwise disposed of, to the extent that is consistent with the approved future use of the land identified in an approved reclamation and closure plan. Power supply shall be disconnected in accordance with the Occupational Health and Safety Regulations of the *Occupational Health and Safety Act*.

Buried support infrastructures (tanks, pipes, underground services, etc.) identified in an approved reclamation and closure plan for removal at closure must be removed.

Any buried infrastructure remaining will be identified on site closure maps submitted, upon closure, to the Yukon government.

After being emptied, septic tanks will be either removed or filled with gravel, sand, earth or inert material.

Fuel storage tanks shall be decommissioned and removed in accordance with the Storage Tanks Regulations of the *Environment Act*.

All explosives and hazardous substances shall be removed from the site or be properly disposed of in accordance with the requirements of the Occupational Health and Safety Regulations of the *Occupational Health and Safety Act*.

All non-hazardous waste materials may be disposed of in an approved non-hazardous solid waste dump and shall be decommissioned according to the Solid Waste Regulations of the *Environment Act*.

No hazardous materials shall remain on site unless an approved special waste site has been established and approved in accordance with the Special Waste Regulations of the *Environment Act*.

I. Mine Rock Piles

Objectives

Reclaimed rock piles and dumps must be physically and chemically stable in the long term to prevent erosion, subsidence or collapse, and such that dump runoff and surface drainage meet legal requirements.

Practice

Rock piles and dumps shall be reclaimed to ensure long-term stability and erosion control.

Waste rock that is susceptible to acid drainage and metal leaching must be closed out to ensure long-term stability—structural and chemical. This could be accomplished through full encapsulation, sealing in benign rock or other clean cover, flooding, sequestering below the water table, returning to pit, or underground or otherwise stabilized in accordance with an approved reclamation and closure plan.

Rock piles and dumps shall be monitored for physical stability during all phases of closure until judged no longer necessary by the Chief of Mining Land Use. Major piles must be re-contoured to be consistent with the approved final land use for the mine use.

Subject to a water licence under the *Waters Act* remaining in place, chemical stability shall be monitored until the licence is revoked. Following

decommissioning, drainage from rock piles must consistently meet the requirements of applicable territorial and federal legislation. For example, it must meet the requirements of the *Waters Act* respecting the deposit of waste into water or into other places where the waste may enter water such as groundwater that may reach surface water. Produced water must also meet the *Fisheries Act* (Canada) requirements with respect to the deposit of deleterious substances, including, if applicable, discharge standards set out in the Metal Mine Effluent Regulations of the *Fisheries Act* (Canada). Where the site is a contaminated site, as defined by the *Environment Act*, the site must be restored and maintained as required by the *Environment Act* and regulations made under it.

Active treatment systems may be required initially to collect and treat contaminated runoff from rock piles. Control systems must be established as close to the source as possible. Reliance on long-term active effluent treatment facilities is not normally considered acceptable to meet closure requirements.

Reclaimed piles and dumps may require measures to ensure re-vegetation, wildlife and human safety objectives are met, and shall be completed in accordance with an approved reclamation and closure plan and the requirements of the Occupational Health and Safety Regulations as set out in the *Occupational Health and Safety Act*.

J. Acid Rock Drainage Potential

Objectives

The closure objective for acid rock drainage and metal leaching is a walk-away solution. Reliance on long-term active treatment is not considered acceptable for reclamation and closure planning.

Practice

Rock piles, dumps, tailings and underground workings must be decommissioned such that in the event of acid rock drainage and metal leaching ground and surface water quality objectives continue to be met.

Following decommissioning, drainage from the site or from passive treatment must consistently meet the requirements of applicable territorial and federal legislation. For example, it must meet the requirements of the *Waters Act* respecting the deposit of waste into water or into other places where the waste may enter water such as groundwater that may reach surface water. Produced water must also meet the *Fisheries Act* (Canada) requirements with respect to the deposit of deleterious substances, including, if applicable, discharge standards set out in the Metal mine Effluent Regulations of the *Fisheries Act* (Canada).

Walk-away solutions for spillways, together with natural passive management of discharges not requiring active intervention are preferred. A near-neutral pH water discharge from the site is the optimum goal.

K. Water Control Structures

Objectives

The objective is to ensure decommissioning of water retention and sediment control structures, and their appurtenances, in such a way that drainage at, and adjacent to the site, is stable in the long term.

Practice

Typically this objective means dismantling and disposing of operational structures so that natural drainage is not impeded.

The planning goal should be minimal maintenance requirements for areas reclaimed of surface water management structures. For example, operational sediment traps, basins, silt fencing, spillways and dikes should be dismantled and materials disposed of in an approved non-hazardous solid waste dump or be removed from the site.

Collection and diversion systems for passive treatment that are put into place or remaining at closure in order to recover contaminated percolation waters or runoff shall require minimal maintenance. Those structures that are defined as dams are to meet the provisions of the Canadian Dam Safety Guidelines. Any additional stability criteria will be commensurate with the level of risk associated with failure of the collection systems. All engineered impoundment structures shall be certified by a qualified professional engineer with respect to their long-term physical and chemical stability.

Unless an alternate use is identified in an approved reclamation and closure plan, mine dewatering ponds should be decommissioned, with sediments stabilized, pond dikes levelled and the surface contoured and re-vegetation underway.

Fines, sludge and sediment meeting the definition of tailings must be removed to an approved tailings facility or be otherwise decommissioned in accordance with the approved reclamation and closure plan.

Water course diversions shall be dismantled and materials disposed of in an approved non-hazardous solid waste dump according to the Solid Waste Regulations in the *Environment Act*, or removed from the site.

L. Heap Leach Pads

Objectives

Decommissioned heaps must be physically and chemically stable in the long term.

Practice

Permanent, physically stable containment is required to prevent erosion, subsidence or collapse. Structural integrity design criteria are to include the probable maximum site seismic event as set out in an approved reclamation and closure plan. Chemical stability following heap detoxification and treatment is required.

Following decommissioning, drainage from the heap or from passive treatment must consistently meet the requirements of applicable territorial and federal legislation. For example, it must meet the requirements of the *Waters Act* respecting the deposit of waste into water or into other places where the waste may enter water such as groundwater that may reach surface water. Produced water must also meet the *Fisheries Act* (Canada) requirements with respect to the deposit of deleterious substances, including, if applicable, discharge standards set out in the Metal Mine Effluent Regulations of the *Fisheries Act* (Canada). Where the site is a contaminated site, as defined by the *Environment Act*, the site must be restored and maintained as required by the *Environment Act* and regulations made under it.

Solution storage ponds and treatment tanks must be decommissioned and may be breached or otherwise reclaimed. Any ore remaining in the ponds or tanks together with any settlement sludges must be dealt with appropriately. Liner systems should be treated as needed and removed or disposed of in accordance with the Solid Waste Regulations of the *Environment Act*. This may include burying of liner systems. Heap pad liners may remain in place.

Heaps shall be decommissioned to ensure long-term stability and control, and be consistent with the approved final land use plan. Monitoring of physical stability and hydrological functions is required until the site is closed out unless otherwise specified in an approved reclamation and closure plan.

A factor to be considered in decommissioning planning for heap leach operations is the consequence of failure.

The possibility of a post-closure re-commissioning of the mine may be considered in heap decommissioning in accordance with an approved reclamation and closure plan.