

*Yukon Mine Site and  
Reclamation Closure Policy*

Financial and Technical Guidelines



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# EXPLANATORY NOTES

The financial guidelines provide details on the terms of various forms of security. They also provide greater policy detail regarding discretionary forms of security. They address details on the procedures and timing for calculating, managing, reviewing and adjusting security.

The scope of the guidelines applies to security provided in association with a production license issued or transferred under the *Quartz Mining Act*. The guidelines also apply to security required pursuant to the water license issued under the *Waters Act*, to the extent reflected in the water license.

The financial guidelines include three features: purpose, context and practice. Statements on purpose set out the intended audience and the financial instrument or matter being addressed. Statements about context are normally derived from the Yukon Mine Site Reclamation and Closure Policy and/or legislation, and provide a legal and policy context within which practices can be considered. As to statements on practice, these may include requirements that exist pursuant to legislation or provide greater policy detail. These may also include statements on preferred practices on the part of the Yukon government in relation to the instrument or financial matter at hand.

The technical guidelines provide direction on reclamation and closure objectives that mine owners and government administrators must or should consider in developing and implementing a reclamation and closure plan. Key features of the mine and known hazards are addressed with the statement of performance objectives and some details on the practices normally associated with specific aspects of decommissioning. The guidelines are intended to be objective-based and non-prescriptive. This encourages innovation and least-cost options while ensuring that public interest objectives for ensuring public health and safety and environmental protection are met. The guidelines allow mine owners to depart from standard practice at any given time, with adequate rationale provided and risk management strategies in place.

The technical guidelines include three elements: purpose, objectives and practice. As with the financial guidelines, statements on purpose set out the intended audience and matter to be addressed. Objectives are non-prescriptive results for environmental quality and conditions following reclamation and closure. The practices outlined include reference to principal legal requirements, policy detail pursuant to the Yukon Mine Site Reclamation and Closure Policy, as well as possible strategies for achieving the desired objectives. The practices also provide recognition of site conditions and circumstances that need to be considered by government and companies in developing plan-specific objectives.

# GUIDELINES SUMMARY

<b>Guideline Topic</b>	<b>Purpose</b>
<b>Cash</b>	To inform administrators and mine owners about applicable policy and procedures associated with cash and cash equivalents provided as security under the <i>Quartz Mining Act (QMA)</i> and <i>Waters Act (WA)</i> .
<b>Letter of credit</b>	To inform administrators, mine owners and financial institutions about the provisions of a letter of credit or bank letter of guarantee when they are provided as security under the QMA and WA.
<b>Pledge of assets</b>	To inform administrators and mine owners about the policy and procedures associated with the use of a pledge of assets as security under the QMA and WA.
<b>Surety bond</b>	To inform administrators, mine owners, surety issuers and brokers about the policy and procedures associated with the use of surety bonds as security under the QMA and WA.
<b>Insurance</b>	To inform administrators, mine owners, and insurance issuers and brokers about the policy and procedures associated with the use of insurance as a form of security under the QMA and WA.
<b>Security held pursuant to a trust indenture</b>	To inform administrators, mine owners and third party trustees about the policy and procedures associated with the terms and investment of security held in trust by a third party to meet requirements of the QMA and WA.
<b>Liability estimate for security</b>	To explain the calculation of the liability estimate for reclamation and closure in order to determine the amount of security.
<b>Discount rate</b>	To inform administrators and mine owners about the discount rate that will be used for net present value calculations.
<b>Interest and returns earned on security</b>	To inform administrators and mine owners about the policy regarding interest and returns earned on security.
<b>Adjustments and conversions of security</b>	To inform administrators and mine owners about the procedures associated with adjustments and conversions of existing security.
<b>Statement to mine owners on security</b>	To inform administrators and mine owners about the policy and procedures associated with annual reporting to the mine owner on security held by the Yukon government.
<b>Notice of material change</b>	To inform administrators and mine owners about the circumstances for providing the Yukon government with notice of material change when material change has the potential to affect security held by the Yukon government.
<b>Release of security on transfer of license</b>	To inform administrators and mine owners about the policy and procedures associated with the treatment of security in the transfer of a license.

<b>Guideline Topic</b>	<b>Purpose</b>
<b>Temporary closure</b>	To inform administrators and mine owners about the policy and procedures associated with security in the event of a temporary closure, and to set out the circumstances and procedures by which the Minister may determine whether or not a temporary closure is imminent and additional actions are warranted.
<b>Water retention and sediment control structures</b>	To inform administrators and mine owners about closure objectives in decommissioning licensed water retention and sediment control structures used in mine production and associated safety and environmental protection.
<b>Watercourses</b>	To inform administrators and mine owners about closure objectives where alternation of water courses has occurred to allow mine development and operation and associated safety and environmental protection.
<b>Water quality</b>	To inform administrators and mine owners about mine closure objectives on minimum post-closure water quality objectives for waters draining at the mine site.
<b>Site contamination</b>	To inform administrators and mine owners about closure objectives for soil, sub-soil and equipment that remains on site, in light of undetected contamination during mine operation and decommissioning.
<b>Acid rock drainage potential</b>	To inform administrators and mine owners about closure objectives and procedures when there is acid rock drainage potential and metal leaching.
<b>Tailings management</b>	To inform administrators and mine owners about closure objectives and procedures in decommissioning tailings.
<b>Underground workings and openings to surface</b>	To inform administrators and mine owners about objectives for decommissioning underground workings and openings to surface.
<b>Terrain hazards</b>	To inform administrators and mine owners about mine closure objectives and procedures for decommissioning terrain hazards associated with operation and development.
<b>Mine rock piles</b>	To inform administrators and mine owners about closure objectives and procedures in decommissioning rock piles and dumps.
<b>Road and other access</b>	To inform administrators and mine owners about closure objectives and procedures in decommissioning roads, trails and other linear infrastructure, where these are to be decommissioned.
<b>Erosion control</b>	To inform administrators and mine owners about closure objectives for the landscape of the mine site.
<b>Re-vegetation</b>	To inform administrators and mine owners about closure objectives and procedures where mining activity has resulted in removal of ground cover that, if not reclaimed, would lead to physical instability such as erosion and siltation and/or contribute to a permanent and significant decline in wildlife habitat.
<b>Mine infrastructure</b>	To inform administrators and mine owners about closure objectives in decommissioning mine infrastructure.

<b>Guideline Topic</b>	<b>Purpose</b>
<b>Heap leach pads</b>	To inform administrators and mine owners about closure objectives and procedures in decommissioning heap leach pads.
<b>Temporary closure site conditions</b>	To inform administrators and mine owners about objectives and procedures in the event of a temporary closure and conditions that must continue to be met in order to maintain a site in temporary closure.
<b>Geological values and heritage</b>	To inform administrators and mine owners about the policy and procedures for preserving geological values and heritage features while decommissioning a mine site.

# Financial Guidelines

# CASH

## Guideline #F-01

**Date Issued: January 2, 2008**

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### Purpose

To inform administrators and mine owners about procedures when cash and cash equivalents are used as security under the *Quartz Mining Act* and *Waters Act*.

### Context

Cash equivalents include bank drafts, certified cheques, term deposit certificates, guaranteed investment certificates and bonds. All are forms of acceptable security.

### Practice

Cash provided to the Yukon shall be held in accordance with the *Financial Administration Act*.

Bank drafts and certified cheques from a bank shall be made payable to the Government of Yukon. Post-dated cheques are not acceptable unless agreed to by the Yukon as part of an arrangement for periodic instalments.

Eligible cash equivalents shall include GICs and term deposits and are to be held to the order of Government of Yukon. Bonds issued by a province of Canada or the Government of Canada and treasury bills must be transferred to the name of the Government of Yukon. Certificates shall be turned over to the Yukon for safekeeping.

The interest or yield on investments (e.g. GICs and bonds) will be the interest or yield payable on the investment of the issuing institution. No further interest or yield will be deemed payable by the Yukon government.

The mine owner is responsible for all instructions to the issuing institution upon maturity of a security, as well as any fees and taxes associated with the security. Securities such as term deposits, guaranteed investment certificates and bonds that mature with no other instruction provided by the mine owner shall be converted to cash and invested by the Yukon according to the *Financial Administration Act*.

Other cash equivalents such as certain corporate bonds, certificates from other institutions, including those outside of Canada, may be considered as security. Risk as established through credit ratings shall be considered in determining whether or not such cash equivalents will be eligible.

# LETTER OF CREDIT & BANK LETTER OF GUARANTEE

## Guideline #F-02

**Date Issued: January 2, 2008**

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### Purpose

To inform administrators, mine owners and financial institutions about the provisions of a letter of credit or bank letter of guarantee when they are provided as security under the *Quartz Mining Act* and *Waters Act*.

### Context

Both an irrevocable letter of credit and bank letter of guarantee are acceptable forms of security when issued by a bank or financial institution organized or authorized to transact business in Canada under the *Bank Act* (Canada).

### Practice

A letter of credit issued by a foreign institution may be considered if it is backstopped by a bank or financial institution authorized to transact business in Canada under the *Bank Act*.

A “standby” letter of credit or letter of guarantee must be irrevocable. Unlimited, partial drawings should be permitted.

The sole beneficiary named in a letter of credit or letter of guarantee must be the Government of Yukon, or the Minister (as indicated), Government of Yukon. A letter of credit or letter of guarantee must identify the mine for which the security is furnished and the applicable quartz production and/or water license.

The letter of credit or letter of guarantee must enable a designated officer of the Minister to, upon written request, obtain the required funds pursuant to the letter without any requirement for proof of jurisdiction or claim by the Yukon.

The letter of credit or letter of guarantee should provide for automatic renewal.

The terms established in the letter of credit or letter of guarantee must satisfy Yukon government requirements respecting notification in the event of changes, manner and circumstances for payment and pertinent material changes in financial status. Any changes in terms must be approved by all parties involved, including the Yukon government, in order for the security to remain acceptable.

Amendments to a letter of credit or letter of guarantee may be made to:

- adjust for increases or decreases in the amount of security required to cover the total outstanding liability which may change from time to time, including as a result of progressive reclamation; and
- reflect changes to the name of the mine owner.

While requiring the consent of all parties, such amendments may be requested by the Yukon government from time to time.

All fees and charges associated with a letter of credit or letter of guarantee are the responsibility of the mine owner.

A letter of credit sample is included in Appendix A.

# PLEDGE OF ASSETS

## Guideline #F-03

**Date Issued: January 2, 2008**

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### Purpose

To inform administrators and mine owners about the policy and procedures associated with the use of a pledge of assets as security under the *Quartz Mining Act* and *Waters Act*.

### Context

Consideration may be given to alternate (non-cash) forms of security for lower risk components of a project, provided these forms meet certain criteria that protect the Yukon government's interests and objectives.

### Practice

A pledge of assets will be considered for financial security pursuant to the Yukon Mine Site Closure and Reclamation Policy, subject to the following provisions:

- Subject to confirmation by the Yukon government that there are no other liens which would rank in priority to the Yukon's charge on the asset and thereby diminish the Yukon's ability to realize on the asset;
- Subject to limited exceptions, the assets must be located in the Yukon;
- A pledge of assets will only be taken over those assets for which a security interest can be perfected under the *Personal Property Security Act*, or comparable legislation when assets are located elsewhere in Canada;
- The company may not allow further charges on the asset that would have the effect of diminishing the Yukon's charge;
- The condition, location and value of assets are subject to verification by the Minister at any time;
- Where the assets involve equipment used for mining, milling, processing and transportation:
  - the equipment should not be unacceptably contaminated for its intended use;
  - must remain in good working order; and
  - is used for its intended purpose.
- The assets are not required for environmental or public health and safety maintenance in the event of a closure;
- The Yukon government is satisfied the arrangements meet Yukon objectives and interests, including but not limited to:
  - Risk management;

- Satisfactory progress by the mine owner in progressive reclamation;
  - The applicant/licensee's past corporate performance; and
  - Matters pertaining to the company's solvency as reported to the pertinent Securities Commission.
- Assets are assessed for their market value within the 12 months prior to their being taken as security by the Yukon government;
  - The value of assets for the purposes of security will be established net of the costs of retrieval and transportation to a viable market, including remediation of any contamination of equipment to allow its transportation to a viable market;
  - The assets must be appraised by an independent 3<sup>rd</sup> party, operating at arm's length from the Yukon government and the mine owner, and that is acceptable to the Yukon. The appraiser's report should:
    - identify asset type, size, capacity, serial number, condition, expected life, residual value and estimated costs for retrieval and transportation to a viable market; and
    - address further matters as required by the Minister.
  - A revised appraisal may be required any time that overall financial security arrangements are being considered by the Yukon;
  - The mine owner pays the costs of 3<sup>rd</sup> party valuation and perfecting under the *Personal Property Security Act* or other legislation;
  - The mine owner should provide the Yukon government with timely notice of:
    - Registration of additional charges or changes in existing charges, or:
    - Addition of a new perfection or changes to existing perfections;
    - Taking possession of pledged assets by another secured party.

Adjustments to security may be required to account for changes in value or status, under the *Personal Property Security Act* (Yukon) or other legislation, of the pledged assets. Any costs associated with such adjustments remain the responsibility of the mine owner.

A pledge of assets is not acceptable security for higher risk reclamation and closure components, as determined by the Minister, nor for post-closure monitoring and maintenance.

# SURETY BOND

## Guideline #F-04

**Date Issued: January 2, 2008**

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### Purpose

To inform administrators, mine owners, surety issuers and brokers about the policy and procedures associated with the use of surety bonds as security under the *Quartz Mining Act* and *Waters Act*.

### Context

A surety bond where the terms are acceptable to the Minister is acceptable security.

A surety bond involves three parties or more - the insurance provider, the principal (mine owner) and the obligee (Yukon government).

### Practice

The surety bond must be issued by a company licensed under the *Insurance Act* (Yukon) and *Insurance Companies Act* (Canada) to issue surety bonds in Canada.

The surety bond must be issued for at least one year with an automatic renewal clause.

The mine owner is responsible for any fees, charges, premiums or other amounts associated with the surety bond.

A change or rider endorsement may be made to a surety bond where:

- Adjustments are required to increase or decrease the amount of security based on changes in liability or to account for progressive reclamation; or
- Where there is a change in the name of the mine owner.

Where there is any intent to limit the application of a surety bond to certain aspects (e.g. cost overruns and contingencies) of an approved reclamation and closure plan, this should be stated in the surety provisions.

Any disputes should be subject to recovery by the surety without preventing the work from proceeding.

An example of a surety bond is included in Appendix A.

# INSURANCE

## Guideline #F-05

**Date Issued: January 2, 2008**

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### Purpose

To inform administrators, mine operators, and insurance issuers and brokers about the policy and procedures associated with the use of insurance as a form of security under the *Quartz Mining Act* and *Waters Act*.

### Context

Consideration may be given to alternate (non-cash) forms of financial assurance for lower risk components of a project, provided these forms meet certain criteria that protect the Yukon government's interests and objectives. In these situations, insurance may be an acceptable form of financial security, in whole or in part, and is usually suited to cost uncertainties associated with reclamation and closure, such as failures, cost overruns and contingencies.

Insurance may be available on the market in helping a mine owner cap liability, securing post-remediation liabilities, securing creditors, or for directly securing uncertain liabilities when a mine owner wants to free up operating capital or credit.

### Practice

The insurance company must be licensed to issue insurance pursuant to the *Insurance Act* (Yukon) and the *Insurance Companies Act* (Canada).

The purpose and form of the insurance should be such that the enforceable pledges of funding are used to guarantee coverage should specified reclamation and closure liabilities arise, including in the event of default by the insured.

The insurance policy should make reference to the mine site, the production and/or water licenses issued, and the approved reclamation and closure plan and should specify the liabilities being addressed by the insurance. The policy must include the Yukon government as an additional named insured.

Limits to liability in the policy must not prevent continuous coverage for the term of the policy as well as any periods required for monitoring, reporting and verification periods associated with the plan or until such time as a Certificate of Completion has been issued under Section 134 of the *Quartz Mining Act* and/or cancellation of a water license under the *Waters Act*.

The policy should allow that limits to liability associated with concealment and fraud may be set aside in the event the Yukon government notifies the insurer of pertinent facts and circumstances respecting contamination and site conditions.

Provisions respecting limits to liability of the policy in the event of intentional non-compliance on the part of the insured shall be limited to situations where the non-compliance constitutes an offence under the laws of the Yukon.

The policy continues in effect in the event of directions and actions of inspectors pursuant to Sections 146 and 147 of the *Quartz Mining Act* and/or actions pursuant to Sections 35 and 37 of the *Waters Act*.

The policy should be irrevocable without written consent of the Yukon government, and establish that amending, revoking or terminating the policy requires the written consent of the Yukon government. The policy should further establish that release of monies requires written notification of the Minister. Provisions for assignment should require the written authorization of the Yukon government. Provision must be made that in the event of disputes, work shall proceed and be paid for through the policy as required according to the timetable set out in the approved reclamation and closure plan. Any disputes should be subject to recovery by the insurer and/or insured without preventing the work from proceeding. Any arbitration involving the Yukon government should be conducted within the Yukon.

The policy must remain satisfactory at all times to the Yukon. The policy should reserve right of action against the insurer to the Yukon government, which action should be specified to take place in the Yukon pursuant to the applicable laws of the Yukon.

In the event of default or non-performance of the reclamation and closure measures required by the approved reclamation and closure plan and secured by the insurance, the insurer may seek agreement with the Yukon government, to perform the work in lieu of payment of any portion or all of the insured value.

In the event the Minister no longer finds the policy a satisfactory form of security, the mine owner shall be provided written notice of the need for alternate security. The mine owner should provide alternate forms of security within 90 days.

# SECURITY HELD PURSUANT TO TRUST INDENTURE

## Guideline #F-06

**Date Issued: January 2, 2008**

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### Purpose

To inform administrators, mine operators, and third party trustees about the policy and procedures associated with the terms and investment of security under the *Quartz Mining Act* and *Waters Act* and held pursuant to a trust indenture.

### Context

Security may be held in a trust pursuant to a trust indenture where the Yukon government is named as beneficiary of the trust.

### Practice

To be eligible to hold security on behalf of a mine owner, a third party must be a trust company licensed under the *Trust and Loans Companies Act* (Canada).

The beneficial use of the trust must be to meet security requirements associated with licenses issued under the *Quartz Mining Act* and *Waters Act*.

The Yukon government should be named as beneficiary of the trust. The mine owner (settler) may be named as a beneficiary.

The trust must establish that payments to the settler shall be made only with the prior written consent of the Yukon government. Prior to providing consent, the Yukon government may assess whether or not any further verification of effectiveness of the reclamation or closure strategy is required. Prior to providing consent, the Yukon government will evaluate what security should be maintained.

The terms of the trust should establish that security will be released by the trustee once the Yukon government has indicated that the security is no longer required.

The trust agreement must be irrevocable without written consent of the Yukon government, and shall establish that amending, revoking or terminating the trust agreement require written consent on the part of the Yukon government.

A trust agreement must be in place between the mine owner (settler) and the party holding the trust (trustee). This agreement shall limit investment to permitted investments as defined in the Pension Benefits Standards Regulation, *Pension Benefits Standards Act*, 1985 (Canada), subject to maximum weightings in the following asset classes:

- 100% fixed income;
- 20% real return assets (real estate and inflation-linked bonds); and

- 70% equities.

The portfolio of investments shall be structured to provide sufficient liquidity to meet the timetable for planned reclamation and closure expenditures.

The mine owner is responsible for all fees, charges and taxes associated with the trust.

The trust funds amount shall take into consideration investment policy, rates of return, as well as anticipated taxes and fees.

The terms of the trust agreement shall establish that an audited financial statement on the trust will be provided annually to the Yukon government.

# LIABILITY ESTIMATE FOR SECURITY

## Guideline #F-07

**Date Issued: January 2, 2008**

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### Purpose

To explain the calculation of the liability estimate for reclamation and closure in order to determine the amount of security.

### Context

The *Quartz Mining Act* and *Waters Act* specify the circumstances under which the Yukon government can draw on security furnished by a licensee. For instance, costs incurred by the Yukon government where an inspector has issued direction to the operator to prevent unnecessary danger to persons, property or the environment, can be recovered from security. The actions taken and costs incurred may not necessarily pertain to reclamation and closure or be addressed in an approved reclamation and closure plan. As well, the *Waters Act* provides that security may be drawn upon to compensate an entitled person adversely affected by the issuance of a water license. The *Quartz Mining Act* and *Waters Act* should be consulted for a complete understanding of the Yukon government's authority to draw on security.

### Practice

As a matter about the policy, the security held will remain commensurate with the outstanding reclamation and closure liability. This liability is the cost to reclaim and close the mine were it to close at any time.

The liability estimate for security will be based on the cost to implement the approved reclamation and closure plan. Considerations taken into account will include:

- The cost for a third party to complete the work;
- When there is a need, based on risk, for the costs of mitigative contingencies;
- The net present value for reclamation and closure costs that will be incurred at the time of decommissioning, where operations are reasonably expected to continue for more than two years;
- Retained earnings; and
- Progressive reclamation completed and verified.

The liability estimate may be prepared by an independent third party as agreed to in advance by the mine owner and the Yukon government. Alternatively, the mine owner may submit an estimate for review by the Yukon government. Estimates for engineered structures and designs must be sealed by a professional engineer licensed to practice in the Yukon. Where appropriate other professional estimates may be required where specialized work is necessary (e.g. biological studies).

Security shall be reviewed at least every 24 months. Adjustments to security may be made to account for progressive reclamation or failure to meet reclamation objectives; changes in liabilities, knowledge, technology and risk; to account for costs associated with a temporary closure; to account for changes to the

net present value of security; or a material change reported by the mine owner, deemed by the Minister to significantly increase or decrease liability during the period covered by an approved reclamation and closure plan.

# DISCOUNT RATE

## **Guideline #F-08**

**Date Issued: January 2, 2008**

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### *Purpose*

To inform administrators and mine operators about the policy and procedures associated with the discount rate to be used in calculating net present value.

### *Context*

At any point in time, outstanding liability shall include the net present value (NPV) of security for post-closure reclamation, monitoring, and maintenance programs to support the reclamation and closure work done up to that point in time, plus reasonable contingencies. Security held for reclamation and closure work scheduled within two years will not be subject to discounting.

### *Practice*

The discount rate that will be used in NPV calculations shall be the most recent Government of Canada benchmark bond yields as published by the Bank of Canada. The bond term chosen shall be the longest term published that does not exceed the expected duration of the post-closure reclamation, monitoring and maintenance programs.

In updating net present value, calculations shall be based on the market value of the security being held two years (to the closest month's end) from the effective date of the establishment of the security, and on two year intervals thereafter.

# INTEREST & RETURNS EARNED ON SECURITY

## **Guideline #F-09**

**Date Issued: January 2, 2008**

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### *Purpose*

To inform administrators and mine operators about the policy and procedures associated with the treatment of interest and returns earned on security.

### *Context*

The Yukon government will ensure that security held will be commensurate with the outstanding mine reclamation and closure costs.

### *Practice*

When earnings are to be retained as part of the security, the Yukon government will consider the interest and returns projected to be earned on security. The earnings shall be the amount of interest payable by the investment, where this is known. In the event security is held in the form of equities an indicative S&P/TSX index may be used to project earnings. Adjustments shall be made based on actual earnings at the time security is reviewed by the Yukon government.

Retained earnings should accrue to the total security held, except where these earnings increase the amount held beyond the security required by the Yukon government.

The mine owner is responsible for any fees, commissions and taxes payable on interest and returns earned on security.

When cash security has been provided to the Yukon government, the interest and returns shall be paid annually to the mine owner.

# ADJUSTMENTS & CONVERSIONS OF SECURITY

## **Guideline #F-10**

**Date Issued: January 2, 2008**

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### *Purpose*

To inform administrators and mine owners about the procedures associated with adjustments and conversions of security.

### *Context*

Unless specified otherwise, every 24 months the mine owners will submit to government a revised estimate of outstanding liability.

Progressive reclamation may reduce the amount of financial security required.

If outstanding liability increases, mine owners will provide additional financial security.

The Yukon government may enter into an administrative agreement with the mine owner to adjust security. This administrative agreement may include the development of a security schedule that will be adjusted as reclamation work is implemented.

### *Practice*

A mine owner may request to change either the amount or form of security. The Minister shall consider whether the proposed changes are acceptable and provide the mine owner notification of the requirements for conversion, refund or additional security to be provided, based on outstanding liability. In converting forms of security, existing security will only be released once the Yukon government is assured acceptable alternative security is assured.

# STATEMENT TO MINE OWNERS ON SECURITY

## **Guideline #F-11**

**Date Issued: January 2, 2008**

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### *Context*

To inform administrators and mine operators about the policy and procedures associated with annual reporting to the mine owner on security held by the Yukon government.

### *Guideline*

Providing direction to administrators and mine owners on annual statements from the Yukon government to mine owners.

### *Requirements*

The Yukon government shall provide mine owners with an annual statement confirming the amount and forms of security held by the Yukon, including any changes in investments, policy or legislation affecting security held by the Yukon, and interest earned or fees charged by an institution in relation to the management of that security. In circumstances where the Yukon has been provided cash, it will also issue any applicable tax forms.

Statements will be prepared on a calendar year basis, and shall be provided to mine owners no later than April 30<sup>th</sup> of the year following the reporting calendar year.

# NOTICE OF MATERIAL CHANGE

## Guideline #F-12

**Date Issued: January 2, 2008**

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### Purpose

To inform administrators and mine owners about when notice of material change should be provided to the Yukon government and about the procedures that follow when notice has been provided.

### Context

The Yukon government will ensure that security is maintained at all times to provide for the outstanding mine reclamation and closure liability and to prevent lapses in the ability of government to access this security if and when it may be required.

### Practice

If there has been a material change with respect to the affairs of the mine owner that a reasonable person would consider likely to adversely affect security being held by the Yukon government, the mine owner should provide written notice of material change as soon as possible to the concerned Minister(s).

Material change that might reasonably be expected to adversely affect security held by the Yukon government includes the following:

- a change or decision to change made by the board of directors or senior management that would reasonably be expected to have a significant effect on the value of assets held as security by the Yukon government;
- an offer for sale or transfer of the assets associated with the mine on the part of the mine owner if the assets are related to security;
- in the event a corporate financial test<sup>1</sup> has affected the ranking of the risk of significant adverse environmental effects of production and development, any change to the credit rating considered in the risk assessment of the project; and
- a change which is likely to have bearing on the form of security required by the Yukon government because the mine owner's investment and/or management risk has significantly changed (as expressed, for example, in the corporation's objectives and/or investment activities).

Government will consider a significant change in financial risk associated with security, when provided with notice of material change or as a result of information publicly available to it that indicates a significant change in financial risk.

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<sup>1</sup> Corporate financial test includes the self-bonding capability of a company that may be used to offset risk, or use of a credit rating from an independent agency such as Standard & Poors Inc; Moody's Investor's Services Inc; Dominion Bond Rating Service, Ltd. that is used to reduce financial risk.

# RELEASE OF SECURITY ON TRANSFER OF LICENSE

## **Guideline #F-13**

**Date Issued: January 2, 2008**

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### Purpose

To inform administrators and mine operators about the policy and procedures associated with the treatment of security in the transfer of a license.

### Context

In accordance with the *Quartz Mining Act*, in the event of a sale or other transfer of the mine property, the Yukon government shall only authorize the assignment of a license if the prospective assignee furnishes any security required, undertakes in writing to comply with the license and the Yukon government is satisfied that the assignment will not be likely to result in a contravention of any condition of license. Assignment of an associated water license shall be undertaken where the requirements under the *Waters Act* and Waters Regulation are met.

### Practice

Prior to the release of security to the former mine owner, the new mine owner must furnish replacement security satisfactory to the Yukon. In the event security is part of the transfer or is subject to conversion, the Yukon government must be satisfied that transfer/conversion/replacement of existing security is assured and adequately addresses outstanding liability.

# TEMPORARY CLOSURE

## Guideline #F-14

**Date Issued: January 2, 2008**

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### *Purpose*

To inform administrators and mine owners about the policy and procedures associated with security in the event of a temporary closure.

To establish the circumstances by which the Minister may determine whether or not a temporary closure is imminent, and set out actions that may be taken by the Yukon government in such circumstances.

To enhance environmental protection, manage public risk and minimize the costs associated with reclamation, and planned and unplanned closure, by encouraging mine owners to voluntarily discover, promptly disclose and expeditiously address changes in liability associated with a temporary closure.

### *Context*

The Yukon government will ensure that security is maintained at all times to provide for the outstanding mine reclamation and closure liability and to prevent lapses in the ability of government to access this security if and when it may be required.

If the outstanding reclamation and closure liability increases, government may approve short term measures to address immediate site mitigation that offsets the increased liability rather than requiring additional financial security being posted by the mine owner.

The mine owner will maintain financial security acceptable to the Yukon government during any temporary closure.

In determining the amount of security, the Minister must consider the costs associated with maintaining any works, installations or structures required for development of production for a period of temporary closure of up to five calendar years.

### *Practice*

A temporary closure is a closure that exceeds six months and is not expected to last longer than five years.

A mine owner shall provide notice to the Minister(s) of potential temporary closure as soon as possible.

Despite the absence of notification by the mine owner, the Minister of Energy, Mines and Resources may conclude that a temporary closure is imminent. Such a determination will be based on information available to the Minister at the time, and may include a notice of material change (see Guideline #F-12) on the part of the mine owner, public knowledge available through a securities commission combined with current knowledge of metals market conditions. These factors will be considered in the context of the particular conditions of the operation. The mine owner shall be provided a reasonable opportunity to review and respond to the Minister on all information considered before the Minister concludes whether or not a temporary closure is in fact imminent. The Minister shall consider the mine owner's views before making a determination.

Upon notice or determination of a temporary closure, the Yukon government will determine whether or not a review of the approved reclamation and closure plan, outstanding liability and adequacy of security shall be completed.

The mine owner shall conduct planning and assessments in discussion with relevant Yukon government agencies to prepare for the temporary closure.

Where a mine owner provides the Yukon government timely notice of an anticipated early closure, including a reasonable assessment of changes to liability and plans, the Yukon government may approve short term measures that offset liability rather than requiring additional financial security for temporary closure measures.

The Yukon government may consider a mine owner's effort to anticipate and address temporary closures and associated liabilities.

Upon re-opening of a mine that has been subject to a temporary closure, security to cover incremental liabilities shall be promptly released by the Yukon government, except where a current risk assessment demonstrates an ongoing and significant risk of another temporary closure prior to the projected end-of-mine life.



# Technical Guidelines

# WATER RETENTION & SEDIMENT CONTROL STRUCTURES

## Guideline #T-01

**Date Issued: January 2, 2008**

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### Purpose

To inform administrators and mine owners about mine closure objectives for licensed water retention and sediment control structures where these have been developed and used in mine production and associated safety and environmental protection.

### 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.

# WATERCOURSES

## **Guideline #T-02**

**Date Issued: January 2, 2008**

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### *Purpose*

To inform administrators and mine owners about closure objectives where alteration of watercourses has occurred during mine development and operation.

### *Objectives*

Restore watercourses to meet current water management objectives.

### *Practice*

Restore watercourses 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.

# WATER QUALITY

## Guideline #T-03

**Date Issued: January 2, 2008**

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### Purpose

To inform administrators and mine owners about mine closure objectives on minimum post-closure water quality objectives for waters draining at the mine site.

### Objectives

The objective is to prevent contamination of receiving environments.

### Practice

Following decommissioning, water quality 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.

Recognition will be given to background levels of substances naturally occurring as identified in prior to start-up of production.

# SITE CONTAMINATION

## Guideline #T-04

**Date Issued: January 2, 2008**

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### Purpose

To inform administrators and mine owners about closure objectives for soil, subsoil, and equipment that remains on site, in light of possible 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.

Where the site is a contaminated site under the *Environment Act*, the requirements for a site contamination assessment plan, investigation, reports and plans for restoration will be required according to the Contaminated Sites Regulation of the *Environment Act*. A final report must be submitted to the Yukon government on the implementation of the approved Plan of Restoration under the Contaminated Sites Regulation of the *Environment Act*.

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*.

# ACID ROCK DRAINAGE POTENTIAL

## Guideline #T-05

**Date Issued: January 2, 2008**

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### Purpose

To inform administrators and mine owners about closure objectives and procedures when there is acid rock drainage potential and metal leaching.

### 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). 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.

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.

# TAILINGS MANAGEMENT

## Guideline #T-06

**Date Issued: January 2, 2008**

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### Purpose

To inform administrators and mine owners about closure objectives and procedures in decommissioning tailings.

### Objectives

The closure objectives for decommissioning tailings are to

- Ensure physical and chemical stability for the long term; and
- Eliminate the need for long term active treatment.

### Practice

All engineered impoundment structures shall be certified by a qualified professional engineer with respect to their long-term physical and chemical stability. For tailings facilities the design must support the objectives for the final land use identified in the approved reclamation and closure plan and related water quality objectives.

Following decommissioning, drainage from the tailings 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.

Dry-paste tailings and dewatered tailings shall be capped as specified in an approved reclamation and closure plan. Drainage intercepts and diversions shall be in place as required in an approved reclamation and closure plan in support of established water quality objectives.

The design criteria shall meet provisions of the Canadian Dam Association's *Dam Safety Committee Guidelines* and Mining Association of Canada's *Guide to the Management of Tailings Facilities*.

Structures shall be maintained until they are no longer required.

Reliance on the long-term use of active effluent treatment facilities to meet the required performance objectives for discharge and environmental acceptability is not considered acceptable for reclamation and closure planning.

When operations cease, the mine owner must provide tailings facility surveillance and monitoring plans; including identification of failure modes; event-driven interventions and notification network; contingency plans as required; and emergency response plans and activation criteria.

# UNDERGROUND WORKINGS & OPENINGS TO SURFACE

## Guideline #T-07

**Date Issued: January 2, 2008**

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### Purpose

To inform administrators and mine owners about mine closure objectives for decommissioning underground workings and openings to surface.

### Objectives

The closure objectives for underground workings and openings to surface are to

- Meet water quality objectives;
- Except for authorized access, prevent inadvertent or intentional underground access that may be a hazard to humans and wildlife; and
- Prevent subsidence or other changes in the topography that may result in a hazard to humans and wildlife.

### Practice

At final closure, all surface openings to underground workings (raises, shafts, excavations, tunnels, chutes) must be blocked utilizing a suitable method as designed by a qualified professional engineer, and capped with reinforced concrete where specified by the Occupational Health and Safety Regulations of the *Occupational Health and Safety Act*.

Any material or equipment proposed to be left in the underground areas must be decontaminated.

Plans of underground workings, including ramps, adits and other openings to surface and any remaining related structures, equipment or materials to be left in place, shall be provided to Yukon, as well as any additional information as required by the Occupational Health and Safety Regulations of the *Occupational Health and Safety Act*.

Where there is a demonstrated risk, and potentially significant consequence, that mine water pressures are likely to build to dangerous levels, drainage of excess mine water through a long-term drain shall be included.

Ensure final crown pillars that are to remain in place provide long-term structural stability. The crown pillar must sustain its own weight and other anticipated surface loads, including static and dynamic loading. Stability calculations will be based on current standards and a design certified by a qualified professional engineer must be provided.

If the approved reclamation and closure plan does not include retaining a crown pillar, then the opening may be subject to the requirements for openings to surface and/or of rock piles (see Guideline #T-09) as set out in the approved plan. Where long-term stability of pillars cannot be assured, fencing and signage will be required.

# TERRAIN HAZARDS

## Guideline #T-08

**Date Issued: January 2, 2008**

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### Purpose

To inform administrators and mine owners about mine closure objectives and procedures for decommissioning terrain hazards associated with operation and development.

### 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 [See Guideline #T-12].

# MINE ROCK PILES

## Guideline #T-09

**Date Issued: January 2, 2008**

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### Purpose

To inform administrators and mine owners about closure objectives and procedures in decommissioning rock piles and dumps.

### 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 site.

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

# ROADS & OTHER ACCESS

## Guideline #T-10

**Date Issued: January 2, 2008**

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### Purpose

To inform administrators and mine owners about closure objectives and procedures in decommissioning roads, trails and other linear infrastructure, where these have been identified for closure in an approved reclamation and closure plan.

### 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 alternate 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 of 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 issued 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.

# EROSION CONTROL

## Guideline #T-11

**Date Issued: January 2, 2008**

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### Purpose

To inform administrators and mine owners about closure objectives for the landscape of the mine site.

### 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.

# RE-VEGETATION

## Guideline #T-12

**Date Issued: January 2, 2008**

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### *Purpose*

To inform administrators and mine owners about closure objectives and procedures where mining activity has resulted in removal of ground cover that, if not reclaimed would lead to physical instability such as erosion and siltation and/or contribute to a permanent and significant decline in wildlife habitat.

### *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 re-seeding.

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.

# MINE INFRASTRUCTURE

## Guideline #T-13

**Date Issued: January 2, 2008**

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### Purpose

To inform administrators and mine owners about closure objectives in decommissioning 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 Tank 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*.

# HEAP LEACH PADS

## Guideline #T-14

**Date Issued: January 2, 2008**

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### Purpose

To inform administrators and mine owners about closure objectives and procedures in decommissioning 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.

# TEMPORARY CLOSURE SITE CONDITIONS

## Guideline #T-15

**Date Issued: January 2, 2008**

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### Purpose

To inform administrators and mine owners about objectives and procedures in the event of a temporary closure.

### Objectives

The objective is to ensure public health and safety and protection of the environment in the event of a temporary closure and to manage risks associated with the potential abandonment of a site.

Temporary and/or seasonal closure plans will be reviewed and approved by the Yukon government.

### Practice

A temporary closure is considered to last more than six months and no longer than five years, unless otherwise specified in an approved reclamation and closure plan.

Temporary closure includes planned and unplanned closures. Planned closures may include

- Production or process interruptions addressed in a quartz license, with specific triggers (such as termination of a forward sales contract combined with suppressed metal market conditions, specified site conditions) or to allow planned retrofits, refurbishments or expansions; and
- As a result of change in ownership, requiring closure to accommodate changes in permits, authorizations and satisfaction of security requirements.

Unplanned closures include

- Cessation of operations because of litigation;
- Cessation of operations as a result of unforeseen financial circumstances on the part of the mine owner; and
- Cessation of operations because forecast site conditions vary from those used to develop the operating plan and project design, and as a result, a closure lasting more than six months must occur to allow for re-design and facility upgrade.

Temporary closure should include the following reclamation practices

- Facilities and equipment on site remain substantially intact and maintained in working order so that production may resume;
- Uninterrupted site maintenance;
- Maintenance of all monitoring, reporting and existing reclamation;

- Increase security as required to cover the liability associated with the temporary closure, until such time as the liability associated with the temporary closure has been eliminated by the mine owner through care and maintenance facilities and operations. Such care and maintenance measures may include interim control of tailings, effluent, run-off; securing of the site and facilities etc.; and
- Identify unanticipated risks of significant adverse effects resulting from the temporary closure that are not addressed in the approved reclamation and closure plan, and ensure those matters are addressed in an updated plan and associated security.

In the event of an unplanned temporary closure, a full review of the reclamation and closure plan as well as liability estimate and security may be undertaken. If the outstanding liability increases due to a temporary closure, and the mine owner implements the Temporary Closure Plan, these measures will be considered to offset the increased liability and further security may not be required.

Unless otherwise specified in a production license issued pursuant to the *Quartz Mining Act*, where a licensee reasonably anticipates that a temporary closure will occur, the licensee is to provide the Yukon Government with 10 days prior notice of the closure.

Whether or not notice has been provided the licensee must implement the approved Temporary Closure Plan. The licensee must ensure that all protective measures have been taken, including those listed below, to prevent personal injury, property damage and damage to the environment. In addition, the licensee must ensure that all necessary measures have been taken to meet the requirements of the Occupational Health and Safety Regulations of the *Occupational Health and Safety Act*. Measures to be undertaken include:

- a. Secure openings to the surface;
- b. Surveillance, gating or otherwise closing of all entries to and exits from the site to prevent unauthorized or inadvertent access;
- c. Stabilization of all surface areas disturbed;
- d. Securing of all buildings, power transmission sources and other structures and facilities at the site;
- e. Securing of all machinery, equipment and storage tanks at the site;
- f. Securing and storage of petroleum products, hazardous substances and chemicals from the site as specified in the Temporary Closure Plan;
- g. Stabilization of all landfill sites and other waste management areas;
- h. Securing of all tailings storage and impoundment areas;
- i. Implementation of a regular environmental and safety monitoring regime to ensure that the site remains secure and stable; and
- j. Regular reporting in accordance with an approved Temporary Closure Plan.

# GEOLOGICAL VALUES & HERITAGE

## Guideline #T-16

**Date Issued: January 2, 2008**

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### *Purpose*

To ensure the protection of geological values and heritage features associated with a mine site in mine decommissioning.

### *Context*

Ensuring post-closure access to geological information identified leading up to and during mineral development and production at a mine site.

### *Requirements*

A particular feature, excavation or material such as core shall be conserved if the Minister of Energy, Mines and Resources is satisfied that it should remain on site, or in a condition amenable to future geological assessment or as a geological attraction, without removal, backfilling, re-vegetation or other form of reclamation or decommissioning. At the discretion of the Minister, geological features may include those relevant to future exploration and development or re-commissioning of the site.

The feature may be conserved provided appropriate fencing or signage is erected so that the feature does not present a danger to public health and safety, or risks for wildlife. Such measures shall meet the requirements of the Occupational Health and Safety Regulations of the *Occupational Health and Safety Act*.

# Appendix A



# SAMPLE: IRREVOCABLE STANDBY LETTER OF CREDIT

Issuing Institution \_\_\_\_\_

Address \_\_\_\_\_

\_\_\_\_\_

Irrevocable Standby Letter of Credit # \_\_\_\_\_

Date Issued \_\_\_\_\_

Beneficiary Government of Yukon

(May specify Minister of Energy, Mines and Resources or Minister of Environment)

PO Box 2703

Whitehorse, Yukon Y1A 2C6

Applicant \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Amount \_\_\_\_\_

Re Requirement to post security, *Quartz Mining Act*, s. 139(1) and in accordance with the terms of production license # \_\_\_\_\_ and water license # \_\_\_\_\_ under the *Waters Act*.

We hereby authorize you to draw on the \_\_\_\_\_ (name and address of institution), for the account of \_\_\_\_\_ (name of the customer) up to an aggregate amount of \$ \_\_\_\_\_, available on demand as follows:

Pursuant to the request of the Customer, we, \_\_\_\_\_ (name of institution), hereby establish and give to you an Irrevocable Standby Letter of Credit (the "Credit") in your favour in the total amount of \$ \_\_\_\_\_ which may be drawn on by you at any time and from time to time upon written demand for payment being made upon us, which demand we shall honour without enquiring whether you have a right as between yourself and the Customer to make such demand and without recognizing any claim of the Customer.

Provided, however, that you are to deliver to the \_\_\_\_\_ (name and address of institution), at such time as a written demand for payment is made upon \_\_\_\_\_ (name of institution) a certificate purported signed by an authorized office of the Beneficiary agreeing and/or confirming that monies drawn pursuant to this Credit # \_\_\_\_\_ will be retained and used by you to meet the Customer's obligations

in connection with production license # \_\_\_\_\_, issued pursuant to the *Quartz Mining Act*  
(and/or in connection with water license # \_\_\_\_\_, issued pursuant to the *Waters Act*).

The amount of the Credit shall be reduced from time to time as advised by notice in writing given to  
the \_\_\_\_\_ (name of institution) from time to time by you.

Partial drawings are permitted.

This credit will expire at \_\_\_\_\_ (location) at the close of banking business on  
\_\_\_\_\_ (date of expiry), subject to the following conditions:

It is a condition of the Standby Letter of Credit that it shall be deemed to be automatically extended,  
without amendment, for one (1) year from the present or any future expiry date hereof, unless at least  
ninety (90) days prior to such expiry date, we notify you in writing by registered mail, that we elect not to  
consider this Credit to be renewable for any additional period.

All amendments and correspondence, if any, to be addressed to  
\_\_\_\_\_ (name and address of institution).

\_\_\_\_\_  
Signing Officer

\_\_\_\_\_  
Authorized Signing Officer

# SAMPLE: SURETY BOND

Bond #

Amount

KNOW ALL PERSONS by these presents that [*name of company*] (hereinafter called the Principal) whose place of business is at [*company address*] and the [*name of surety issuer*] (hereinafter called the Surety) whose place of business is at [*surety issuer's address*] are held and firmly bound to Government of Yukon as represented by the Minister of Energy, Mines and Resources, its heirs and successors (hereinafter called the Obligee) whose place of business is at #400-211 Main Street, Whitehorse, Yukon Y1A 2B2 in the sum of [*amount of bond*] lawful money of Canada for the payment of which we bind ourselves, our heirs, administrators and successors, and assigns firmly by these presents.

WHEREAS, the Principal will operate/operates a [*mining activity*] located at [*legal property description*] (locally known as \_\_\_\_\_) in accordance with an approved Mine Site Reclamation and Closure Plan forming part of production license # \_\_\_\_\_ issued on [*date license was issued*] (hereinafter known as the Plan).

NOW, THEREFORE, the condition of this obligation is such that, if the Principal shall comply with the terms of the approved Plan then this obligation shall be void; otherwise it shall remain in full force and effect, subject to the following conditions:

1. Whenever the Principal shall be in default and declared by the Obligee to be in default of the terms of the Plan, the Obligee shall send a registered letter to both the Principal and Surety, stating in substantial detail the facts leading to the default.
2. That the Surety's obligation to the Obligee shall only be to pay such amounts demanded by the Obligee and this bond will be totally exonerated by remitting to the Obligee such amounts in default provided however, the total liability of the Surety shall in no event exceed the sum of the Surety.
3. Provided that, if the Surety at any time gives at least ninety (90) days notice in writing to the Obligee and to the Principal of its intention to terminate this obligation, then this obligation shall be deemed to be terminated on the date stated in the notice, which date shall not be less than ninety (90) days after the date of the receipt of the notice by the said Obligee or by the said Principal, whichever is the later date of the receipt. Any suit or action on this bond against the Surety must be commenced by the Obligee within one-hundred-and-twenty (120) days from the date of notice of default mentioned in clause #1 above.
4. In the event the Surety becomes unable to fulfill its obligations under the bond for any reason, notice shall be given immediately, by registered mail, to the Principal and the Obligee.
5. The Surety is licensed to issue surety in Canada under the *Insurance Act* (Yukon) and *Insurance Companies Act* (Canada).
6. This bond will be valid for the term of [*date bond sealed*] to [*date one year hence*] and shall be automatically renewed, without further documentation from year to year thereafter unless terminated as aforesaid, provided that the Surety may, if it wishes, issue certificates evidencing such renewal.

Sealed with the respective seals of the Principal and of the Surety the \_\_\_\_ day of \_\_\_\_\_, 20\_\_.

SEALED, SIGNED AND DELIVERED

[NAME OF COMPANY]

In the presence of

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---

Name of Signatory (Please Print)

[NAME OF SURETY]

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Signature

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Name of Signatory (Please Print)

# Appendix B



# WEB REFERENCES

Yukon Mine Site Reclamation and Closure Policy

[http://www.emr.gov.yk.ca/pdf/mine\\_reclamation\\_policy\\_web\\_nov06.pdf](http://www.emr.gov.yk.ca/pdf/mine_reclamation_policy_web_nov06.pdf)

Yukon First Nations Final Agreements

<http://www.eco.gov.yk.ca/landclaims/agreements.html>

Bank of Canada benchmark bond yields

<http://www.bankofcanada.ca/en/rates/bonds.html>

TSX Indices & Constituents, Interest and Returns Guidelines

<http://www.tsx.com>

Canadian Dam Safety Guidelines

<http://www.cda.ca>

Mining Association of Canada, Tailings Guidelines

<http://www.mining.ca>

## Legislation

*Bank Act (Canada)*

<http://laws.justice.gc.ca/en/showtdm/cs/B-1.01///en>

*Environment Act*

<http://www.gov.yk.ca/legislation/acts/environment.pdf>

Contaminated Sites Regulation

[http://www.gov.yk.ca/legislation/regs/oic2002\\_171.pdf](http://www.gov.yk.ca/legislation/regs/oic2002_171.pdf)

Solid Waste Regulations

[http://www.gov.yk.ca/legislation/regs/oic2000\\_011.pdf](http://www.gov.yk.ca/legislation/regs/oic2000_011.pdf)

Special Waste Regulation

[http://www.gov.yk.ca/legislation/regs/oic1995\\_047.pdf](http://www.gov.yk.ca/legislation/regs/oic1995_047.pdf)

Storage Tank Regulations

[http://www.gov.yk.ca/legislation/regs/oic1996\\_194.pdf](http://www.gov.yk.ca/legislation/regs/oic1996_194.pdf)

*Financial Administration Act*

<http://www.gov.yk.ca/legislation/acts/fiad.pdf>

*Fisheries Act (Canada)*

<http://laws.justice.gc.ca/en/showtdm/cs/F-14/en>

Metal Mine Effluent Regulations

<http://laws.justice.gc.ca/en/ShowTdm/cr/SOR-2002-222///en>

*Hazardous Products Act (Canada)*

<http://laws.justice.gc.ca/en/ShowTdm/cs/H-3///en>

*Highways Act*

<http://www.gov.yk.ca/legislation/acts/highways.pdf>

*Lands Act*

<http://www.gov.yk.ca/legislation/acts/lands.pdf>

*Insurance Act*

<http://www.gov.yk.ca/legislation/acts/insurance.pdf>

[http://www.gov.yk.ca/legislation/regs/co1977\\_235.pdf](http://www.gov.yk.ca/legislation/regs/co1977_235.pdf)

*Insurance Companies Act (Canada)*

<http://laws.justice.gc.ca/en/ShowTdm/cs/I-11.8///en>

*Occupational Health and Safety Act*

<http://www.gov.yk.ca/legislation/acts/ochesa.pdf>

Occupational Health and Safety Regulations

<http://www.wcb.yk.ca/ActsPoliciesAndRegulations/OccupationalHealthAndSafety>

*Pension Benefits Standards Act (Canada)*

<http://laws.justice.gc.ca/en/P-7.01/index.html>

Pension Benefits Standards Regulation

<http://laws.justice.gc.ca/en/ShowTdm/cr/SOR-87-19///en>

*Personal Property Security Act*

<http://www.gov.yk.ca/legislation/acts/peprse.pdf>

*Quartz Mining Act*

<http://www.gov.yk.ca/legislation/acts/qumi.pdf>

Security Regulation,

[http://www.emr.gov.yk.ca/pdf/security\\_reg\\_oic2007\\_771.pdf](http://www.emr.gov.yk.ca/pdf/security_reg_oic2007_771.pdf)

*Trust and Loan Companies Act (Canada)*

<http://laws.justice.gc.ca/en/ShowTdm/cs/T-19.8///en>

*Waters Act*

<http://www.gov.yk.ca/legislation/acts/waters.pdf>

Water Regulations

[http://www.gov.yk.ca/legislation/regs/oic2003\\_058.pdf](http://www.gov.yk.ca/legislation/regs/oic2003_058.pdf)

*Yukon First Nations Land Claims Settlement Act*

<http://laws.justice.gc.ca/en/ShowTdm/cs/Y-2.3///en>

*Credit Rating Agencies*

Standard & Poor's

<http://www2.standardandpoors.com>

Moody's Investors Service

<http://www.moodys.com>

Dominion Bond Rating Service

<http://www.dbrs.com>

*Contacts*

EMR Minerals Management

<http://www.yukonmining.com>

Water Board Secretariat

<http://www.yukonwaterboard.ca>

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