

Terms of Reference – Independent Tailings Review Board (ITRB)

Purpose

The purpose of the Myra Falls ITRB (Board) is to:

- Provide an independent opinion to the Company (Nyrstar Myra Falls) as to whether the Myra Fall's tailings storage facilities (TDFs) meet the dam safety requirements of the following technical guidelines:
 - Canadian Dam Association (CDA) Guidelines and Technical Bulletins
 - BC Dam Safety Regulations
 - Health, Safety and Reclamation Code for Mines in British Columbia (dam safety related aspects)
 - Mining Association of Canada (MAC) Tailings Management Guidelines
 - Applicable International Congress on Large Dams (ICOLD) Guidelines on Tailings and Water Dams. (See Appendix 1)

The Board's scope does not include detailed geochemistry and water quality; however a high-level overview of these considerations for the tailings storage facilities and adjacent areas will be performed.

- Review and comment on the design process, monitoring programs, and data analysis methodology and results.
- Provide non-binding advice and guidance to the Company on technical matters associated with the design, failure consequence assessment, construction, operation and closure of the dams, and review future options or plans regarding tailings disposal or water storage.

Terms of Reference

The terms of reference for the Board are as follows:

1.0 Lines of Communication

1.1 The board will report to the General Manager for Nyrstar Myra Falls

The Engineer of Record for the tailings facility.

Nyrstar Project Management for Myra Falls

1.2 Meeting arrangements will be facilitated by a designate from the Myra Falls site.

2.0 Board Membership

- 2.1** The Board will consist of three (3) independent technical consultants competent in the area of tailings facilities.
- 2.2** No Board member shall be currently involved in or responsible for the design, operation or construction of the facilities under review.
- 2.3** At the request of the Board or the Company, additional technical consultants may be asked to participate in or observe a review meeting. These experts are to provide input and /or advise on areas outside the expertise of the board members but critical to operation of the facilities.

3.0 Review Meetings and Agenda

- 3.1** It is intended that review meetings will be scheduled at regular intervals to suit the construction and operational activities.
- The Board will typically meet at least twice annually and may schedule additional meetings as agreed between Nyrstar Myra Falls and the Board.
 - Review meetings will be attended by Company staff and their geotechnical and/or hydrogeological consultants.
 - The Company may require that an independent technical consultant participate in the Board meetings as a stakeholder representative.
- 3.2** Myra Falls will prepare an agenda prior to each meeting that will, as appropriate, include key technical questions or topics that Myra Falls, its consultants and key stakeholders wish to raise with the Board.
- 3.3** Myra Falls will provide this agenda along with the required documents to the Board at least two weeks prior to review meetings to allow the Board to review the material and add items or issues.
- 3.4** The review meetings will generally comprise a preliminary presentation during which the Company and their consultants will summarize recent developments and current operating conditions followed by a site inspection and a discussion session. The Board will be provided a copy of the presentation materials.
- 3.5** Time will be scheduled for the Board to prepare a presentation for a debriefing session at the end of the review meeting.

4.0 Facilities

- 4.1** The Board will perform reviews to confirm that the dams at the tailings storage facilities listed below have been designed, constructed and are being operated in a manner consistent with the guidelines listed in Section 1.0.

4.2 Lynx TDF

- 4.2.1 Ongoing design and construction
- 4.2.2 Ponds and water management facilities
- 4.2.3 Closure cover design and construction
- 4.2.4 Dam Safety Inspection Results and
- 4.2.5 Conformance to OMS

4.3 Old TDF

- 4.3.1 Closure cover design and construction
- 4.3.2 Water management facilities
- 4.3.3 Dam Safety Inspection Results and
- 4.3.4 Conformance to OMS

5.0 Functions

- 5.1** Perform reviews of designs and operations when specifically requested to do so by the Company
- 5.2** Provide review comment on design, construction, and operational activities that may have long-term stability or other critical performance implications;
- 5.3** Provide technical support, in an independent review capacity, to Myra Falls for design and implementation of corrective measures or other activities, if required; and
- 5.4** Provide technical support and recommendations, in an independent review capacity, on future projects regarding tailings and water management.

6.0 Reporting

- 6.1** At the end of each review meeting, the Board will make a presentation of their findings to the General Manager at Myra Falls who will;
 - 6.1.1 Communicate the review to the Company
- 6.2** The Board will submit a Draft report to the Company within one month of each meeting. The report will include a summary of findings and recommendations.
- 6.3** It will be a signed acknowledgement by the members of the Board, confirming that the report is a true and accurate representation of their reviews
- 6.4** The Board will report on matters within the expertise of the Board that:
 - 6.4.1 Affect the integrity of the facilities;
 - 6.4.2 Impact the safe operation of the facilities;
 - 6.4.3 Affect the continued operation of the facility;
 - 6.4.4 May be outside accepted practice in the industry;
 - 6.4.5 Impact closure plans for active and inactive tailings facilities;

6.4.6 Relate to relevant questions that have been raised to the Board or otherwise included in section 10.4 2 of the HSRC document.

7.0 Materials to be provided to the Board

7.1 Company will provide the design documents, construction documentation, operating manuals/procedures and operational history documentation, as possible, to support the Board's work.

8.0 Confidentiality

8.1 Confidential, non-public, or other information considered material to the company that may be discussed in meetings to provide context to technical discussions shall not be disclosed to external parties in any reporting or conversations without written consent from the Company.

9.0 Schedule

To be determined

Appendix 1: Relevant ICOLD Bulletins

Bulletin Preprint-164 - Internal Erosion of Existing Dams, Levees and Dikes, and their Foundations
Bulletin Preprint-158 - Dam surveillance guide
Bulletin 155 - 2013 - Guidelines for use of numerical models in dam engineering
Bulletin 153 - 2013 - Sustainable design and post-closure performance of tailings dams
Bulletin Preprint-150 - Cutoffs for dams
Bulletin Preprint-148 - Selecting seismic parameters for large dams - Guidelines (revision of Bulletin 72)
Bulletin 139 - 2011 - Improving tailings dam safety - Critical aspects of management, design, operation and closure.
Bulletin 130 - 2005 - Risk Assessment in Dam Safety Management. A reconnaissance of Benefits. Methods and Current Applications
Bulletin 129 - 2005 - Dam Foundations. Geologic considerations. Investigation Methods. Treatment. Monitoring
Bulletin 121 - 2001 - Tailings dams risk of dangerous occurrences - Lessons learnt from practical experiences
Bulletin 120 - 2001 - Design features of dams to resist seismic ground motion
Bulletin 113 - 1999 - Seismic observation of dams-Guidelines and case studies
Bulletin 106 - 1996 - A guide to Tailings Dams and impoundments - Design, construction, use and rehabilitation
Bulletin 104 - 1996 - Monitoring of Tailings Dams - Review and Recommendations
Bulletin 103 - 1996 - Tailings Dams and Environment - Review and Recommendations
Bulletin 101 - 1995 - Tailings Dams. Transport. Placement. Decantation - Review and recommendations
Bulletin 97 - 1994 - Tailings Dams - Design of drainage
Bulletin 95 - 1994 - Embankment dams - Granular filters and drains
Bulletin 74 - 1989 - Tailings dams safety - Guidelines

DRAFT

December 20, 2016

Note to File:

Terms of Reference
Equity Mine Independent Tailings Review Board
December, 2016

Members:

Clinton L. Strachan, P.E., MWH Stantec
Mathew L. Fuller, C.P.G., L.E.G., Tierra Group International
Jim. B. Finley, Ph.D., P.G., MWH Stantec
Michael L. Jacobs, P.E., CP Eng., Goldcorp Liaison

Objectives:

The purpose of the Independent Tailings Review Board is to provide an independent expert review of studies, designs, and improvements supporting the Tailings Storage Facility (TSF) located at Goldcorp's Equity Silver property near Houston, British Columbia, Canada. The effort has the following objectives:

- assess conformity with international good practice;
- review proposed improvements and assess technical issues;
- advise on potential risks to the receiving environment, the local communities, as well as to the TSF management area;
- identify opportunities for improvement (added value opportunities) of the design and/or TSF management;
- review studies and plans to assess whether the proposed changes are suitable from a dam safety perspective to support future closure objectives;
- provide non-binding recommendations to address concerns identified ; and at Equity's reasonable request, participate in briefings, discussions, and meetings with Equity, or as requested by any governmental authority, or any other affected person or entity, with respect to the above objectives;
- perform, at a minimum, annual reviews - should circumstances warrant, additional reviews may be required;
- summarize the results of each Board meeting in a technical memo suitable for release to the public or governmental agencies.

Exclusions:

The Board shall not be responsible for the design, management, or supervision of the TSF, or any activities related thereto during the design phase, construction, closure, or reclamation.

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Without limiting the generality of the foregoing, specifically the mandate of the Board shall not include:

- execution of the design, management, or supervision of the TSF, or any activities related thereto during the design phase, construction, operations, closure, or reclamation;
- the protection of human health, safety, or the environment from factors not related to the TSF; or any other activities carried out by Equity which are not directly related to the design, construction, operation, closure, or reclamation of the TSF.

Gibraltar Mine Independent Tailings Review Board

Terms of Reference

The Independent Tailings Review Board for the Gibraltar Mine (ITRB) is established in accordance with section 10.4.2 of the revised Health, Safety, and Reclamation Code for Mines in British Columbia dated July 20, 2016 (The Code).

1. Purpose

The purpose of the ITRB is to provide independent reviews of Gibraltar's compliance to approved design and operating plans and procedures in the Tailings Management System (TMS) of the Gibraltar Tailing Storage Facility (TSF). The ITRB does not supersede the professional responsibility of the Engineer of Record as defined in section 10.1.5 of The Code.

2. Terms of Reference

2.1 Board Composition

The ITRB consists of three independent senior technical professionals appointed by the General Manager. The collective experience of the ITRB members shall cover geotechnical design, civil construction and tailings operations management. Changes to the number of board members or fields of expertise included in the ITRB above the minimum outlined herein will be at the discretion of the General Manager. The ITRB may request that the General Manager seek additional technical expertise to provide input on areas outside of the expertise of the ITRB members important to the performance of the TSF.

An ITRB member will be considered independent if they have no current personal, professional or legal responsibility for the design and/or construction of the Gibraltar TSF and are free from conflicts of interest. A former Engineer of Record for the facility shall not be considered for a position on the ITRB.

2.2 Organizational Structure

The ITRB reports to the General Manager.

As per section 10.4.2 (1) (b), the General Manager designates a TSF Qualified Person who, as part of their duties, acts as coordinator and liaison for the ITRB. In addition, a Gibraltar employee will be designated by the General Manager to fulfill the administrative functions of coordinating meeting scheduling, travel and logistics as well as distribution of meeting materials for the ITRB.

2.3 Scope

The ITRB scope will include reviews related to all of the TSF structures including:

- Main Sand Dam,
- North Earth Dam,
- East Saddle Dam,
- Step-back embankment,
- Beach tailings stack,
- Seepage collection pond,
- East Saddle Dam pump-back pond

The ITRB will:

- Perform an annual physical inspection tour of the TSF facility,
- Review annual performance monitoring, inspection reports and risk assessment reviews,
- Review Dam Safety Reports,
- Provide an opinion on whether the construction, operation, maintenance and surveillance of the tailings impoundment is consistent with the guidelines provided by the Engineer of Record,
- Provide an opinion on whether the monitoring and inspection results are consistent with the long term performance expectations of the facility,
- Provide review and comment on operations and construction activity,.
- Provide review and comment on any other items pertinent to the TSF as requested by the General Manager.

2.4 Meetings and Agenda

The ITRB will meet annually or as requested by the General Manager.

The General Manager will prepare an agenda prior to each ITRB meeting based on the minutes of the last meeting and resulting summary report and on any current activities and requirements of the TSF that are relevant. All materials to be reviewed at the meeting will be included with the meeting agenda and delivered to the ITRB members a minimum of 10 working days prior to a meeting.

Review meetings will generally consist of preliminary presentations during which Gibraltar staff and the facility Engineer of Record will summarize recent developments and current operating conditions for the TSF. The presentations will be followed by a site inspection tour and a discussion session. The schedule will allow the ITRB time to prepare a summary report following the formal meeting. The summary report will be issued and the report's contents discussed at a debriefing session prior to the ITRB adjourning each meeting.

2.5 Reporting

The ITRB will report on matters within their expertise which:

- Affect the integrity of the of the TSF,
- Affect the continued successful operation of the TSF,
- Affect the closure plan for the TSF,
- May be outside of accepted industry practice,
- Have been raised to the ITRB by the General Manager for specific review.

All reports from the ITRB will be confidential and issued to the General Manager. A summary ITRB report will be issued and a debriefing session held with the General Manager, and other personnel designated by the General Manager, prior to the board adjourning each meeting. A draft of the ITRB's final meeting report is required to be issued within 2 weeks of the adjournment of a review meeting and the report should be issued in finalized form within 4 weeks of the adjournment of a review meeting.

Reporting of ITRB activities to the Chief Operating Officer, regulators, communities of interest and the public shall be the responsibility of the General Manager. The General Manager will produce an annual report summarizing the ITRB review for that year including the number of meetings, meeting attendees, reviews conducted and a statement of whether the work reviewed met the ITRB's expectation of reasonably good practice. In addition, the General Manger's annual report will include any findings from the ITRB of occurrences of non-compliance with the Engineer of Record's recommendations or the approved TMS as well as actions taken as a result of the ITRB's findings.

The ITRB members are required to review the General Manager's annual report on their activities and provide a signed acknowledgment confirming that the report is a true and accurate representation of their work.

2.6 Materials Provided to the ITRB

The General Manager will ensure that the ITRB is provided with design documentation, construction documentation, recent DSI and DSR reports as well as operating manuals and procedures, as appropriate, to support the Board's work.

The General Manager will ensure that an orientation meeting is held to familiarize new ITRB members with the TSF, current conditions of major structures and the ITRB's mandate.

2.7 Confidentiality

The materials reviewed, subjects discussed and opinions expressed by the ITRB are all confidential. To fully establish and acknowledge these confidentiality requirements each member of the ITRB will be required to sign the standard Gibraltar Mine Confidentiality Agreement.

2.8 Indemnity

Gibraltar will indemnify the ITRB members from professional liability for incidents, accidents or unfavorable results in the performance of the TSF as a result of the ITRB member's advice, opinions or lack thereof as a result of this independent review process. The indemnity will not cover incidents of gross negligence, willful misconduct or fraud.

Overall responsibility for the performance of the Gibraltar TSF remains with the General Manager and professional responsibility for the TSF design remains with the Engineer of Record.

2.9 Changes to Membership

To facilitate a continuous and effective ITRB process, both Gibraltar and each ITRB member shall give a minimum of one year notice of resignation or removal from the Board, unless not practical to do so.



Regional District of Central Kootenay

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May 30, 2017

Ref: 6300-HBD-20

Al Hoffman
Chief Inspector of Mines
Ministry of Energy and Mines

Dear Mr. Hoffman:

RE: HB TAILINGS FACILITY – INDEPENDENT TAILINGS REVIEW BOARD FOR APPROVAL

Please find attached the RDCK's submission of a Terms of Reference and resumes of proposed members for the HB Tailings Storage Facility's Independent Tailings Review Board. The submission is intended to comply with Section 10.4.2 of the Health, Safety and Reclamation Code for Mines in British Columbia.

The RDCK is striving to have the ITRB in place by mid-June, allowing board members time to familiarize themselves with the facility and the conceptual closure plans in advance of reviewing of the preliminary closure design in August 2017. Thereby the RDCK kindly requests a timely response from the Ministry of Energy and Mines.

If you have any questions or comments regarding the attached please contact the undersigned.

Yours truly,

Amy Wilson
HB Tailings Facility Technologist

cc:
Ministry of Energy and Mines (via email):
Heather Narynski, Lowell Constable, permrecl@gov.bc.ca

Attachments:
Terms of Reference for ITRB
Resumes of ITRB proposed members





Terms of Reference for ITRB

Background

The HB Mine Tailings Facility near Salmo, BC has been under the care of the Regional District of Central Kootenay (RDCK) since 1998 when the property was purchased to provide additional buffer and attenuation zones for groundwater from the Central Landfill located northeast of the facility. The HB Mine is a lead-zinc mine that was operated by Cominco (now Teck Resources Ltd.) from 1955 to 1966 and from 1974 to 1978. The mine site is located approximately 2 km north of the tailings facility. Approximately 6.6 million tonnes of ore was deposited and are contained by a dam constructed at the south end of the facility.

The RDCK has elected to transition the facility to 'passive closure' as defined by the Canadian Dam Association as a method of remediation of the site to reduce the risk of dam failure or other methods of release of tailings into the surrounding environment. The closure design is currently in progress and is expected to be completed by the end of 2017, with construction planned for 2018.

Revisions to the BC Health, Safety and Reclamation Code for Mines in British Columbia require the manager of a mine with one or more tailings storage facilities to establish an Independent Tailings Review Board (ITRB) (Section 10.4.2). The composition of the ITRB is to be commensurate with the complexity of the tailings storage facility.

Mandate/Purpose:

The purpose of the Independent Tailings Review Board is to¹:

- Provide an independent assessment to the RDCK and regulators whether the tailings storage facility is designed, constructed and operated appropriately, safely and effectively.
- Provides the RDCK and engineer of record with practical guidance, perspective, experiences, and standard/best practices from other operations.
- Reviews and comments on the closure planning and design process, monitoring and programs, and work performed by the site team and/or contract consultants.
- Provides non-binding advice and guidance, but does not direct the work or perform the role of the Engineer of Record.

Composition

The ITRB composition is to be determined upon approval by the Ministry of Energy and Mines (MEM) and the RDCK Board. For the closure period, the RDCK will be presenting a three member board, consisting of the following professional engineers:

- I. John Brodie (Brodie Consulting Ltd.)
- II. Bob Patrick (Tetra Tech EBA)
- III. Jeremy Boswell (Thurber Engineering Ltd.)

¹ List adopted from Section 2.1 (Roles and Responsibilities) in the HSRC Guidance document Version 1.0, Updated July 2016 provided by BC MEM.

The RDCK is considering augmenting the board with an environmental consultant with expertise in the Ministry of Environment's regulatory processes to assist in meeting the remediation objectives for the Facility. The above ITRB members will accept that additional environmental consultant for input to the Board's undertakings. However, the above Board members will retain sole opinion on all matters specific to the integrity of the dam and containment of tailings.

Scope

The focus of the ITRB reviews will be on the closure design, including design inputs and assumptions, the monitoring and operation protocols, and tailings management system. Specifically, the ITRB should consider the following:

1. Tailings Management System: Reviewed to ensure the facility is being operated safely and appropriately to the standard of practice.
2. Closure Design and Implementation: Provide review and recommendations for consideration at key points during the closure design process (preliminary design, final design, implementation planning, and post-closure monitoring).

Board Meetings

During closure planning and design, a minimum of two meetings are anticipated corresponding to the completion of conceptual design and final design. Additional meetings will be coordinated as required. Following closure implementation, meetings are anticipated to occur on an annual period until such time that physical and chemical stability have been achieved.

Meetings are anticipated to occur by web-conference or in person as determined by the RDCK. The meeting agenda will generally consist of a presentation session presented by a RDCK representative to summarize recent developments and operation condition, followed by a question and answer session. ITRB members will then deliberate, present their findings and recommendations to the RDCK. A meeting report will be prepared by the ITRB as described in the following section.

The first meeting is to be held in person in June 2017 and will include presentation of the Closure and Remediation Options Assessment (SRK), a discussion of the closure plans for the site, and will include a site visit. A session will also be included for the board to question and/or comment on any other issues or concerns related to background documents provided to the ITRB.

A draft agenda and materials² relevant to the board meetings will be provided to the board a minimum of two weeks prior to the meeting. Technical questions and concerns of the board during its review of the materials are to be submitted to the RDCK a minimum of two business days prior to the meeting.

Reporting

Formal Meeting Reports

Following each meeting, the ITRB will prepare draft summary report documenting the information reviewed, and reporting on issues and opportunities related to the mandate of the ITRB listed in previous sections. Following receipt of review comments from the RDCK and if necessary a conference call to discuss the report recommendations, the ITRB will finalize the report.

² Design documents, construction reports, monitoring and inspection data and reports, OMS Manual, EPRP, etc.

Annual Report

As part of the RDCK's annual report to MEM for the facility, a summary of the activities of the ITRB will be prepared by the RDCK and signed-off by the ITRB members that describes the following (as listed in Section 10.4.4 of the code):

- I. A summary of the reviews conducted that year, including the number of meetings and attendees;
- II. Whether the work reviewed that year meets the Board's expectations of reasonably good practice;
- III. Any conditions that compromise tailings storage facility integrity or occurrences of non-compliance with recommendations from the engineer of record;
- IV. Signed acknowledgement by the members of the Board, confirming that the report is true and accurate representation of their reviews.

Information to be provided to the ITRB

The RDCK will provide the necessary documentation to support the work to be carried out by the ITRB. This includes the draft and final design documents, construction documentation, operating manuals, and background reports as appropriate.

Addition documents to be provided by the RDCK upon request. Files will be posted on the RDCK FTP site for circulation.

Protocols

Lines of communication

The ITRB will report to RDCK senior management, or his or her delegate. Amy Wilson, of the RDCK, will be the ITRB contact person to coordinate meetings, reviews, and delivery of reports.

ITRB Structure

To be determined by ITRB members in consultation with the RDCK. As part of the first meeting the ITRB members shall elect a board chair who shall be responsible for reporting.

Resources and Budget

The members of the ITRB shall enter into individual consulting services agreements with the RDCK. The RDCK will manage resources and provide support to the ITRB, with costs to be borne by the RDCK.

Terms of Service

Following the RDCK Purchasing Policy, the term for the agreements with each ITRB member shall be for three years with the option to renew for two 1-year periods by mutual agreement. When a member resigns from the board, it shall be ensured that sufficient continuity is maintained with remaining membership to provide knowledge transfer between existing and new members. The size and composition of the ITRB is to be reviewed following closure implementation.

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Withheld pursuant to/removed as

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Legacy Properties Independent Tailings Review Board – Terms of Reference

May 31, 2017

LEGACY PROPERTIES INDEPENDENT TAILINGS REVIEW BOARD – TERMS OF REFERENCE

Table of Revisions

Revision No.	Date Created / Revised (yyyy-mm-dd)	Revised By	Revision(s) Made
V001	2016-Dec-16	Kathleen Willman	Initial document
V002	2017-May-25	Kathleen Willman	Reformatted, revised, comments from Teck review incorporated
V003	2017-May-31	Kathleen Willman	Added closure plans to documents provided, updated member qualifications

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LEGACY PROPERTIES INDEPENDENT TAILINGS REVIEW BOARD – TERMS OF REFERENCE

1.0 INTRODUCTION

In accordance with Section 10.4.2 (1) (c) of the Health, Safety and Reclamation Code for Mines in British Columbia (BC) (HSRC 2016), Teck Resources Limited (Teck) has established an Independent Tailings Review Board (ITRB) for the Legacy Properties Group for closed tailings facilities in BC¹. In addition, and as is considered industry best practice by Teck, the scope will extend to Legacy Property tailings facilities outside of BC that are considered to have an elevated risk/consequence ranking. At the time of formation of the ITRB, the Louvicourt facility in Quebec meets this description and will be included as part of the ITRB scope.

The Legacy Properties Group manages closed mine sites in Canada, the United States and abroad. The Group consists of professional engineers, environmental scientists and contract personnel, and is managed by Mr. Steve Hilts (Director, Environmental Legacies), Ms. Kathleen Willman (Manager, Engineering and Remediation), Ms. Michelle Unger (Manager, Environmental Compliance), and Mr. Dave Enos (Manager, US Dormant Properties), under the direction of Dr. Michael Davies, Vice President, Environment. The Canadian office is based in Kimberley, BC, at the site of the closed Sullivan Mine. The U.S. office is based in Spokane, Washington. There is also a project office in Val D'Or Quebec.

This document outlines the terms of reference of the Legacy Properties ITRB.

¹ The Legacy Properties ITRB excludes Bullmoose Mine tailings facilities, which are within the scope of the Teck Coal ITRB.

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LEGACY PROPERTIES INDEPENDENT TAILINGS REVIEW BOARD – TERMS OF REFERENCE

2.0 ITRB TERMS OF REFERENCE

2.1 Purpose and Scope

The purpose of the Teck Legacy Properties ITRB is to:

- Provide an independent assessment of whether the tailings storage facility was designed and constructed appropriately, and now resides in its closed condition safely and effectively.
- Where recommendations are warranted, provide practical guidance, perspective, experiences and standard/best practices from other tailings facilities known to the ITRB.
- Review and comment on the stewardship process, monitoring programs, data analysis methodology and work performed by the site team and/or contract consultants.
- Provides non-binding advice and guidance, but does not direct the work or perform the role of the Engineer of Record.
- Where facilities are transitioning from operations, provide independent assessment of technical issues associated with the closure of tailings management systems, including tailings dams, appurtenant structures, diversion channels, upstream diversion dams, water management structures, and overall water management (including water quantity, quality and treatment).

Teck is committed to ensuring a safe and economic strategy for managing the geotechnical, water management and geochemical issues of Legacy Properties. The development and contributions of the ITRB are expected to assist in meeting these objectives.

2.2 Facilities Covered by the ITRB

The following closed mine sites are covered under the scope of the Legacy Properties ITRB:

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LEGACY PROPERTIES INDEPENDENT TAILINGS REVIEW BOARD – TERMS OF REFERENCE

1. **Sullivan Mine:** A former underground Mine located near Kimberley BC, which includes a total of 14 earthfill and dyke structures that create 6 separate impoundments.
2. **Beaverdell Mine:** A former underground mine located in the community of Beaverdell BC (near Kelowna) that includes two earthfill dams (the South TMF and the North TMF).
3. **Pinchi Lake Mine:** A former underground and open pit mine located on the northern shore of Pinchi Lake, approximately 25 km northwest of Fort St. James in central BC. Pinchi Lake Mine has one tailings facility that is a side hill impoundment.
4. **Louvicourt Mine:** A former underground copper and zinc mine located 20 km east of Val-d'Or, Quebec. The Louvicourt tailings storage facility includes a tailings impoundment with a 1-m water cover and polishing pond.

Other locations under the management of the Legacy Properties Group may be added to the facilities covered by the ITRB in the future. These Terms of Reference will be updated at that time.

2.3 Roles and Responsibilities

The ITRB will report to Mr. Steve Hilts, Director Environmental Legacies. Mr. Hilts will be the liaison between the board members and Teck senior management.

Ms. Willman will coordinate the review meetings, distribute the agendas and meeting minutes, and attend review meetings.

The Engineer of Record will attend review meetings, work with Teck to prepare the background information for the preliminary sessions, and be available as needed to provide technical information related to the facilities.

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LEGACY PROPERTIES INDEPENDENT TAILINGS REVIEW BOARD – TERMS OF REFERENCE

The Teck Legacy Properties Site and/or Mine Manager, member of Teck's Tailings Working Group (TWG), other Teck personnel and/or consultants may participate in review meetings as needed to provide background information.

The ITRB members will provide the scope of work outlined in Section 2.1. Members will attend review meetings, conduct facility inspections, present preliminary findings at debriefing sessions and prepare formal reports.

2.4 Review Meetings

It is intended that review meetings will be scheduled at regular intervals to suit site activities. Initially, and likely for the first two to three years, these will be at annual intervals depending upon a consensus between Teck Legacy Properties and the ITRB. It is considered likely that a less frequent schedule of meetings would then follow but this would only be confirmed upon the above noted consensus. Ms. Willman will coordinate with the ITRB members to schedule the review meetings.

The meetings will be attended by Teck Legacy Properties representative(s), ITRB members, Engineer of Record, and other Teck personnel and/or consultants as needed.

Each review meeting will be preceded by a site health and safety orientation for participants who have not received orientation for the particular site within the past year.

The review meetings will proceed as follows:

- Safety Message – prepared by one of the meeting participants (to be nominated when the agenda is distributed).
- Presentation Session – Teck Legacy Properties staff and the Engineer of Record will briefly summarize recent developments and current operating conditions, updates on Teck's follow-up on previous ITRB recommendations, and questions that Teck may have for the ITRB.

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LEGACY PROPERTIES INDEPENDENT TAILINGS REVIEW BOARD – TERMS OF REFERENCE

- Site Inspection and Discussion Session – The ITRB members will conduct an inspection of the facilities (with other participants in attendance as required). A discussion between the board members and other participants will be held during and/or after the site inspection.
- Debriefing Session – Time allowance will be made for the ITRB members to prepare a preliminary presentation for the debriefing session.

A draft agenda will be prepared by Ms. Willman prior to each meeting. The agenda will include key technical questions or topics that the Director, Managers, other Teck personnel or Engineer of Record wish to raise with the ITRB. The agenda will be circulated as a draft to the ITRB at least two weeks prior to the review meeting to allow the members to incorporate additional items if needed.

All key documents requiring the review of the ITRB will be circulated to attendees at least two weeks prior to the review meeting.

Any attendee may raise questions and issues during the course of the review meeting in addition to the items on the agenda.

Teck will arrange for the recording of meeting minutes, which will be distributed to the attendees within two weeks following the review meeting.

2.5 Reporting

Reporting by the ITRB will be as follows:

- At the end of each review meeting, the ITRB members will make a presentation of their advice and guidance to the attendees.
- The ITRB will submit a formal report within four weeks of the meeting.

Authorized By Kathleen Willman, Manager, Engineering & Remediation	Authorized Signature 	Last Revised 2017-May-31	Document No. TLP-GP-001.V003	Page 7 of 10
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LEGACY PROPERTIES INDEPENDENT TAILINGS REVIEW BOARD – TERMS OF REFERENCE

- The ITRB will report on all issues that could:
 1. affect the integrity of the facilities;
 2. impact health, safety, and environment; and/or
 3. be in conflict with accepted industry practice.

Teck will report on follow-up ITRB recommendations at the review meeting.

2.6 Materials to be Provided to the ITRB

The documents provided to the ITRB (at least two weeks prior to the review meeting) will include, but not be limited to:

- Draft meeting agenda
- Site health and safety manual
- Design documents (including spillways and dams)
- Construction documentation (including as-builts)
- Operations, Maintenance and Surveillance (OMS) manual
- Tailings Emergency Preparedness and Response Plan (EPRP)
- Most recent Dam Safety Inspection and Dam Safety Review reports
- Recent government inspection reports
- Standard operating procedures relevant to the operation of the tailings facilities
- Operational history documentation
- Closure plans
- Technical reports, plans, studies and assessments, including hydrological analyses, water management plans, geochemical characterizations, etc. relating to the tailings facilities; and
- Other information as requested by the ITRB members.

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LEGACY PROPERTIES INDEPENDENT TAILINGS REVIEW BOARD – TERMS OF REFERENCE

3.0 BOARD MEMBERS

The ITRB is made up of independent subject matter experts not currently involved in or responsible for the design, operation or construction of the facilities being reviewed. Member resumes are located in Appendix A. The Teck Legacy Properties ITRB includes the following members:

- **Randy Knapp, P.Eng. (ON)** -s.22
s.22

- **Howard Plewes, P.Eng. (BC)** -s.22
s.22

- **Rick Rodman, P.Eng. (BC)** -s.22
s.22

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APPENDIX A
LEGACY PROPERTIES INDEPENDENT TAILINGS REVIEW
BOARD MEMBER QUALIFICATIONS

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Withheld pursuant to/removed as

s.22

ENDAKO MINE

Independent Tailings Review Board Terms of Reference

BACKGROUND & SCOPE

Thompson Creek Metals Company Inc.'s Endako Mine operation has implemented an Independent Tailings Review Board (ITRB) to provide technical guidance and recommendations on the design, construction, operations, and closure planning, of the tailings facilities at Endako Mine.

Commissioning of the ITRB fulfills the Ministry of Energy & Mines requirement for BC mines to implement ITRB's at their respective operations with tailings facilities.

OBJECTIVE

By conducting thorough review, the ITRB will provide guidance and recommendations which will aim to reduce risk, add value, and promote acceptable practices of the operations and management of the Endako Mine tailings facilities.

MISSION

The Endako ITRB's mission is to provide guidance and recommendations on the design, construction, operations, and closure planning of the tailings facilities at Endako Mine. Guidance and recommendations will seek to promote acceptable practices set out by the International Commission on Large Dams (ICOLD), the Canadian Dam Association (CDA) and the Mining Association of Canada (MAC).

ITRB RESPONSIBILITIES

- Carry out annual independent reviews of Endako Mine tailings facilities;
- Provide guidance and recommendations to the Owner, Engineer of Record, and design consultants, on the design, construction, operations and closure planning for the tailings facilities at Endako Mine;

- Provide independent and updated opinions to the Owner as to whether the tailings facilities are being designed, constructed, operated, and planned for closure in accordance with practices set out by ICOD, the CDA, and MAC;
- Provide technical support to the Owner for the design and implementation of corrective measures or other activities should they be required; and
- Provide a report highlighting findings, key guidance, and recommendations resulting from their review. Results of the review will be presented and discussed with the Owner and EOR once the ITRB has had sufficient time to conduct their review and coordinate their thoughts and findings.

OWNER RESPONSIBILITIES

- Coordinate ITRB meetings and provide support to the ITRB as required;
- Provide the ITRB with what they need to conduct a thorough and independent review;
- Review the ITRB's recommendations and guidance; and
- Consider implementation and action required to address any of the ITRB's recommendations and guidance.

ENGINEER OF RECORD

- Be made available and attend the ITRB as required;
- Review the ITRB's recommendations and guidance; and
- Advise Owner on the implementation and action required to address recommendations and guidance put forth by the ITRB.

**ENDAKO MINE TAILINGS STORAGE FACILITIES
INDEPENDENT TAILINGS REVIEW BOARD
TERMS OF REFERENCE**

1. INTERPRETATION

1.1 Definitions

In this document:

- (a) “Board” means the Endako Mine Independent Tailings Storage Facilities Tailings Review Board.
- (b) “TSF” means the tailings storage facilities Tailings Ponds 1, 2, and 3.
- (c) “Endako” means Endako Mine.
- (d) “Mandate” means the directive of the Board as set out in Section 4.
- (e) “Terms of Reference” means the terms provided in this document.

2. ESTABLISHMENT OF THE BOARD

2.1 Purpose

These Terms of Reference establish the framework within which the Board is constituted for the purposes of providing Endako with an independent review of the design, construction, operations, closure, and reclamation of the TSF.

These Terms of reference do not create any new legal powers or duties. The Board shall serve in an advisory role to Endako.

3. COMPOSITION OF THE BOARD

3.1 Members

Subject to Section 3.2, the Board will consist of three members selected at the sole discretion of Endako. The composition of the Board and Qualifications of Board members will be appended to any reports issued by the Board.

3.2 Chairman

Endako shall designate a member of the Board to be the chairman of the Board. The chairman shall supervise, manage, and direct the business of the Board in accordance with these Terms of Reference.

3.3 Qualifications

Members of the Board shall be unbiased and free from any conflict of interest in relation to both Endako and the TSF and shall have knowledge or experience relevant to the purpose of the Board as set out herein, which knowledge or experience shall include, without limitation:

- (a) a bachelor’s degree or higher form of education from a recognized university in Canada or abroad in a relevant field of study, such as for example water retaining dam design, tailings dam design, or mine geotechnical design;
- (b) registered professional with APEGBC or another similar professional registration body within Canada or the United States.

- (c) minimum 10 years of experience in a combination of design, construction, operation, closure, remediation, and inspection of rock- and soil-based major tailings retention structures; and
- (d) recognized authority and subject matter expert in the design, construction, operation, closure, remediation, and inspection of rock- and soil-based major tailings retention structures and major water retention structures.

3.4 Term of Appointment

Members of the Board will be appointed for a minimum term of two years (the “Term”), which Term may be renewed at Endako’s sole discretion.

3.5 Vacancies

A seat on the Board shall become vacant if a member of the Board:

- (a) resigns;
- (b) fails to meet the Qualifications at any time;
- (c) is not re-appointed at the end of his or her Term; or
- (d) is unable to perform the Board’s duties on an ongoing basis, as determined by Endako, acting reasonably.

In the event of any vacancy, Endako shall appoint a new member to the Board in accordance with these Terms of Reference.

4. MANDATE OF THE BOARD

4.1 Objective

The objective of the Board is to provide an independent overview of the TSF with the following aims:

- (a) assess conformity with international good practice;
- (b) advise on potential risks to the receiving environment, the local communities, and to the TSF operation, including closure and reclamation;
- (c) review plans to assess whether storage capacity is being developed to support future production;
- (d) provide non-binding recommendations to address concerns identified; and
- (e) participate, at Endako’s reasonable request, in briefings, discussions, and meetings with Endako, any governmental authority, or any other affected person or entity as may be required to carry out the above.

4.5 Exclusions

At no time shall the Board be responsible for the design, management, or supervision of the TSF, or any activities related thereto during the design phase, construction, operations, closure, or reclamation.

Without limiting the generality of the foregoing, the mandate of the Board shall not include:

- (a) the design, management, or supervision of the TSF, or any activities related thereto during the design phase, construction, operations, closure, or reclamation;

- (b) the operational practices of the mine that do not directly relate to the operational performance of the TSF;
- (c) the protection of human health, safety, or the environment from factors not related to the TSF; or
- (d) any other activities carried out by Endako which are not directly related to the design, construction, operation, closure, or reclamation of the TSF.

4.6 Delegation

The Board may not delegate its obligations hereunder.

5. PROCESS OF PROCEEDINGS

5.1 Access to Information

The Board shall have access to all relevant and available documents and information related to the TSF which are necessary to carry out its mandate.

5.2 Meetings

Board shall sit at the times and conduct its proceedings in the manner that it considers necessary to perform its duties under these Terms of Reference. Meetings may be attended in person or via teleconference or other means that allows communication between attendees.

5.3 Quorum

Two members shall constitute a quorum of any meeting of the Board.

5.4 Meeting format

Board meetings will be open for observation by Endako, its agents, representatives, or appointees, except as requested by the Board for discussion of its recommendations.

The Board's final report of a given meeting will serve as a record of the proceedings of that meeting, and Endako will retain a copy of all Board reports for at least ten years following the end of reclamation.

5.5 Logistics and Organization

Meetings will be organized by Endako at times mutually convenient to Board members and Endako. Endako will send advance notice of Board meetings and prepare an agenda. Board members may request additional meetings to address specific issues or events.

6. BOARD RECOMMENDATIONS

6.1 Format

A summary of recommendations of the Board shall be presented to Endako management at the end of each meeting. A report will be submitted to Endako in draft form prior to publication within two weeks following the end of the meeting. Endako will have the opportunity to comment on the draft report and propose changes based on additional evidence or revised plans to address deficiencies.

The Board shall consider any comments and proposed changes recommended by Endako. After due consideration, the Board will submit a final report to Endako with the Board's recommendations. As per Section 4, the Board's recommendations are non-binding. The final report shall be signed by the members of the Board.

At the subsequent Board meeting, Endako and/or its agents, representatives, or appointees will present to the Board information gained or actions taken, if any, to address recommendations in the Board's final report. The Board will consider the information presented regarding each recommendation and will, in writing, either certify that Endako has appropriately resolved the recommendation, or leave the issue open.

6.2 Differences of Opinion

If the Board members disagree on recommendations, the Board may present multiple points of view with authors of each opinion noted. Endako reserves the right to solicit additional opinions from other sources, and to present these opinions and/or its own interpretation of evidence alongside the recommendations of the Board.

7. COMPENSATION

7.1 Professional Fees

Endako shall pay a competitive reimbursement to each member of the Board for services performed in accordance with these Terms of Reference.

7.2 Expenses

Endako will reimburse Board members for reasonable expenses incurred in the performance of their work in accordance with these Terms of Reference.

GLENCORE

August 30, 2017

Mr. Al Hoffman
Chief Inspector
BC Ministry of Energy and Mines

Dear Mr. Hoffman:

Re: Glencore's Closed Mine Sites in British Columbia

Scope for Independent Tailings Review Board

This letter is in response to your letters from July 2017 requesting that an Independent Review Tailings Review Board be established for Glencore's closed sites in British Columbia: Brenda, Bell, Granisle, and Boss Mountain. Specifically, the July 2017 letters requested that: *The mine shall establish an ITRB and submit associated terms of reference and board members qualifications, or submit a detailed plan to address this Code requirement as soon as practically possible and no later than August 31, 2017.*

The four sites have all been closed for many years and demonstrated superior performance with respect to dam safety since closure. As a result, Glencore is not planning to convene a multi-person board, but rather, is planning to engage the services of Mr. Ken Brouwer, Principal Geotechnical Engineer with Knight Piesold in Vancouver as an Independent Tailings Reviewer. A copy of his resume is attached.

The overall goal of this review is to provide an independent opinion on whether the tailings storage facilities (TSFs) are being managed with an effective system so that they are safe and in compliance with applicable technical guidelines and regulations such as:

- Local and National Regulatory requirements
- Mining Association of Canada (MAC) Tailings Management Guidelines
- International Congress on Large Dams (ICOLD) Guidelines on Tailings and Water Dams

Mr. Brouwer will provide non-binding advice and guidance on technical matters that arise as a result of the review. His tasks will include:

- Review Dam Safety Reviews for each of the TSFs. The DSR for Brenda was done in 2015 and is available. The DSRs for the others will be done in 2018 with the reports available by the end of September 2018.
- During the dam safety inspections that will be done in June 2018, you can accompany the inspection team to gain familiarity with the dams. The inspections of the 4 sites typically takes 4 days.
- Review other documents that Mr. Brouwer may require.
- Participate in a review session to be held in Vancouver in October or November 2018 where the DSR reports are summarized by Glencore and Amec Foster Wheeler and Mr. Brouwer will provide the results of his review.
- Prepare a report that will be provided to Glencore and Amec Foster Wheeler.
- Evaluate the effectiveness of the Engineer of Record for these facilities.
- Work with Glencore and Amec Foster Wheeler to determine whether such a review (ITRB) should continue or whether an exemption should be sought from the BC MEM.

GLENCORE Bell Mine

44 Hagan Street, Granisle BC V0J 1W0, Canada, Canada
Tel. +1 778 238 2869 glencore.com

GLENCORE

Please contact the undersigned if you have questions or comments.

Sincerely yours,
Glencore Canada Corporation
Bell Mine and Granisle Mine



Karen Petersen
Mobile: +1 778 238 2869

Cc: John Stroiazzo, Andy Small

GLENCORE Bell Mine

44 Hagan Street, Granisle BC V0J 1W0, Canada, Canada
Tel. +1 778 238 2869 glencore.com

Huckleberry Mine Tailings Management Facility
Independent Tailings Review Panel (ITRP)
Terms of Reference as of August 31, 2017

Background Information

The Huckleberry Mine is located in 88 kilometres from Houston, British Columbia, Canada. The mine produces copper and molybdenum, with accessory but lesser quantities of silver and gold from an open pit mine-mill complex. Production started in 1997 and continued at a rate up to approximately 20,000 tonnes per day until August 2016. Huckleberry mine had ceased operations in August 2016, and is on care and maintenance pending a sustained improvement in the price of copper.

On April 7, 2017 Imperial announced that Huckleberry Mines Ltd. (Huckleberry) agreed to purchase for cancellation all the shares of Huckleberry held by a syndicate comprised of Mitsubishi Materials Corporation, Dowa Metals & Mining Co., Ltd., and Furukawa Co., Ltd. As a result Imperial now holds 100% of the shares of Huckleberry through its wholly owned subsidiary HML Mining Inc.

Imperial intends to review a number of alternate mine plans that would further enhance the mine's operating performance, and potentially extend the mine life.

The Huckleberry Mine has three Tailings Management Facilities (TMF); TMF-2, East Zone Pit (EZP) impoundment, and TMF-3. The TMF-2 impoundment is contained by the TMF-2 Dam and Orica Saddle Dam. The containment dams consist of an upstream rockfill shell, a low permeability till core, and a sequence of filters and rockfill downstream. Construction of TMF-2 began in 1997 and the dams were completed in 2007 to their final configurations, at a general crest elevation of 1,080 m. Tailings deposition within TMF-2 ceased in 2009. The East Zone Pit (EZP) impoundment is contained by the East Pit Plug Dam (EPPD), which is constructed along the southeast rim of the pit. The EPPD was completed to its final crest elevation of 1040 m in 2012, with the completion of the downstream rockfill shell in 2013. TMF-3 is the main facility used by the mine for storage of tailings up to the care and maintenance period of August 2016.

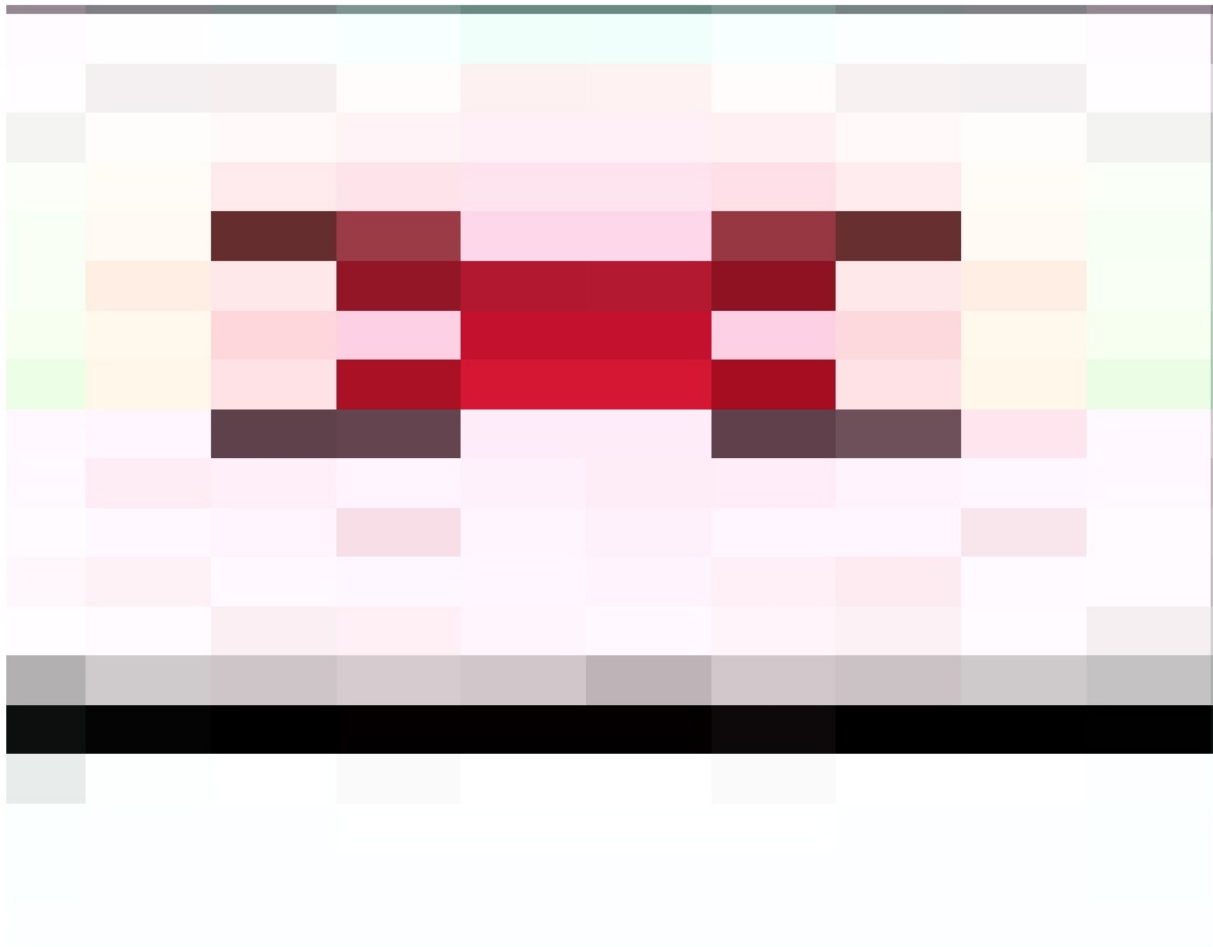


Figure 1.1 Location of the Huckleberry Mine

General

- Part 10 of BC's Health, Safety and Reclamation Code (HSRC) was revised on July 20, 2016. Stipulations regarding ITRP are given in Sections 10.4.2 (1) and 10.4.4.
- In addition, HSRC Guidance Document of July 20, 2016 stipulates other requirements regarding ITRB.
- HML established its ITRB for its Tailings Management Facility in Fall 2017 as a request for exemption during the Care and Maintenance (C&M) period was denied and new criteria requiring an ITRB was established by MEM.
- HML's current Terms of Reference (TOR) for the ITRB (of August 31, 2017) meet requirements of HSRC Section 10 Guidance Document.
-

Official Name

The Huckleberry Mines Ltd. (HML) Tailings Management Facility (TMF) Independent

Engineering Review Panel; herein referred to as the “Independent Tailings Review Panel” (ITRB).

Membership

During the care and Maintenance period, the ITRB established by the Owner [HML] is made up of two qualified experts, acceptable to the Ministry of Energy and Mines (MEM) Chief Inspector. At the request of the ITRB, or HML, additional experts may be asked to participate in or observe a meeting. These experts are to provide input/advice on areas outside the expertise of the board members but critical to operation or the facilities. The ITRB working group meetings may be attended by representatives from HML staff as required.

An appointed HML Representative will act as coordinator and liaison for the ITRB. In this role

the individual will assist the ITRB with arrangements and logistics and may chair meetings if requested by the ITRB.

Term of Membership

There is no fixed term of membership imposed upon members of the ITRB. When a member of

the ITRB is vacating his position, it shall be ensured that the remaining membership maintains

sufficient continuity to provide knowledge transfer between existing and entering members. HML’s consent will be required for removing any member from ITRB. New membership may be appointed through consultation and discussion with the ITRB and be acceptable to the Chief Inspector.

Vision

Revised Part 10 of the HSRC (as of July 20 2016) stipulates the following:

- 10.4.2** (1) The manager of a mineshall
- (c) establish an Independent Tailings Review Board, unless exempted by the chief inspector,
 - (d) review annually the tailings Management facility risk assessment to ensure that the quantifiable performance objectives and operating controls are current and manage the facility risks,
- (2) The composition of an Independent Tailings Review Board established under subsection (1) (c)
- shall be commensurate with the complexity of the tailings Management facility in consideration of the HSRC Guidance Document.
- (3) The manager shall submit the terms of reference for the Independent Tailings Review Board including the qualifications of the board members to the chief inspector for approval.
- (4) The terms of reference for the Independent Tailings Review Board shall be developed or updated as required in consideration of the review under subsection (1) (d).

The establishment of the ITRB is intended to provide independent review of all aspects of the TSF, with consideration of Best Available Technology (BAT) / Best Applicable Practice (BAP) and to provide recommendations and guidance to HML. The ITRB is seen as a valuable medium to add value to stakeholders in the Huckleberry Mine, including, but not limited to: HML, HML’s Engineer of Record, regulators, and the communities of interest.

The ITRB should provide non-binding opinion on:

- whether the design, construction and operation of the TMF have given consideration to BAT / BAP;
- whether design and construction have been performed in accordance with their expectation of best management practices;
- whether safety and operation of the TMF conform to their expectation of best management practices; and
- whether there are weaknesses that would reasonably be expected to have a material adverse effect on the integrity of the TMF, human health, safety, and successful
- operation of the facility for its intended purpose.

Mission Statement

The ITRB is to provide expert technical guidance to all aspects of the design, construction, operation, closure, and post closure planning for the Huckleberry Mine TSF during the period of Care and Maintenance.

Goals

1. To confirm that the design and operation of the TSF is consistent with industry standards of best practice
2. To identify areas where risk reduction measures may be required
3. To provide advice that may add value to the safe operation, closure and long term maintenance of the TSF.

Frequency of Meetings and Manner of Call

The ITRB shall meet at a minimum bi-annually or as set out in any future permit amendments.

These meetings shall include a site tour of the Huckleberry Mine TSF. The ITRB may also be convened for special sessions to address critical issues. Such special sessions may include a site tour if required.

Meetings will be attended by HML staff.

The ITRB will be called by the HML Representative or HML's Engineer of Record by e-mail, with e-mails being copied to all members of the respective parties as outlined in the Active Membership Contact Information herein.

Resources and Budget

The members of the ITRB shall be under contract to HML. The HML Representative or his

designate shall manage resources and provide support to the ITRB, with costs to be borne by HML; the ITRB shall not be responsible for any budgetary contribution to the convening, reporting or presentation as applicable to their work.

Reporting and Deliverables

The ITRB will make a presentation of their findings to the Mine Manager.

The ITRB shall be responsible for the production of a report, submitted to the HML Representative with copies to HML's Engineer of Record upon the conclusion of any convening of the ITRB. The ITRB shall also be responsible for the production of a report at the request of the HML Representative for any special sessions for which they are convened.

Annual Reporting

Section 10.4.4 of the HSRC (July 20, 2016) stipulates as below:

The manager shall submit annual reports in a summary form ...(to the Chief Inspector) by March 31 of the following year on the following:

(c) a report of the activities of the Independent Tailings Review Board established under section 10.4.2

(c) of this code that describes the following:

(i) a summary of the reviews conducted that year, including the number of meetings and attendees;

(ii) whether the work reviewed that year meets the Board's expectations of reasonably good practice;

(iii) any conditions that compromise tailings Management facility integrity or occurrences of noncompliance with recommendations from the engineer of record;

(iv) signed acknowledgement by the members of the Board, confirming that the report is a true and accurate representation of their reviews;

(d) a summary of tailings Management facility and dam safety recommendations including a scheduled completion date;

Communications

The primary means of communication will be through attendance of scheduled meetings.

Correspondence is also accepted by e-mail provided that they are copied to all members of the respective parties.

It shall be the responsibility of HML to organize any convening of the ITRB to present their

work or reports. At a minimum, the ITRB shall be made available once per year, as organized

by HML, for discussion with identified stakeholders in regards to their continued work on the Huckleberry Mine TMF.

Materials to Be Provided to the ITRB

HML will provide the current draft and final design documents, construction documentation, operating manuals/procedures and operations history documentation, as appropriate, necessary to support the work to be carried out by the ITRB. This information is intended to provide technical information to the ITRB in a timely manner to allow HML sufficient time to consider ITRB advice prior to the finalization of project designs and procedural documents.

Reviewing Terms of Reference

The Terms of Reference shall be reviewed annually, but may be requested to be reviewed by the group or individuals at any time.

Date of Last Review

Hereto Agreed By

Name:

Name:

Name:

Active Membership Contact Information

ITRB

Name	Title	ITRB Role	Email

HML / Imperial Metals Corporation

Name	Title	ITRB Role	Email
-------------	--------------	------------------	--------------

Kent Christensen	General Manager -HML	HML representative	kentchristensen@huckleberrymines.com
Don Parsons	Chief Operating Officer - Imperial metals	HML representative	donparsons@imperialmetals.com

Engineer of Record - Golder and Associates

Name	Title	ITRB Role	Email
Fiona Esford P.Eng	Senior Geotechnical Engineer -Golder and associates	Geotechnical Engineer	fiona_esford@golder.com

GLENCORE

August 30, 2017

Mr. Al Hoffman
Chief Inspector
BC Ministry of Energy and Mines

Dear Mr. Hoffman:

Re: Glencore's Closed Mine Sites in British Columbia

Scope for Independent Tailings Review Board

This letter is in response to your letters from July 2017 requesting that an Independent Review Tailings Review Board be established for Glencore's closed sites in British Columbia: Brenda, Bell, Granisle, and Boss Mountain. Specifically, the July 2017 letters requested that: *The mine shall establish an ITRB and submit associated terms of reference and board members qualifications, or submit a detailed plan to address this Code requirement as soon as practically possible and no later than August 31, 2017.*

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- Evaluate the effectiveness of the Engineer of Record for these facilities.
- Work with Glencore and Amec Foster Wheeler to determine whether such a review (ITRB) should continue or whether an exemption should be sought from the BC MEM.

GLENCORE Brenda Mine

22-2475 Dobbin Rd, West Kelowna, BC V4T 2E9, Canada
Tel. +1 250317 0187 glencore.com

GLENCORE

Please contact the undersigned if you have questions or comments.

Sincerely yours,

Glencore Canada Corporation
Brenda Mine and Boss Mountain Mine



Dallas Rodier

Office: +1 250 317 0187

Mobile: +1 250 878 5380

Cc: John Stroiazzo, Andy Small

GLENCORE Brenda Mine

22-2475 Dobbin Rd, West Kelowna, BC V4T 2E9, Canada

Tel. +1 250317 0187 glencore.com

**439813 BC Ltd.
Dankoe Mine
1503 – 555 Jervis Street
Vancouver, B. C. V6E 4N1**

August 26, 2017

Ministry of Energy, Mines and Petroleum Resources
Mines and Mineral Resources Division
permrecl@gov.bc.ca

Attention: Al Hoffman, P.Eng.
Chief Inspector of Mines

Dear Mr. Hoffman:

Re: Dankoe Mines, Mines Act Permit M-95
Independent Tailings Review Board (ITRB)

1. INTRODUCTION

As per Order #2 in your letter dated July 20, 2017, this letter presents Dankoe Mines' plan for establishment of an ITRB.

The Dankoe TSF is a small facility, consisting of a rockfill embankment with tailings spigoted from the embankment to form tailings beaches. The maximum height of the embankment dam is about 28 m. The operation has been closed since 1989. In the 25 year period from mine closure until updated reporting requirement were instituted in 2014 and subsequent years, the TSF was problem-free with minimal surveillance. The embankment and tailings deposit are fully drained by the underlying talus. The impoundment does not store water and there is essentially zero runoff entering the TSF. The dam failure consequence classification is Low.

2. OBJECTIVE OF ITRB

The ITRB is established to provide on-going, independent confirmation to Dankoe and the Engineer of Record that the Dankoe Mine TSF remains in stable and safe condition. The ITRB will also provide advice to Dankoe on the path forward to achieving "landform" status and having the Dankoe TSF removed from the inventory of BC TSFs.

3. COMPOSITION OF ITRB

The ITRB will consist of a single, well qualified engineer. The engineer named to this position is Mr. Ed Beswick, P.Eng, a highly experienced mining engineer. His professional resume is attached. Mr. Beswick is familiar with Dankoe from his previous role as Regional Manager, Infrastructure Project Manager, District Inspector, and Resident Engineer with the Ministry of Energy and Mines. He also carried out a third party, independent review of the 2014 Dankoe TSF DSI.

4. ITRB PLANNED ACTIVITIES

In 2017, the ITRB will be provided with and will review all reporting and correspondence since 2014, as well as relevant prior documents. The ITRB will provide a letter summarizing any questions or concerns arising from the document review.

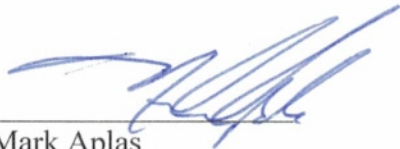
In spring 2018, a site meeting will be held with the ITRB, the EOR and Dankoe attending. The objectives of the site visit will be to:

- update the ITRB on the site conditions including dam stability, site drainage, water management and the progress of site vegetation
- Discuss and provide advice on the path forward toward re-classification of the site as a landform.

The ITRB will present a brief report on his findings and recommendations following the site meeting. •

The need for future site meetings and the ongoing role of the ITRB will be determined as part of the 2018 site meeting discussions.

Yours truly,



Mark Aplas
President – 439813 BC Ltd.

s.22

- c. Heather Narynski
heather.narynski@gov.bc.ca

Independent Tailings Review Board
Mines Act Permit Number: M-233

Greenwood (Zip) Mill

1086359 B.C. Ltd.

318 - 1199 West Pender Street

Vancouver, British Columbia

V6E 2R1

Date: August 31, 2017

Terms of Reference

The BC Ministry of Energy and Mines (MEM) updated Section 10 of the Health Safety and Reclamation Code (HSRC) on July 20, 2016. Those updates include a number of requirements for the inspections and reporting on tailings dams. Key in this regard is the DSI, which has been completed annually for the Greenwood TSF. Following the DSI, there are a number of requirements for the Independent Tailings Review Board (ITRB) in Section 10.4.4(c) of the HSRC, specifically:

A report of the activities of the Independent Tailings Review Board established under section 10.4.2 (1) (c) of this code that describes the following:

- (i) a summary of the reviews conducted that year, including the number of meetings and attendees;
- (ii) whether the work reviewed that year meets the Board's expectations of reasonably good practice;
- (iii) any conditions that compromise tailings storage facility integrity or occurrences of non-compliance with recommendations from the engineer of record;
- (iv) signed acknowledgement by the members of the Board, confirming that the annual report is a true and accurate representation of their reviews;

At this time, the ITRB consists only of John Brodie, P. Eng. This is considered to be reasonable for the Greenwood Tailings Facility because the dam at Greenwood is classified as “significant” according to CDA (i.e. below: extreme, very high, and high categories). The dam is apparently in good condition. It is not being raised and no tailings are being added. It has performed well for 8 years. It has ample freeboard. These considerations suggest that the dam is relatively low risk. Should any of these conditions change, such as a resumption of operations, then it may be appropriate to re-visit the membership of the ITRB.

March 31, 2017

John Brodie, P. Eng.

Brodie Consulting Ltd.

604-922-2034; cell 604-790-1853

Qualifications

- 1) John Brodie, P.Eng.

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December 16, 2016

Al Hoffman
Chief Inspector of Mines
Ministry of Energy and Mines
Victoria, BC

Dear Mr. Hoffman,

Reference: Teck Coal Limited – Independent Tailings Review Board

I am writing to confirm that Teck Coal has established an Independent Tailings Review Board (ITRB) as required by section 10.4.2(1)(c) of the July 2016 update to the Health, Safety and Reclamation Code (HSRC) for Mines in British Columbia. Teck Coal's ITRB consists of three individuals – Mr. Peter Lighthall, P.Eng., Dr. Richard Sisson, P.Eng. (Alberta), and Dr. Leslie Smith, P.Geo. The terms of reference for Teck Coal's ITRB cover the tailings storage facilities at our Elkview Operations, Greenhills Operations, Fording River Operations and Quintette Coal Operations sites.

As per the requirement of section 10.4.2(3) of the HSRC, please find attached for your approval the terms of reference for Teck Coal's ITRB along with the qualifications of the three ITRB members.

Please contact me if you have any questions.

Sincerely,

A handwritten signature in black ink that reads "Andrew Bidwell".

Andrew Bidwell, M.Eng., P.Eng.
Senior Engineer Supervisor Geotechnical

Cc: Don Sander, Teck Coal
Geoff Brick, Teck Coal
Dean Runzer, Teck Coal
Rob Muise, Teck Coal
Larry Davey, Teck Coal
Eric Jensen, Teck Coal
Bruce Donald, Teck Resources
Stu Anderson, Teck Resources
Peter Lighthall
Richard Sisson
Leslie Smith

Attachments: Terms of Reference – Teck Coal Independent Tailings Review Board
Curriculum vitae – Mr. Peter Lighthall
Curriculum vitae – Dr. Richard Sisson
Curriculum vitae – Dr. Leslie Smith

Terms of Reference – Independent Tailings Review Board (ITRB) for Teck Coal
November 10, 2016

1. Purpose

The purpose of the Teck Coal ITRB (Board) is to:

- Provide an independent opinion to Teck Coal as to whether Teck Coal's tailings storage facilities (TSFs) meet the dam safety requirements of the following technical guidelines:
 - Canadian Dam Association (CDA) Guidelines and Technical Bulletins
 - BC Dam Safety Regulations
 - Health, Safety and Reclamation Code for Mines in British Columbia (dam safety related aspects)
 - Mining Association of Canada (MAC) Tailings Management Guidelines
 - Applicable International Congress on Large Dams (ICOLD) Guidelines on Tailings and Water Dams. (See Appendix 1)

The Board's scope does not include geochemistry and water quality considerations for the tailings storage facilities and adjacent areas.

- Review and comment on the design process, monitoring programs, and data analysis methodology and results.
- Provide non-binding advice and guidance to Teck Coal on technical matters associated with the design, failure consequence assessment, construction, operation and closure of the dams, and review future options or plans regarding tailings disposal or water storage.

2. Terms of Reference

The terms of reference for the Board are as follows:

2.1 Lines of Communication

- The Board will officially report to the Teck Coal, Vice President, Development, who will designate a geotechnical engineer from Teck Coal's Corporate Engineering group to act as the liaison and primary point of contact for the Board.
- A Teck Coal coordinator will assist with arrangements and logistics for the Board meetings.

2.2 Board Membership

- The Board will consist of three (3) independent technical consultants: two (2) Geotechnical Engineers, and one (1) Hydrogeologist.

- No Board member will have been the Engineer of Record (EoR), at any point, for any facility being reviewed nor should they be currently employed by any organization that is an EoR for any facility being reviewed.
- At the request of the Board, or Teck Coal, additional technical consultants may be asked to participate in or observe a review meeting. These experts are to provide input and /or advise on areas outside the expertise of the board members but critical to operation of the facilities.

2.3 Review Meetings and Agenda

- It is intended that review meetings will be scheduled at regular intervals to suit the construction and operational activities.
 - The Board will typically meet annually and may schedule additional meetings as agreed between Teck Coal and the Board.
 - Review meetings will be attended by Teck Coal staff and their geotechnical and/or hydrogeological consultants.
 - Teck Coal may require that an independent technical consultant participate in the Board meetings as a stakeholder representative.
- Teck Coal will prepare an agenda prior to each meeting that will, as appropriate, include key technical questions or topics that Teck Coal, its consultants and key stakeholders wish to raise with the Board.
- Teck Coal will provide this agenda along with the required documents to the Board at least two weeks prior to review meetings to allow the Board to review the material and add items or issues.
- The review meetings will generally comprise a preliminary presentation during which Teck Coal and their consultants will summarize recent developments and current operating conditions followed by a site inspection and a discussion session. The Board will be provided a copy of the presentation materials.
- Time will be scheduled for the Board to prepare a presentation for a debriefing session at the end of the review meeting.

2.4 Facilities

The Board will perform reviews to confirm that the dams at the tailings storage facilities listed below have been designed, constructed and are being operated in a manner consistent with the guidelines listed in Section 1.0.

Elk Valley area sites:

- Elkview Operations (EVO)
 - Lagoons A, B and C (inactive TSFs).
 - Lagoon D (active TSF)
 - West Fork (active TSF)
- Greenhills Operations (GHO)
 - Tailings Facility (active TSF)
- Fording River Operations
 - South Tailings Pond (active TSF)
 - North Tailings Pond (inactive TSF)

Tumbler Ridge, BC area sites:

- Quintette Coal Operations (QCO)
 - Plantsite Tailings Facility (inactive TSF)
 - Shikano North Tailings Facility (inactive TSF)
- Bullmoose Operations (BMO)
 - Tailings Storage Dam (inactive TSF)

The Board will:

- Perform reviews of designs and operations when specifically requested to do so by Teck Coal;
- Provide review comment on design, construction, and operational activities that may have long-term stability or other critical performance implications;
- Provide technical support, in an independent review capacity, to Teck Coal for design and implementation of corrective measures or other activities, if required; and
- Provide technical support and recommendations, in an independent review capacity, on future projects regarding tailings and water management.

2.5 Reporting

ITRB report to Teck Coal:

At the end of each review meeting, the Board will make a presentation of their findings to the Teck Coal, Vice President, Development (or their designate) and other Teck Coal personnel.

The Board will submit a Draft report to Teck Coal within one month of each meeting. The report will include a summary of findings and recommendations.

The Board will report on matters within the expertise of the Board that:

- Affect the integrity of the facilities;
- Impact the safe operation of the facilities;
- Affect the continued operation of the facility;
- May be outside accepted practice in the industry;
- Impact closure plans for active and inactive tailings facilities;
- Relate to relevant questions that have been raised to the Board.

Teck Coal annual summary report on ITRB activities:

The Board will review and provide comments on Teck-authored annual summary reports of the ITRB's activities that include:

- A summary of the ITRB reviews conducted that year, including the number of meetings and attendees.
- A description of whether or not the work reviewed by the ITRB that year meets the Board's expectations of reasonably good practice.
- A listing of any conditions that compromise TSF integrity or occurrences of non-compliance with recommendations from the Engineer of Record for a TSF.

Teck will finalize each annual report with consideration of the Board's comments. Teck will provide a final version of the report to the Board for their final review and signature of an acknowledgement page stating that the report is a true and accurate representation of their reviews for the year. Teck will submit a copy of the final report with signed acknowledgement page to the Ministry of Energy and Mines.

2.6 Materials to be provided to the Board

- Teck Coal will provide the design documents, construction documentation, operating manuals/procedures and operational history documentation, as possible, to support the Board's work.

2.7 Confidentiality

- Confidential, non-public, or other information considered material to the company that may be discussed in meetings to provide context to technical discussions shall not be disclosed to external parties in any reporting or conversations without written consent from Teck.

3.0 ***Schedule***

- The next Board meeting is planned for June and late July/early August 2017 at various Teck Coal sites. An itinerary will be provided in advance of the meeting.

Appendix 1: Relevant ICOLD Bulletins

Bulletin Preprint-164 - Internal Erosion of Existing Dams, Levees and Dikes, and their Foundations
Bulletin Preprint-158 - Dam surveillance guide
Bulletin 155 - 2013 - Guidelines for use of numerical models in dam engineering
Bulletin 153 - 2013 - Sustainable design and post-closure performance of tailings dams
Bulletin Preprint-150 - Cutoffs for dams
Bulletin Preprint-148 - Selecting seismic parameters for large dams - Guidelines (revision of Bulletin 72)
Bulletin 139 - 2011 - Improving tailings dam safety - Critical aspects of management, design, operation and closure.
Bulletin 130 - 2005 - Risk Assessment in Dam Safety Management. A reconnaissance of Benefits. Methods and Current Applications
Bulletin 129 - 2005 - Dam Foundations. Geologic considerations. Investigation Methods. Treatment. Monitoring
Bulletin 121 - 2001 - Tailings dams risk of dangerous occurrences - Lessons learnt from practical experiences
Bulletin 120 - 2001 - Design features of dams to resist seismic ground motion
Bulletin 113 - 1999 - Seismic observation of dams-Guidelines and case studies
Bulletin 106 - 1996 - A guide to Tailings Dams and impoundments - Design, construction, use and rehabilitation
Bulletin 104 - 1996 - Monitoring of Tailings Dams - Review and Recommendations
Bulletin 103 - 1996 - Tailings Dams and Environment - Review and Recommendations
Bulletin 101 - 1995 - Tailings Dams. Transport. Placement. Decantation - Review and recommendations
Bulletin 97 - 1994 - Tailings Dams - Design of drainage
Bulletin 95 - 1994 - Embankment dams - Granular filters and drains
Bulletin 74 - 1989 - Tailings dams safety - Guidelines

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Quinsam Coal ITRB Terms of Reference – October 10, 2017

As per Section 10.4.2 (c) of the Health, Safety and Reclamation Code for Mines in British Columbia (2017), *"The manager of a mine with one or more tailings storage facilities shall establish an Independent Tailings Review Board"*.

Terms of Reference

The Independent Tailings Review Board (ITRB) will officially report to the mine manager of Quinsam Coal Corporation (QCC), through Nick Bazowski, the on-site Qualified Person in charge of the tailings facility.

The ITRB will consist of 3 geotechnical engineers who are acting as independent technical consultants. As required, none of the 3 board members have ever been or are currently the Engineer of Record of the Quinsam Coal Facility, nor have they previously been involved or associated with the construction or design of the Tailings Storage Facility or Quinsam Coal Corporation.

Duties

The Quinsam Coal Corporation Independent Tailings Review Board will:

- Review, assess, and comment on the initial design documents, additional construction documents, operations, maintenance and surveillance programs and any other relevant documents and work related to the tailings management system.
 - Perform a site visit, which will include a review meeting/presentation led by key QCC staff members with regards to tailings management.
 - Provide an oral briefing on preliminary findings at the conclusion of the site visit and review meeting/presentation.
 - Prepare a report/presentation on findings, providing non-binding advice and practical guidance to QCC. The report/presentation findings must meet the dam safety requirements of the:
 - Health, Safety and Reclamation Code for Mines in British Columbia
 - BC Dam Safety Regulations
 - Canadian Dam Association Guidelines
- The report should also consider standard/best practices of other operations.
- A draft of the report should be submitted to QCC within 1 month of the site visit, allowing for review and reply within 2 weeks, and an additional 2 weeks to provide a final report.

Schedule

The documents as listed below will be sent to the ITRB members no less than one month prior to the scheduled visit.

The on-site visit is tentatively scheduled for November 15, 2017.

Confidentiality

Board Members agree not to disclose any information obtained from the QCC employees to any external parties unless given written consent from QCC, or unless required to do so by law.

QCC TSF Documents

Quinsam Coal Operation, Maintenance and Surveillance Manual (OMS) and Emergency Preparedness Plan (EMP) – 2 North Pit Tailings Storage Facility and South Dam. (*QCC-September 2017*)

Quinsam Coal Mine Emergency Response Plan (*QCC-September 2017*)

2016 Annual Dam Safety Inspection – 2 North Pit Tailings Disposal Facility (*Golder-April 2017*)

Weekly Tailings Disposal Facility and South Dam Inspection Report (*QCC*)

Email Summary of 2017 Inspection by EOR-Outstanding Items and Preliminary Recommendations (*Golder-September 2017*)

If the presented Terms of Reference are accepted, please sign below;

Print Name

Sign Name

Date

Summary of ITRB members, and self-stated qualifications;

Rick Sissons: s.22
s.22

Bob Patrick: s.22
s.22

Marvin Silva: s.22
s.22



Contact info:
Brent Hamblin, Mgr.
Samatosum Minesite
PO Box 1499, Barriere, BC
V0E 1E0

s.22

250-672-5347

October 12, 2017

Terms of Reference for the Samatosum Independent Tailings Review Board (ITRB).

Submitted to BC Ministry of Energy, Mines and Petroleum Resources (MEMPR) in fulfillment of 2017 modifications to the *Health, Safety and Reclamation Code for Mines in British Columbia 2017 (Code)*.

Background:

Revisions to the *Health, Safety and Reclamation Code for Mines in British Columbia 2017 (Code)* require the manager of a mine with one or more tailings storage facilities (TSF) to establish an Independent Tailings Review Board (ITRB) (Code Section 10.4.2). The composition of the board is to be commensurate with the complexity of the tailings storage facility (TSF).

Site information:

The First Quantum Minerals Ltd (FQM) Samatosum mine site is in an indefinite state of care and maintenance due to the acid rock drainage (ARD) character of the waste rock dump. The site has a single TSF which consists of an earthen core dam and a water covered tailings impoundment. The mine was closed in 1993 after a short mine life of less than 5 years. The TSF is designed to have a water cover over potentially acid generating (PAG) tailings. There has been no significant construction activity or process changes at the TSF since the water cover was established in 1995. There have been ongoing geotechnical inspections and operation, maintenance and surveillance (OMS) of the TSF since then. Maintenance requirements usually consist of periodically clearing vegetation (brushes and shrubs) from the impoundment inflow channel, spillway banks, dam face, and discharge channel.

Purpose of ITRB:

The purpose of the Samatosum ITRB is to:

- Provide FQM and their engineer of record with practical guidance, perspective, experiences, and Standard practice or opportunities for best practices from other operations.
- Provide an independent opinion to FQM whether the tailings storage facility is designed, constructed and operated appropriately, safely and effectively.

- Review and comment on the operation, monitoring, and any work performed by the site team and/or contract consultants.
- Provide non-binding advice and guidance, but would not direct the work or perform the role of the Engineer of Record.

Initial Composition

The ITRB composition is to be determined upon approval by the Ministry of Energy, Mines and Petroleum Resources (MEMPR). The Samatosum TSF transitioned from operational to closed status after mine closure, and has been in care and maintenance since then. FQM is presenting a one member board, consisting of the following professional engineer.

Neil K. Hemrajani Singh, P.Eng., M.Eng.

Staff Consultant, BC Mining Environmental Group, Principal
Klohn Crippen Berger
500-2955 Virtual Way,
Vancouver BC V5M 4X6, CANADA
T 604.251.8506 | C 604.340.1308 | NSingh@klohn.com | www.klohn.com

We propose that a board composed of a single member is commensurate with the low complexity of the closed Samatosum TSF and is also based on the following assumptions;

- ✓ This person is to be a member of an engineering firm where he/she will have additional engineering personnel/resources available if required. (as opposed to a single individual firm);
- ✓ Unlike many care and maintenance sites, Samatosum has full time presence at the site to conduct inspections, monitoring, etc.;
- ✓ This proposed composition can be reviewed and amended if required after the 2017 reporting (due by 31 March 2018) if MEM deems it inadequate, or conversely, consideration could be given at a future date to an exemption for the requirement of having an ITRB at Samatosum.

Scope

The focus of the ITRB reviews will be on compliance with regulatory and industry standards for the safe operations, maintenance and surveillance of the closed Samatosum TSF.

Reports

Board review and report to FQM

The board will review, at least once annually, the information supplied by FQM. Following each review, the ITRB will prepare a draft summary letter documenting the information reviewed, and reporting on any issues and opportunities related to the above purpose. Following receipt of review comments from FQM, the ITRB will finalize the letter.

Annual report to MEMPR

As required under Mine Code Section 10.4.4(c), a report from FQM due by March 31st of the following calendar year, will be submitted to MEM that describes the following;

- (i) a summary of the review(s) conducted that year, including the number of meetings and attendees;
- (ii) whether the work reviewed that year meets the Board's expectations of reasonably good practice;
- (iii) any conditions that compromise tailings storage facility integrity or occurrences of non-compliance with recommendations from the engineer of record;
- (iv) signed acknowledgement by the member(s) of the Board, confirming that the report is a true and accurate representation of their reviews.

End of Terms of Reference.

KEMESS SOUTH TAILINGS STORAGE FACILITY – INDEPENDENT TAILINGS REVIEW BOARD

Introduction

AuRico Metals intends to appoint an independent panel of experts referred to as the Independent Tailings Review Board (ITRB) to review the maintenance and closure of the existing, closed Kemess South tailings storage facility (KS TSF) at the Kemess Mine.

It is proposed that the Board consist of one geotechnical engineer and one hydrogeologist. It is understood that any maintenance and closure changes from current practise may have unique aspects that require additional expert advice and that individuals may be requested to join the ITRB for limited engagements as needed.

Purpose and Scope of the Work

The primary purpose of the ITRB will be to review the maintenance and closure of the KS TSF and provide advice to AuRico Metals on matters relative to KS TSF safety, engineering risk, and environmental impacts from the dam, the contained tailings, its appurtenant structures and planned installations/construction comprising the impoundment area, the catchment area immediately surrounding the KS TSF and the related downstream installations/constructions. The ITRB will provide reviews of technical designs and construction practices related to maintenance and closure. AuRico Metals will consider the ITRB's advice to ensure that appropriate measures are taken and sufficient resources are provided to meet corporate, national or international standards as needed.

Reporting Responsibility

The ITRB's duty of responsibility and reporting will be to the Kemess General Manager. The ITRB will have access to the relevant Project documents and records and to the Project site, subject to compliance with all Project access protocol requirements, and will be granted access to the appropriate personnel of the mine and outside consultants engaged by AuRico Metals for the purposes of maintenance and closure of the KS TSG.

Review Meetings and Reports

The scope of the ITRB includes but is not necessarily limited to review of:

- Annual Dam Safety Inspection Reports
- Periodic Dam Safety Reviews
- TSF instrumentation monitoring results
- Maintenance and closure plan
- Emergency preparedness plan.

Accordingly, it is expected that the ITRB will conduct an initial site visit, followed by meetings held once per year. Timing will be determined by AuRico Metals in consultation with ITRB members.

The ITRB will provide commentary on the reviewed documents and findings, including, compatibility with MAC's TSM protocols to which AuRico Metals subscribes, after each meeting indicating adequacy of the KS TSF maintenance and closure practices, and present conclusions and recommendations associated with identified deficiencies, if any, including but not limited to, environmental risks, non-compliance with agreed standards, or liabilities with existing facilities.

The ITRB may be consulted outside of the review meetings via telephone or email as needed to assist with corporate guidance. Summaries of telephone meeting will be made via e mail or letter.

Typical Meeting Formats

Since the KS TSF is closed and no longer under active operation, meetings will typically take place off site. The review meeting will include a review of the latest Dam Safety Inspection (DSI), AuRico Metal's action plan addressing the latest DSI recommendations, the results of any other inspections of the facility since the last meeting, one day to meet to discuss and prepare a close out meeting presentation and one day to prepare a draft report. The meeting will be held at an office convenient to the ITRB members. In optimal conditions, a draft report could be prepared before the ITRB meeting adjourns.

Timeline and Deliverables

Following receipt of a close out meeting presentation that highlights key findings by the ITRB, a draft report will be submitted to AuRico Metals. AuRico Metals will provide responses within two weeks of receipt to address relevant issues identified in this draft report and will develop plans to address unattended issues. The ITRB will prepare and submit a final report of each meeting based on the ITRB's conclusions and AuRico Metals response to the draft report within two weeks after the AuRico Metal's response to the draft report.

February 26, 2018



NICOLA
MINING INC.

Nicola Mining Inc., Merritt Mill and Tailings Facilities

Independent Tailings Review Board – Terms of Reference

As required in Section 10.4.2 of the Province of British Columbia Health, Safety and Reclamation Code for Mines (2017), Nicola Mining Inc. has established an Independent Tailings Review Board for the Merritt Mill and Tailings Facilities.

The purpose of the ITRB is to:

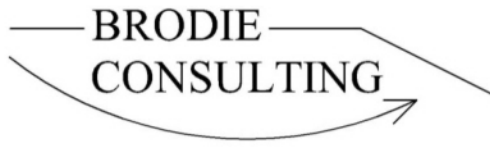
- Provide an independent assessment to senior mine management and regulators whether the tailings storage facility is designed, constructed and operated appropriately, safely and effectively.
- Provide the site team with practical guidance, perspective, experiences and standard/best practices from other operations.
- Review and comment on the planning and design process, monitoring programs, data analysis methodology and work performed by site team and/or the Engineer of Record

The ITRB is not involved in or responsible for the design, operation or construction of the facility. The ITRB will provide non-binding advice and guidance, but does not direct the work or perform the role of the Engineer of Record.

The ITRB currently consists of a single experienced consultant, Peter Lighthall, P.Eng., Consulting Geotechnical Engineer.

The ITRB will make an annual site visit at which he will be briefed on current activities and performance of the TSFs over the past year, and updated on plans for construction, maintenance, and monitoring for the upcoming year. The status of actions taken in response to the previous Dam Safety Inspection report will be presented. The annual meetings will be attended by the Mine Manager, the designated TSF Qualified Person, a representative of Nicola Mining senior management and the Engineer of Record. The ITRB will be provided with all relevant reports at least one week prior to the site visit. Within two weeks following the site visit, the ITRB will prepare a summary report of key observations and recommendations following the site visit. The ITRB report will be presented in draft for review by Nicola Mining and its consultants.

The Mine Manager in his annual report to the Ministry of Energy and Mines will provide a summary of ITRB activity and key recommendations over the past year. The ITRB if required will review and sign its agreement with the Mine Manager's summary.



February 28, 2018

Fred Sveinson, P. Eng.
Bralorne Gold Mines Ltd.
Suite 900, 570 Granville St.
Vancouver, BC, Canada
V6C 3P1

By email: fsveinson@avino.com

RE: Bralorne Mine Tailings Facility – Independent Tailings Review Board – Report No. 1

Dear Fred,

1) Introduction

The following is copied from MEM, July 2016 Guidance Document on Section 10 of the Health Safety and Reclamation Code (HSRC) for Mines in British Columbia:

A revision of Part 10 of the Health Safety and Reclamation Code for Mines in British Columbia, 2016 (Code) was published on July 20, 2016. The Code revision was the product of work directed by the Ministry of Energy and Mines (MEM) and supported by the Tailings Technical Review Sub-committee to address seven recommendations made by the Independent Expert Engineering Review Panel following their review of the Mount Polley Tailings Facility Breach ([January 30, 2015 final report on the Mount Polley tailings dam¹](#)), and contains new requirements for both existing mines that include tailings storage facilities under their Mines Act permit and for mine owners who plan to include tailings storage facilities in new Mines Act Permit applications.

One of the changes to the HSRC is the requirement to establish an Independent Tailings Review Board (ITRB). The proposed ITRB for the Bralorne tailings facility consists solely of John Brodie, P. Eng. of Brodie Consulting Ltd. With respect to Bralorne dam, the following is noted:

- The dam is rated as High according to CDA (not Very High or Extreme).
- The dam is currently in good condition. No issues were identified in the recent DSI.

Brodie Consulting Ltd.

8627 Seascapes Drive, West Vancouver, B.C. V7W 3J7
Cell 604-790-1853 Office 604-922-2034 email:mjohnbrodie@gmail.com

- The dam is relatively low risk with respect to seismic and flood hazards.
- The dam is currently inactive. Resumption of operations is planned for 2017.

Tetra Tech is currently the Engineer of Record for the design and operation of the Bralorne dam.

Should any of the above conditions change, then the membership of the ITRB should be reviewed.

In addition to the above, John Brodie is familiar with the issues of the Bralorne Mine, having recently assisted Skeena in the acquisition of the site from Barrick Gold Inc.

This letter presents the first report by the ITRB. An initial desk-top review of available information was conducted in August 2017, with follow-up discussion with the EoR. A site inspection was conducted on Sept. 25, 2017.













2) Terms of Reference

The terms of reference of the ITRB, as per the BC MEM HSRC 2016 Code *10.4.2*, are as follows.

- Provides an independent assessment to senior mine management and regulators whether the tailings storage facility is designed, constructed and operated appropriately, safely and effectively.
- Provides the site team with practical guidance, perspective, experiences and standard/best practices from other operations.
- Reviews and comments on the planning and design process, monitoring programs, data analysis methodology and work performed by site team and/or contract consultants.
- Provides non-binding advice and guidance, but does not direct the work or perform the role of the Engineer of Record (EoR).

3) Data

The following information has been made available to the ITRB:

 2005-02-23 Bralorne Tailings Impoundment - 2004 Construction Report.zip	2017-08-28 10:15 ...	Compressed (zipp...	20,066 KB
 2014-11 BGM TSF Hydrotechnical Assessment Final.pdf	2017-08-28 10:22 ...	Adobe Acrobat D...	5,399 KB
 2015-05-12 Bralorne TSF EPRP Rev 2.docx	2017-08-28 10:20 ...	Microsoft Word D...	266 KB
 2015-11-06 BGM TSF OMS Manual.pdf	2017-08-28 10:24 ...	Adobe Acrobat D...	7,790 KB
 2016_Bralorne_DSR_1CA043_000_1eb_cs_15Dec2016r1.pdf	2017-08-31 11:17 ...	Adobe Acrobat D...	18,471 KB
 2016-02-09 Interim Tailings Storage Concept Site Plan, V15103090-05 02092016-ITS...	2017-08-28 10:22 ...	Adobe Acrobat D...	1,699 KB
 2016-03 BGM TSF Geotechnical Investigation and Assessment.pdf	2017-08-28 10:21 ...	Adobe Acrobat D...	22,218 KB
 Annual Inspections.zip	2017-08-28 10:18 ...	Compressed (zipp...	35,003 KB
 Bralorne TSF EPRP Rev 3 Dec 15 16.pdf	2017-08-31 11:19 ...	Adobe Acrobat D...	18,888 KB
 Buttress Design.zip	2017-08-28 10:18 ...	Compressed (zipp...	49,120 KB
 Photos.zip	2017-08-28 10:25 ...	Compressed (zipp...	77,249 KB
 TSF Dam Safety Review.zip	2017-08-28 10:25 ...	Compressed (zipp...	4,585 KB

4) GENERAL COMMENTS

The ITRB intent is to work cooperatively with the dam owner and the EoR to determine the best strategy for the dam.

The following general comments are provided by the ITRB:

1. The current situation of the dam at the Bralorne Mine TSF, in care and maintenance configuration, is acceptable. The dam is in good condition and should provide secure containment of tailings. The spillway is appropriately sized. That said, the issue of filter criteria and risk of piping as raised by SRK in the 2016 DSR (Section 4.2.1), and the observed wet zone (BCL Sept 2017) at Seep #2, suggest that diligent monitoring of the dam and efforts to increase the width of the beach are warranted.
2. The ITRB has reviewed and agrees with all of the recommendations as listed in the 2016 Dam Safety Review.

5) Observations

The observations of the ITRB concerning the Bralorne TSF are as follows:

- Visually, the dam appears to be in good condition. There are no signs of settlement, slumping or cracking. There are some minor issues with ponding and erosion that should be addressed as part of ongoing maintenance.
- The dam was raised in 2015 in anticipation of a resumption of operations. In the current care and maintenance configuration, there is more than adequate freeboard.

- At Seep #1 the lower 5 -6 m of the dam face is very steep, at or near angle of repose. There is no sign of instability here.
- The 2015 raise extended the toe of the dam over Seep #2. Drainage was provided with a French drain to the new toe of the dam. At the site inspection, the toe of the buttress was wet and seeping for several meters on both sides of the end of the drain.

6) Comments and Recommendations

- 1) As identified by SRK in the 2016 DSR, there is a concern for the filtration capacity of the dam. It is recommended that the EoR further assess this concern. In the mean-time, and possibly in addition to the results of further assessment, it may be appropriate to adopt an operating criteria such as “the tailings discharge system must be operated such that the pond is never anywhere closer than XX meters to the dam.” The EoR should determine what that distance is. It is the opinion of the ITRB that the distance should not be less than as observed in Sept. 2017. This recommendation would be complimentary with recommendations #3 and #6, below.
- 2) The EoR is encouraged to assess the need for a buttress or slope flattening (by placement of additional material) to ensure adequate factor of safety.
- 3) The situation at Seep #2 should be monitored to confirm that the saturated area of the dam is not expanding, which may be an indication of failure of the drain.
- 4) OMS Section 3.3
There is no mention of the emergency spillway here. What, if anything, should the site operator do with the emergency spillway in the event of a flood?
- 5) OMS Section 4.1 and 4.1.1
It is recommended that “rising piezometer trend” be added to the list of items of concern. In addition, it is recommended that piezometer data be graphed when the data is collected. This will allow identification of a concerning trend which has increases which are less than the critical threshold between any two measurements.

6) **Buttress Design and As-Built reports of 2016**

Although the seepage at the buttress on the north part of the dam is minor, it should be measured to allow verification of dam stability. It is the opinion of the ITRB that up-sets to operating procedures for tailings discharge are most likely to result in the beach on the north side of the dam being smaller than at the south side, which could increase the seepage in this area. In addition, the seepage flow should be monitored for its contribution to the 1500 m³/day limit of release to the environment.

7) **NEXT ITRB Review**

The Bralorne Mine TSF is in good condition, with some points for further consideration as described above. The ITRB suggests:

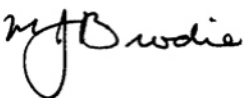
- Review of EoR instructions/modifications to address the above items upon completion in a year.
- Further site inspection is not required unless some critical aspect of the TSF changes, such as a resumption of mining operations.
- The ITRB will conduct a desk-top only assessment of the TSF for 2018, if the mine continues in care and maintenance, and site inspection would be put off for a year (2019). After that time, the scope and frequency of ITRB activities can be re-assessed.

8) **Closure**

The ITRB would like to thank the participants for their valuable and candid inputs and time prior to and during this review. Do not hesitate to contact me if you require any clarifications of the comments issued in this report.

Yours truly,

Brodie Consulting Ltd.



M. J. Brodie, P. Eng.

Terms of Reference

There are a number of requirements for the Independent Tailings Review Board (ITRB) in Section 10.4.4(c) of the HSRC, specifically:

A report of the activities of the Independent Tailings Review Board established under section 10.4.2 (1) (c) of this code that describes the following:

- (i) a summary of the reviews conducted that year, including the number of meetings and attendees;
- (ii) whether the work reviewed that year meets the Board's expectations of reasonably good practice;
- (iii) any conditions that compromise tailings storage facility integrity or occurrences of non-compliance with recommendations from the engineer of record;
- (iv) signed acknowledgement by the members of the Board, confirming that the annual report is a true and accurate representation of their reviews;"

At this time, the ITRB consists of James Edward Beswick, P Eng., FCIM.

This board composition is considered to be reasonable for the May Mac (formerly Roberts Mill) Tailings Storage Facility. The dam would be classified as "low" according to CDA (i.e. below: extreme, very high, high and significant categories).

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Withheld pursuant to/removed as

s.22



BARKERVILLE GOLD MINES LTD.
3700 SKI HILL ROAD
WELLS, BRITISH-COLUMBIA
V0K 2R0

Date: June 26, 2018

Independent Tailings Review Board Terms of Reference

The Independent Tailings Review Board for Barkerville Gold Mines (ITRB) is established in accordance with section 10.4.2 of the revised Health, Safety, and Reclamation Code for Mines in British Columbia dated July 20, 2016 (The Code).

1. Purpose

The purpose of the ITRB is to provide independent reviews of Baskerville Gold's compliance to approved design and operating plans and procedures in the Tailings Management System (TMS) of the Baskerville Gold Tailing Storage Facilities (TSFs). The ITRB does not supersede the professional responsibility of the Engineer of Record as defined in section 10.1.5 of The Code.

2. Terms of Reference

Board Composition

The ITRB consists of three independent senior technical professionals appointed by the Vice President Operations. The collective experience of the ITRB members shall cover geotechnical design, civil construction and tailings operations management. Changes to the number of board members or fields of expertise included in the ITRB above the minimum outlined herein will be at the discretion of the Vice President Operations. The ITRB may request that the Vice President Operations seek additional technical expertise to provide input on areas outside of the expertise of the ITRB members important to the performance of the TSF.

An ITRB member will be considered independent if they have no current personal, professional or legal responsibility for the design and/or construction of the Barkerville Gold TSFs and are free from conflicts of interest. A former Engineer of Record for the facility shall not be considered for a position on the ITRB.

Organizational Structure

The ITRB reports to the Vice President Operations.

As per section 10.4.2 (1) (b), the Vice President Operations designates a TSF Qualified Person who, as part of their duties, acts as coordinator and liaison for the ITRB. In addition, a Barkerville Gold employee will be designated by the Vice President Operations to fulfill the administrative functions of coordinating meeting scheduling, travel and logistics as well as distribution of meeting materials for the ITRB.

Scope

The ITRB scope will include reviews related to all the TSF structures including:

- QR Mill Tailings Dam,
- Mosquito Creek Tailings Dam,

The ITRB will:

- Perform an annual physical inspection tour of the TSF facilities,
- Review annual performance monitoring, inspection reports and risk assessment reviews,
- Review Dam Safety Reports,
- Provide an opinion on whether the construction, operation, maintenance and surveillance of the tailings impoundment is consistent with the guidelines provided by the Engineer of Record,
- Provide an opinion on whether the monitoring and inspection results are consistent with the long-term performance expectations of the facility,
- Provide review and comment on operations and construction activity,
- Provide review and comment on any other items pertinent to the TSF as requested by the Vice President Operations.

Meetings and Agenda

The ITRB will meet annually or as requested by the Vice President Operations.

The Vice President Operations will prepare an agenda prior to each ITRB meeting based on the minutes of the last meeting and resulting summary report and on any current activities and requirements of the TSF that are relevant. All materials to be reviewed at the meeting will be included with the meeting agenda and delivered to the ITRB members a minimum of 10 working days prior to a meeting.

Review meetings will generally consist of preliminary presentations during which Barkerville Gold staff and the facility Engineer of Record will summarize recent developments and current operating conditions for the TSF. The presentations will be followed by a site inspection tour and a discussion session. The schedule will allow the ITRB time to prepare a summary report following the formal meeting. The summary report will be issued, and the report's contents discussed at a debriefing session prior to the ITRB adjourning each meeting.

Reporting

The ITRB will report on matters within their expertise which:

- Affect the integrity of the of the TSF,
- Affect the continued successful operation of the TSF,
- Affect the closure plan for the TSF,
- May be outside of accepted industry practice,
- Have been raised to the ITRB by the Vice President Operations for specific review.

All reports from the ITRB will be confidential and issued to the Vice President Operations. A summary ITRB report will be issued and a debriefing session held with the Vice President Operations, and other personnel designated by the Vice President Operations, prior to the board adjourning each meeting. A draft of the ITRB's final meeting report is required to be issued within 2 weeks of the adjournment of a review meeting and the report should be issued in finalized form within 4 weeks of the adjournment of a review meeting.

Reporting of ITRB activities to the President BGM, regulators, communities of interest and the public shall be the responsibility of the Vice President Operations. The Vice President Operations will produce an annual report summarizing the ITRB review for that year including the number of meetings, meeting attendees, reviews conducted and a statement of whether the work reviewed met the ITRB's expectation of reasonably good practice. In addition, the Vice President Operation's annual report will include any findings from the ITRB of occurrences of non-compliance with the Engineer of Record's recommendations or the approved TMS as well as actions taken because of the ITRB's findings.

The ITRB members are required to review the Vice President Operation's annual report on their activities and provide a signed acknowledgment confirming that the report is a true and accurate representation of their work.

Materials Provided to the ITRB

The Vice president Operations will ensure that the ITRB is provided with design documentation, construction documentation, recent DSI and DSR reports as well as operating manuals and procedures, as appropriate, to support the Board's work.

The Vice President Operations will ensure that an orientation meeting is held to familiarize new ITRB members with the TSF, current conditions of major structures and the ITRB's mandate.

Confidentiality

The materials reviewed, subjects discussed, and opinions expressed by the ITRB are all confidential. To fully establish and acknowledge these confidentially requirements each member of the ITRB will be required to sign the standard Baskerville Gold Mine Confidentiality Agreement.

Indemnity

Baskerville Gold will indemnify the ITRB members from professional liability for incidents, accidents or unfavorable results in the performance of the TSF because of the ITRB member’s advice, opinions or lack thereof because of this independent review process. The indemnity will not cover incidents of gross negligence, willful misconduct or fraud.

Overall responsibility for the performance of the Baskerville Gold TSF remains with the Vice President Operations and professional responsibility for the TSF design remains with the Engineer of Record.

Changes to Membership

To facilitate a continuous and effective ITRB process, both Baskerville Gold and each ITRB member shall give a minimum of one-year notice of resignation or removal from the Board, unless not practical to do so.

Paul Ratte, Manager of Mining	_____	Date: _____
Bob Patrick, Board Member	_____	Date: _____
Dr. Rick Sisson, Board Member	_____	Date: _____

Wolverine Tailings Facility ITRB Terms of Reference – v1.0

Scope

The composition, duties and requirements of an ITRB are defined in the Health, Safety and Reclamation Code for Mines in British Columbia.

Independent Tailings Review Board (ITRB) Code 10.4.2:

- Made up of independent subject matter experts not currently involved in or responsible for the design, operation or construction of the facility.
- Provides an independent assessment to senior mine management and regulators whether the tailings storage facility is designed, constructed and operated appropriately, safely and effectively.
- Provides the site team with practical guidance, perspective, experiences and standard/best practices from other operations.
- Review and comments on the planning and design process, monitoring programs, data analysis methodology and work performed by site team and/or contract consultants.
- Provides non-binding advice and guidance, but does not direct the work or perform the role of the Engineer of Record.
- Size and make-up of the ITRB based on complexity of the tailings system, in terms of risk, consequence and disciplines of substance.

The ITRB's assessment shall be based on their collective experience along with consideration of the following:

- Health, Safety and Reclamation Code (HSRC) for Mines in British Columbia (June 2017 edition, https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/mineral-exploration-mining/documents/health-and-safety/code-review/health_safety_and_reclamation_code_2017_rev.pdf)
- Guidance Document: Health, Safety and Reclamation Code for Mines in British Columbia, Version 1.0 (July 2016, https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/mineral-exploration-mining/documents/health-and-safety/part_10_guidance_doc_10_20july_2016.pdf)
- Canadian Dam Association Technical Bulletin, Application of Dam Safety Guidelines to Mining Dams (2014)
- Mining Association of Canada:
 - Guide to the Management of Tailings Facilities (2017)
 - Developing an Operations, Maintenance and Surveillance Manual for Tailings and Water Management Facilities (2013)

Review Meetings and Agenda

- ITRB meetings will typically be held annually, with scheduling to be determined through discussion between Conuma and the ITRB members.
- Conuma will provide applicable preparatory information to the ITRB (e.g. relevant reports and background information) at least two weeks prior to review meetings.
- The review meetings will generally include presentations during which Conuma and the Wolverine TSF EOR will summarize key design issues and current operating conditions followed by a field review and a discussion session. The ITRB, Conuma and Wolverine TSF EOR may raise additional questions and issues during the course of the review meetings. The ITRB will be provided a copy of the presentation materials at the start of each meeting.
- Time will be scheduled for the ITRB to prepare a presentation for a close-out session at the end of each review meeting.

Reporting

Close-Out Session

- The ITRB will make a presentation of their initial comments to the Conuma management team and other personnel at the end of each review meeting, followed by discussion and questions.

Written Report

- The ITRB will submit a draft report to Conuma within one month of each meeting. The report will include a summary of comments and guidance regarding the matters discussed at the review meeting, any requests for further information and any suggestions regarding the agenda and schedule for the next review meeting.
- Conuma will provide comments on the draft report to the ITRB within two weeks of receipt.
- The ITRB will finalize the report within two weeks of receipt of Conuma's review comments, and provide a .pdf copy of the final report to Conuma Coal.

Confidentiality

Confidential, non-public, or other information considered material to the company that may be discussed in ITRB meetings shall not be disclosed to external parties in any reporting or conversations without written consent from Conuma.

Schedule

The first Wolverine TSF ITRB meeting is tentatively scheduled for the week of August 13, 2018 at site.

Summary of ITRB members, and self-stated qualifications;

Rick Sisson: s.22
s.22

M.John Brodie: s.22
s.22

Quinsam Coal ITRB Terms of Reference – February 1st, 2017

As per Section 10.4.2 (c) of the Health, Safety and Reclamation Code for Mines in British Columbia (2017), *"The manager of a mine with one or more tailings storage facilities shall establish an Independent Tailings Review Board"*.

Terms of Reference

The Independent Tailings Review Board (ITRB) will officially report to the mine manager of Quinsam Coal Corporation (QCC), through Nick Bazowski, the on-site Qualified Person in charge of the tailings facility.

The ITRB currently consists of 2 geotechnical engineers who are acting as independent technical consultants. As required, none of the 2 board members have ever been or are currently the Engineer of Record of the Quinsam Coal Facility, nor have they previously been involved or associated with the construction or design of the Tailings Storage Facility or Quinsam Coal Corporation.

Duties

The Quinsam Coal Corporation Independent Tailings Review Board will:

- Review, assess, and comment on the initial design documents, additional construction documents, operations, maintenance and surveillance programs and any other relevant documents and work related to the tailings management system.
 - Perform a site visit, which will include a review meeting/presentation led by key QCC staff members and/or the EoR with regards to tailings management.
 - Provide an oral briefing on preliminary findings at the conclusion of the site visit and review meeting/presentation.
 - Meet with the EoR to discuss concerns or issues, and to ensure that the ITRB has properly understood relevant aspects of the dam.
 - Prepare a report/presentation on findings, providing non-binding advice and practical guidance to QCC. The report/presentation findings must meet the dam safety requirements of the:
 - Health, Safety and Reclamation Code for Mines in British Columbia
 - BC Dam Safety Regulations
 - Canadian Dam Association Guidelines
- The report should also consider standard/best practices of other operations.
- A draft of the report should be submitted to QCC within one month of the site visit or the date mutually agreed on, allowing for review and reply within 2 weeks, and an additional 2 weeks to provide a final report.

Schedule

The documents needed for the meeting will be sent to the ITRB members no less than two weeks prior to the scheduled visit.

The annual ITRB meeting is tentatively scheduled for the third quarter of each year. The date will be confirmed 3 months prior to the meeting.

Confidentiality

Board Members agree not to disclose any information obtained from the QCC employees to any external parties unless given written consent from QCC, or unless required to do so by law.

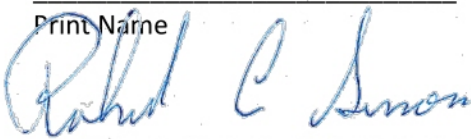
QCC TSF Documents

Based on needs and requests.

If the presented Terms of Reference are accepted, please sign below;

Richard. C. Sisson

Print Name



Sign Name

28-Feb-2019

Date

Quinsam Coal ITRB Terms of Reference – February 1st, 2017

As per Section 10.4.2 (c) of the Health, Safety and Reclamation Code for Mines in British Columbia (2017), *"The manager of a mine with one or more tailings storage facilities shall establish an Independent Tailings Review Board"*.

Terms of Reference

The Independent Tailings Review Board (ITRB) will officially report to the mine manager of Quinsam Coal Corporation (QCC), through Nick Bazowski, the on-site Qualified Person in charge of the tailings facility.

The ITRB currently consists of 2 geotechnical engineers who are acting as independent technical consultants. As required, none of the 2 board members have ever been or are currently the Engineer of Record of the Quinsam Coal Facility, nor have they previously been involved or associated with the construction or design of the Tailings Storage Facility or Quinsam Coal Corporation.

Duties

The Quinsam Coal Corporation Independent Tailings Review Board will:

- Review, assess, and comment on the initial design documents, additional construction documents, operations, maintenance and surveillance programs and any other relevant documents and work related to the tailings management system.
 - Perform a site visit, which will include a review meeting/presentation led by key QCC staff members and/or the EoR with regards to tailings management.
 - Provide an oral briefing on preliminary findings at the conclusion of the site visit and review meeting/presentation.
 - Meet with the EoR to discuss concerns or issues, and to ensure that the ITRB has properly understood relevant aspects of the dam.
 - Prepare a report/presentation on findings, providing non-binding advice and practical guidance to QCC. The report/presentation findings must meet the dam safety requirements of the:
 - Health, Safety and Reclamation Code for Mines in British Columbia
 - BC Dam Safety Regulations
 - Canadian Dam Association Guidelines
- The report should also consider standard/best practices of other operations.
- A draft of the report should be submitted to QCC within one month of the site visit or the date mutually agreed on, allowing for review and reply within 2 weeks, and an additional 2 weeks to provide a final report.

Schedule

The documents needed for the meeting will be sent to the ITRB members no less than two weeks prior to the scheduled visit.

The annual ITRB meeting is tentatively scheduled for the third quarter of each year. The date will be confirmed 3 months prior to the meeting.

Confidentiality

Board Members agree not to disclose any information obtained from the QCC employees to any external parties unless given written consent from QCC, or unless required to do so by law.

QCC TSF Documents

Based on needs and requests.

If the presented Terms of Reference are accepted, please sign below;

M. John Brodie

Print Name

M. John Brodie

Sign Name

Feb. 14, 2019

Date

**MOUNT MILLIGAN MINE TAILINGS STORAGE FACILITY
INDEPENDENT TAILINGS REVIEW BOARD
TERMS OF REFERENCE**

1. INTERPRETATION

1.1 Definitions

In this document:

- (a) “Board” means the Mount Milligan Mine Independent Tailings Storage Facility Tailings Review Board.
- (b) “TSF” means the Tailings Storage Facility.
- (c) “Mount Milligan” means Mount Milligan Mine.
- (d) “Mandate” means the directive of the Board as set out in Section 4.
- (e) “Terms of Reference” means the terms provided in this document.

2. ESTABLISHMENT OF THE BOARD

2.1 Purpose

These Terms of Reference establish the framework within which the Board is constituted for the purposes of providing Mount Milligan with an independent review of the design, construction, operations, closure, and reclamation of the TSF.

These Terms of reference do not create any new legal powers or duties. The Board shall serve in an advisory role to Mount Milligan.

3. COMPOSITION OF THE BOARD

3.1 Members

The Board will consist of three members (minimum of two) selected at the sole discretion of Mount Milligan. The composition of the Board and Qualifications of Board members will be appended to any reports issued by the Board.

3.2 Chairman

Mount Milligan shall designate a member of the Board to be the chairman of the Board. The chairman shall supervise, manage, and direct the business of the Board in accordance with these Terms of Reference.

3.3 Qualifications

Members of the Board shall be unbiased and free from any conflict of interest in relation to both Mount Milligan and the TSF and shall have knowledge or experience relevant to the purpose of the Board as set out herein, which knowledge or experience shall include, without limitation:

- (a) a bachelor’s degree or higher form of education from a recognized university in Canada or abroad in a relevant field of study, such as for example water retaining dam design, tailings dam design, or mine geotechnical design;
- (b) registration with APEGBC or another similar professional registration body within Canada or the United States.

- (c) minimum 10 years of experience in a combination of design, construction, operation, closure, remediation, and inspection of rock- and soil-based major tailings retention structures; and
- (d) recognition as an authority and subject matter expert in the design, construction, operation, closure, remediation, and inspection of rock- and soil-based major tailings retention structures and major water retention structures.

3.4 Term of Appointment

Members of the Board will be appointed for a minimum term of two years (the “Term”), which Term may be renewed at Mount Milligan’s sole discretion.

3.5 Vacancies

A seat on the Board shall become vacant if a member of the Board:

- (a) resigns;
- (b) fails to meet the Qualifications at any time;
- (c) is not re-appointed at the end of his or her Term; or
- (d) is unable to perform the Board’s duties on an ongoing basis, as determined by Mount Milligan, acting reasonably.

In the event of any vacancy, Mount Milligan shall appoint a new member to the Board in accordance with these Terms of Reference.

4. MANDATE OF THE BOARD

4.1 Objective

The objective of the Board is to provide an independent overview of the TSF with the following aims:

- (a) assess conformity with international good practice;
- (b) advise on potential risks to the receiving environment, the local communities, and to the TSF operation, including closure and reclamation;
- (c) review plans to assess whether storage capacity is being developed to support future production;
- (d) provide non-binding recommendations to address concerns identified; and
- (e) participate, at Mount Milligan’s reasonable request, in briefings, discussions, and meetings with Mount Milligan, any governmental authority, or any other affected person or entity as may be required to carry out the above.

4.5 Exclusions

At no time shall the Board be responsible for the design, management, or supervision of the TSF, or any activities related thereto during the design phase, construction, operations, closure, or reclamation.

Without limiting the generality of the foregoing, the mandate of the Board shall not include:

- (a) the design, management, or supervision of the TSF, or any activities related thereto during the design phase, construction, operations, closure, or reclamation;

- (b) the operational practices of the mine that do not directly relate to the operational performance of the TSF;
- (c) the protection of human health, safety, or the environment from factors not related to the TSF; or
- (d) any other activities carried out by Mount Milligan which are not directly related to the design, construction, operation, closure, or reclamation of the TSF.

4.6 Delegation

The Board may not delegate its obligations hereunder.

5. PROCESS OF PROCEEDINGS

5.1 Access to Information

The Board shall have access to all relevant and available documents and information related to the TSF which are necessary to carry out its mandate.

5.2 Meetings

Board shall sit at the times and conduct its proceedings in the manner that it considers necessary to perform its duties under these Terms of Reference. Meetings may be attended in person or via teleconference or other means that allows communication between attendees.

5.3 Quorum

Two members shall constitute a quorum of any meeting of the Board.

5.4 Meeting format

Board meetings will be open for observation by Mount Milligan, its agents, representatives, or appointees, except as requested by the Board for discussion of its recommendations.

The Board's final report of a given meeting will serve as a record of the proceedings of that meeting, and Mount Milligan will retain a copy of all Board reports for at least ten years following the end of reclamation.

5.5 Logistics and Organization

Meetings will be organized by Mount Milligan at times mutually convenient to Board members and Mount Milligan. Mount Milligan will send advance notice of Board meetings and prepare an agenda. Board members may request additional meetings to address specific issues or events.

6. BOARD RECOMMENDATIONS

6.1 Format

A summary of recommendations of the Board shall be presented to Mount Milligan management at the end of each meeting. A report will be submitted to Mount Milligan in draft form prior to publication within two weeks following the end of the meeting. Mount Milligan will have the opportunity to comment on the draft report and propose changes based on additional evidence or revised plans to address deficiencies.

The Board shall consider any comments and proposed changes recommended by Mount Milligan. After due consideration, the Board will submit a final report to Mount Milligan with the Board's recommendations. As per Section 4, the Board's recommendations are non-binding. The final report shall be signed by the members of the Board.

At the subsequent Board meeting, Mount Milligan and/or its agents, representatives, or appointees will present to the Board information gained or actions taken, if any, to address recommendations in the Board's final report. The Board will consider the information presented regarding each recommendation and will, in writing, either certify that Mount Milligan has appropriately resolved the recommendation, or leave the issue open.

6.2 Differences of Opinion

If the Board members disagree on recommendations, the Board may present multiple points of view with authors of each opinion noted. Mount Milligan reserves the right to solicit additional opinions from other sources, and to present these opinions and/or its own interpretation of evidence alongside the recommendations of the Board.

7. COMPENSATION

7.1 Professional Fees

Mount Milligan shall pay a competitive reimbursement to each member of the Board for services performed in accordance with these Terms of Reference.

7.2 Expenses

Mount Milligan will reimburse Board members for reasonable expenses incurred in the performance of their work in accordance with these Terms of Reference.



Taurus (M-149) and Table Mountain (M-127) Tailings Storage Facilities

Independent Tailings Review Board

Terms of Reference and Qualifications

30 November 2020

Cassiar Gold Corp. holds two mine permits on its Cassiar property near Jade City, BC. The Taurus (M-149) and Table Mountain (M-127) permits each include two Tailings Storage Facilities (TSFs). The Engineer of Record for these facilities is J. Richard Trimble of Tetra Tech, Whitehorse. Annual Dam Safety Inspections and updates to the Operations, Maintenance, and Surveillance manual are completed by Tetra Tech. Monthly facility inspections are done by Cassiar Gold Corp. personnel during seasonal operations, typically May-October. All four tailings facilities are categorized as Low under Canadian Dam Association guidelines, based on potential consequence of dam failure.

Cassiar Gold Corp. has engaged Lois Boxill, P.Eng., of Mining Impact Specialists Ltd., as an Independent Reviewer of the four tailing facilities, to fulfill the requirement for an Independent Tailings Review Board (ITRB) under Section 10.4.2 of the British Columbia Health, Safety, and Reclamation Code. Upon consultation with the Engineer of Record, it was determined that a single independent reviewer with appropriate qualifications and experience could fulfill the ITRB role for the relatively simple and low-consequence TSFs at the Cassiar property.

Ms. Boxill has extensive experience in design, construction, management, and closure of mine waste facilities, as detailed in her resumé, attached. Ms. Boxill will provide independent expert evaluation and feedback comprising a review of technical design, performance, monitoring procedures, and documentation for the TSFs at M-127 and M-149. An initial report summarizing her findings will be delivered in the first quarter of 2021. A site tour is planned for summer 2021, as well as guidance in developing a Dam Safety Report required in 2021.

The Mine Manager for M-127 and M-149, as well as the Qualified Person for associated TSFs, is Kaesy Gladwin, P.Geo., VP Exploration for Cassiar Gold Corp.

kaesy@cassiargold.com

Qualifications: Lois Boxill, Ph.D., P.Eng.

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s.22

Terms of Reference

Independent Tailings Review Board (ITRB)

Newmont Canada - Equity Silver Mine (Equity)

This document provides the Terms of Reference to the members of the Independent Tailings Review Board (ITRB) for the for Newmont Canada - Equity Silver Mine (Equity).

1.0 PURPOSE

The purpose of the ITRB (Board) is to:

- Provide independent opinions as to Equity's compliance with the following technical guidelines for dam safety requirements:
 - Newmont standards and guidelines pertaining to tailings management; and
 - Internationally-recognized standards and guidelines for dam safety and tailings management (e.g., Global Industry Standard on Tailings Management [GISTM], International Council on Mining & Metals [ICMM], International Commission on Large Dams [ICOLD], Mining Association of Canada [MAC], Canadian Dam Association [CDA]).
- Review and comment on the design process, monitoring programs, and data analysis methodology and results.
- Provide non-binding advice and guidance to Equity on technical matters associated with the design, hazard consequence assessment, construction, operation and closure of the tailings management facility (TMF), and review any future options or plans regarding tailings disposal or water storage, independent of commercial considerations.
- Provide non-binding advice and guidance to Equity on technical matters associated with the design, hazard consequence assessment, construction, operation and closure of the site's water management structures.
- Provide an independent assessment to senior legacy site management, corporate representatives and regulators, if applicable, whether the Tailings Management Facility (TMF) and water management structures are designed, constructed and operated appropriately, safely and effectively.
- Provide the site team with practical guidance, perspective, experiences and standard/best practices from other operations.

2.0 TERMS OF REFERENCE

This document sets out the terms for roles and responsibilities, membership, timeframe for commencement, scope, reporting obligations, and transparency and accountability.

2.1 Lines of Communication

- The Board will report to the delegate of Newmont's Accountable Executive for tailings, Kim Morrison (Global Tailings & Water Management Lead).
- The Board will coordinate their activities with a designated representative of Newmont and Equity's Responsible Tailings Facility Person (RTFP), who will also assist with arrangements and logistics.

2.2 Board Membership

- The Board will consist of two (2) to four (4) independent technical consultants with applicable expertise as determined by Newmont's Corporate Tailings Management Team within Technical Services.
- No Board member should have been the Engineer of Record (EoR), at any point, for any facility being reviewed, nor should they be currently employed by any organization that is an EoR for any facility being reviewed.
- At the request of the Board, or Equity, additional salient experts may be asked to participate in or observe a review meeting. These experts are to provide input/advice on areas outside the expertise of the Board members but critical to operation of the facilities.

Terms of Reference

Independent Tailings Review Board (ITRB)

Newmont Canada - Equity Silver Mine (Equity)

- The membership of the Board may be modified from time-to-time, at the discretion of Newmont's Accountable Executive or delegate.

2.3 Review Meetings & Agenda

- The Board initially convened in 2017.
- It is intended that review meetings will be scheduled at regular intervals to suit the maintenance and operational activities.
 - The Board will meet at least once annually and may schedule additional meetings as agreed between Equity and the Board.
 - Review meetings will be attended by the Equity site technical and environmental personnel, geotechnical and/or hydrogeological consultants and other key Equity and/or Newmont personnel as required.
- Equity's RTFP will work with the EoR to prepare an agenda prior to each meeting that will, as appropriate, include key technical questions or topics that Equity, its consultants and key stakeholders wish to raise with the Board.
- Equity's RTFP will provide this agenda along with the required documents to the Board at least two weeks prior to the review meeting to allow the Board to review the material and add items or issues.
- The review meeting will generally comprise a preliminary presentation during which Equity and the EoR will summarize recent developments, current operating conditions, and monitoring instrumentation performance, followed by a site inspection (if at site) and a discussion session. The Board will be provided a copy of the presentation materials.

2.4 Facilities

The Board will perform reviews to confirm that the TMF and associated infrastructure have been designed, constructed, and are being operated in a manner consistent with the guidelines listed in **Section 1.0**. The existing TMF and related infrastructure include:

- Dam No. 1
- Dam No. 2
- Diversion Dam
- Dam No. 1 Seepage Pond dam
- Spillway
- Splitter Dyke
- Emergency ARD Storage Pond and Dyke
- ARD Surge Pond and Dam
- Main ARD Pond and Dam
- Getty Creek Pond and Dam
- Bessemer Creek Siltcheck Pond and Dam
- Lu Lake Dam and Spillway

Starting in 2021, the following structures will be added to the structures to be reviewed by the Board in a manner consistent with the guidelines listed in **Section 1.0**:

- Dam No. 3

Terms of Reference

Independent Tailings Review Board (ITRB)

Newmont Canada - Equity Silver Mine (Equity)

- ARD Storage Pond and South Dyke
- No. 1 Sump and Dam

The Board will:

- Perform reviews of designs, plans, and operations when specifically requested to do so by Equity;
- Provide review comments on design, construction, and operational activities that may have long-term stability or other critical performance implications;
- Provide technical support, in an independent review capacity, to Equity for design and implementation of corrective measures or other activities, if required; and
- Provide technical support and recommendations, in an independent review capacity, on future projects regarding tailings and water management.

2.5 Reporting

Reporting by the Board will be as follows:

- At the end of each review meeting, the Board will make a presentation of their findings to the Director of Canadian Legacy Sites and relevant Equity and Newmont corporate team members. At the request of the Board or the Director of Canadian Legacy Sites, a separate confidential meeting can be held between the Board and the Director of Canadian Legacy Sites.
- It is recognized that the timeframe for preparation of the Board's Report will depend on the extent of the review. Following the site visit or review meeting, it is expected that a date for production of a Draft report will be agreed, with a goal of providing within four (4) weeks.
- The Board will submit the Draft report directly to Equity's designated ITRB coordinator for distribution to other team members. Equity and Newmont will be given the opportunity to comment on the Draft report prior to the Board issuing a Final report.
- The Board will submit the Final report directly to the delegate of Newmont's Accountable Executive for tailings (i.e., Dean Gehring):
 - Kim Morrison (Kim.Morrison@newmont.com)
- Copies of the Final report shall be provided to the following recipients:
 - Cody Meints (cody.meints@newmont.com)
 - Mike Aziz (Mike.Aziz@newmont.com)
 - Manuel Aparicio (Manuel.Aparicio@newmont.com)
 - Scott Stringer (Scott.Stringer@newmont.com)
 - Devon Horntvedt (Devon.Horntvedt@newmont.com)
- The Report will include a summary of findings and advice. The Report shall contain figures, photographs or other materials necessary to assist the reader in understanding the key findings of the Board's assessment, inclusive of a background discussion on the status of the TMF and water management structures as of the time of the review (e.g., current capacity compared to design or permitted capacity, facility performance, design and/or construction activities).
- The Board will report on matters within the expertise of the Board that:
 - Affect the integrity of the facilities;
 - Impact upon health, safety and environment;
 - Affect the continued operation of each facility;

Terms of Reference

Independent Tailings Review Board (ITRB)

Newmont Canada - Equity Silver Mine (Equity)

- May be outside accepted practice in the industry;
 - Impact closure plans for inactive TMF and water management structures;
 - Relate to relevant questions within the Board's areas of expertise that have been raised to the Board;
 - Provide a discussion of observed improvements since the previous Board review (where relevant); and
 - Track advancement toward completion of previous Board recommendations with the goal of closing out former recommendations.
- Key recommendations provided by the Board should be ranked by Priority using the following definitions¹:

Priority	Description		
	Dam/Structural Safety	Operations/Governance	Environmental/Closure
1	A dam safety issue considered immediately dangerous to life, health or the environment.	N/A	An issue associated with the TSF that is considered immediately dangerous to life, health, or the environment.
	Priority 1 recommendations require immediate or time-sensitive action by operations.		
2	If not corrected, a concern that could result in dam safety issues leading to injury or environmental impact.	If not corrected, a concern that could result in business disruption or a repetitive deficiency that demonstrates a systematic breakdown of procedure.	An issue considered to be of significant risk for regulatory enforcement or, if not corrected, a concern that could result in regional-scale/long-term or local-scale/short-term environmental impacts.
	Priority 2 recommendations require action by a date agreed by operations and corporate.		
3	Single occurrence of deficiency or non-conformance that alone would not be expected to result in dam safety issues.	Single occurrence of deficiency or non-conformance that alone would not be expected to result in business disruption or breakdown of procedure.	Single occurrence of deficiency or non-conformance that alone would not be expected to result in environmental impacts or regulatory enforcement.
	Priority 3 recommendations require action by a date agreed by operations and corporate.		
4	A recommendation based on good practice improvement or risk reduction.		
	The timeline for completion of Priority 4 recommendations is at the discretion of site operations considering its resources, as agreed by corporate.		

- The Board's work is independent and the Report is to contain its independent comments, findings and conclusions.
- Equity or Newmont may (in its absolute discretion) voluntarily disclose the Report to any government agency, regulator, insurer, or be compelled by law to disclose the Report.

¹ Ranking revised after the system documented in British Columbia Ministry of Energy and Mines (BCMEM) (2016) "Guidance Document, Health, Safety and Reclamation Code for Mines in British Columbia."

Terms of Reference
Independent Tailings Review Board (ITRB)
Newmont Canada - Equity Silver Mine (Equity)

2.6 Materials to be Provided to the Board

- Equity will provide the design documents, construction documentation, operating manuals/procedures and operational history documentation, as appropriate, necessary to support the Board's work.
- The Board is also responsible for identifying and requesting documents that will assist in fulfilling its duties.

2.7 Confidentiality

- Confidential, non-public, or other information considered material to the company that may be discussed in meetings to provide context to technical discussions shall not be disclosed to external parties in any reporting or conversations without written consent from Equity.

2.8 Limitations

- The role of the Board is advisory only.
- The responsibility for the design of the TMF and the water management structures remains with the Designer of Record (DoR) / Engineer of Record (EoR) and the responsibility for operation, maintenance and performance of the TMF and water management structures remains with Equity.
- The Board cannot direct the DoR/EoR nor the operator.

3.0 SCHEDULE

- Subsequent Board meetings will be scheduled and confirmed at the conclusion of each meeting to the extent practical.
- A draft itinerary and agenda summarizing the important issues will be provided by Equity to the Board in advance of each meeting, and finalized with the Board prior to arrival on site.

July 26, 2021

B.C. Ministry of Energy, Mines and Low Carbon Innovation
Major Mines Office
6th Floor, 1810 Blanshard Street
Victoria, British Columbia

Attention to: Chief Inspector of Mines – Hermanus Henning
By email: permrecl@gov.bc.ca
CC: Eamon Mauer – Inspector of Mines

Dear Mr. Henning,

RE: BAKER SHASTA MINE – INDEPENDENT TAILINGS REVIEW BOARD TERMS OF REFERENCE

TDG BC Assets Corp (TDG) is pleased to submit this Terms of Reference for the Independent Tailings Review Board (ITRB) for the Baker Shasta Tailings Storage Facility (TSF) as required by the *Code* section 10.4.2(3).

The member of the Board is Mr. Clint Logue, P.Eng., P.Geo. Mr. Logue's area of expertise is geotechnical engineering and engineering geology related to TSFs. Below it is detailed the terms of reference of the appointed ITRB member.

1 Introduction

The primary purpose of the ITRB is to review the governance, design, construction, operation, and closure of the TSF, and provide advice to TDG on matters relative to TSF safety, engineering risk, and environmental impacts from the dam, the contained tailings, any appurtenant structures, and the related downstream installations. The Board will provide reviews of technical designs, construction practices, and operations for the TSF.

TDG will consider the Board's advice to ensure that appropriate measures are taken, and sufficient resources are provided to meet corporate, national, or international standards, as needed.

The primary focus of the review will be on the TSF and associated water management but may include work on the waste rock facility, open pits, plant site, and other miscellaneous issues that TDG may request from the Board from time to time.

2 Reporting Responsibility

The Board's duty of responsibility and reporting will be to Mr. Fletcher Morgan, CEO & Director, TDG or to whom Mr. Morgan appoints instead.

3 Review Meetings and Reports

The Board will be provided with relevant project documents and records, subject to compliance with all project access and protocol requirements and will be granted access to the appropriate personnel for the purposes of planning, engineering, developing, operating, or closing the mine.

The selection of which documents to review will be based on input from TDG and the Board. The ITRB will provide commentary on the reviewed documents and findings, including compatibility with the appropriate standards, after each meeting. That commentary will indicate adequacy of the designs and construction and/or operational practices, and present conclusions and recommendations associated with identified deficiencies, if any, including but not limited to, environmental risks, non-compliance with agreed standards, or liabilities with existing operations or facilities.

The Board will comment on the appropriateness of the TSF, the reasonableness of the system designs, and ability to operate in a safe and efficient manner, including review of operating assumptions accounting for seismicity, hydrological, and meteorological conditions.

The responsibility for all structures at site and the adoption or application of any of the Board recommendations remains with TDG senior management, and/or delegated to the engineer of record.

4 Meeting Format

It is expected that the Board will meet once in 2021 to provide discussion level review of information presented to the Board by TDG and their consultants, including the engineer of record, Mr. Chris Johns (Tetra Tech Inc.). The 2021 meeting will be held virtually late-August and will include a site visit. The meetings are expected to comprise one day for presentations plus one to two days for project review and follow-up as needed, followed by one to two days for the Board to summarize its findings. The ITRB will present a close-out summary of its findings to TDG, and its consultants at the end of the meetings. TDG will make outcomes of the ITRB available to the Chief Inspector office when required.

If you require further information, please don't hesitate to contact me at +1 (778) 378 5448 or via email at kfoy@tdggold.com

TDG Gold Corp.


Ken Foy (Jul 28, 2021 09:10 PDT)

Kenneth Foy
Mine Manager
Baker Shasta Mine

August 27, 2021

Terms of Reference for the Silvana TSF Independent Tailings Review Board (ITRB).

Submitted to BC Ministry of Energy, Mines and Petroleum Resources (MEMPR) in fulfillment of 2017 modifications to the Health, Safety and Reclamation Code for Mines in British Columbia 2017 (Code).

Background:

Revisions to the Health, Safety and Reclamation Code for Mines in British Columbia 2017 (Code) require the manager of a mine with one or more tailings storage facilities (TSF) to establish an Independent Tailings Review Board (ITRB) (Code Section 10.4.2). The composition of the board is to be commensurate with the complexity of the tailings storage facility (TSF).

Site information:

The Klondike Silver Corp (KSC) Silvana Mine Project in the West Kootenay, near Rossland BC includes a 116 km² claim block, and is home to 68 past-producing mines. It includes the permitted 100-tonne-per-day flotation mill in Sandon, BC. There is ongoing development exploration occurring. Klondike Silver has indicated 2021 work program includes upgrades to the existing Silvana Tailings Management Facility (TMF). KSC is in discussions to engage Tetra Tech to act as the Engineer of Record (EOR) for the facility (in progress). The tailings facility is not actively receiving tailings but the intent is to restart operations of the TMF by 2023. Some repairs to the TMF are planned for 2022. The TMF comprises three ponds, each separated by an embankment dam.

Purpose of ITRB:

The purpose of the Silvana ITRB is to:

- Provide KSC and their EOR with practical guidance, perspective, experiences, and standard practice or opportunities for best practices from other operations.
- Provide an independent opinion to KSC whether the tailings storage facility is designed, constructed and operated appropriately, safely and effectively.
- Review and comment on the operation, monitoring, and any work performed by the site team and/or contract consultants.
- Provide non-binding advice and guidance to KSC and the EOR, but in no way direct the work or perform the role of the Engineer of Record.

Initial Composition

The ITRB composition is to be determined upon approval by the Ministry of Energy, Mines and Low Carbon Innovation (MEMLCI). The Silvana TMF transitioned from operational to closed status after mine closure, and has been in care and maintenance since then but is still permitted under an amended M-65 permit. KSC is presenting a one-member board, consisting of the following professional engineer.

Neil K. Hemrajani Singh, P.Eng., M.Eng.

Sole Proprietor
Neil K Singh Consulting
15059 – 81B Avenue
Surrey, BC, V3S 7V6
CANADA
T 604.502.7838 | C 604.340.1308 | **s.22**

We propose that a board composed of a single member is commensurate with the low complexity of the currently inactive Silvana TMF and is also based on the following assumptions;

- ✓ This person is well recognized in the engineering community in British Columbia having worked for a major consultancy for over 33 years;
- ✓ Tetra Tech is the proposed EOR for the site (to be confirmed) and the proposed individual is not directly affiliated with Tetra Tech.
- ✓ The proposed individual has served as the one-person ITRB, or as EOR for other TMFs in British Columbia, and has over 30 years experience in geotechnical engineering;
- ✓ This proposed composition can be reviewed and amended if required after the 2021 reporting (due by 31 March 2022), if MEMLCI deems it inadequate.

Scope

The focus of the ITRB reviews will be on compliance with regulatory and industry standards for the safe operations, maintenance and surveillance of the Silvana TMF.

Reports

Board review and report to KSC

The board will review, at least once annually, the information supplied by KSC. Following each review, the ITRB will prepare a draft summary letter documenting the information reviewed, and reporting on any issues and opportunities related to the above purpose. Following receipt of review comments from KSC, the ITRB will finalize the letter.

Annual report to MEMLCI

As required under Mine Code Section 10.4.4(c), a report from KSC due by March 31st of the following calendar year, will be submitted to MEM that describes the following;

- (i) a summary of the review(s) conducted that year, including the number of meetings and attendees;
- (ii) whether the work reviewed that year meets the Board's expectations of reasonably good practice;
- (iii) any conditions that compromise tailings storage facility integrity or occurrences of non-compliance with recommendations from the engineer of record;
- (iv) signed acknowledgement by the member(s) of the Board, confirming that the report is a true and accurate representation of their reviews.

End of Terms of Reference.

Johnny Mountain Mine Terms of Reference for the Independent Tailings Review Board **Mines Act Permit: M-178**

Updated on:
April 21, 2022

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1.0 PURPOSE

The purpose of the Independent Tailings Review Board (ITRB) is to:

- Provide independent opinions as to Johnny Mountain Mine's (JMM) compliance with
 - Health Safety and Reclamation Code for Mines in British Columbia (HSRC)
 - Internationally recognized standards and guidelines for dam safety and tailings management:
 - ✓ Global Industry Standard on Tailings Management [GISTM]
 - ✓ Mining Association of Canada [MAC]
 - ✓ Engineers & Geoscientists British Columbia [EGBC]
 - ✓ Canadian Dam Association [CDA].
- Review and comment on the design process, monitoring programs, and data analysis methodology and results.
- Provide non-binding advice and guidance to JMM on technical matters associated with the design, hazard consequence assessment and closure of the tailings facility independent of commercial considerations.
- Provide non-binding advice and guidance to JMM on technical matters associated with the design, hazard consequence assessment, construction, operation, and closure of the site's water management structures.
- Provide an independent assessment to senior site management, corporate representatives, and regulators, if applicable, whether the tailings facility and related water management structures are designed, constructed and operated appropriately, safely and effectively.
- Provide the site team with practical guidance, perspective, experiences, and standard/best practices from other operations.

2.0 TERMS OF REFERENCE

This document sets out the terms for roles and responsibilities, membership, timeframe for commencement, scope, reporting obligations, and transparency and accountability.

2.1 LINES OF COMMUNICATION

The ITRB will report to the Brent Murphy as SnipGold Project Sponsor and Elizabeth Miller as Project Manager.

The ITRB will coordinate their activities with JMM's TSF Qualified Person (TQP) and JMM Field Manager who will also assist with arrangements and logistics.

2.2 ITRB MEMBERSHIP

As Johnny Mountain is a closed tailings facility in the process of transitioning from a state of active care and maintenance to passive care and maintenance, the ITRB have a single independent technical consultant with applicable expertise. Terry L. Eldridge, P.Eng. is the ITRB member.

At the request of the ITRB, or JMM, additional salient experts may be asked to participate in or observe a review meeting. These experts are to provide input/advice on areas outside the expertise of the ITRB member but critical to operation of the facilities.

The membership of the ITRB may be modified from time-to-time, at the discretion of SnipGold senior management.

2.3 REVIEW MEETINGS & AGENDA

The ITRB initially convened in 2021.

It is intended that review meetings will be scheduled at regular intervals to suit the maintenance and closure construction activities. The ITRB will meet at least once annually and may schedule additional meetings as agreed between JMM and the ITRB.

Review meetings will be attended by the JMM site technical and environmental personnel, the Engineer of Record (EOR) for the facility and other geotechnical, civil engineering and/or hydrogeological consultants as required to properly present and discuss the topics under review.

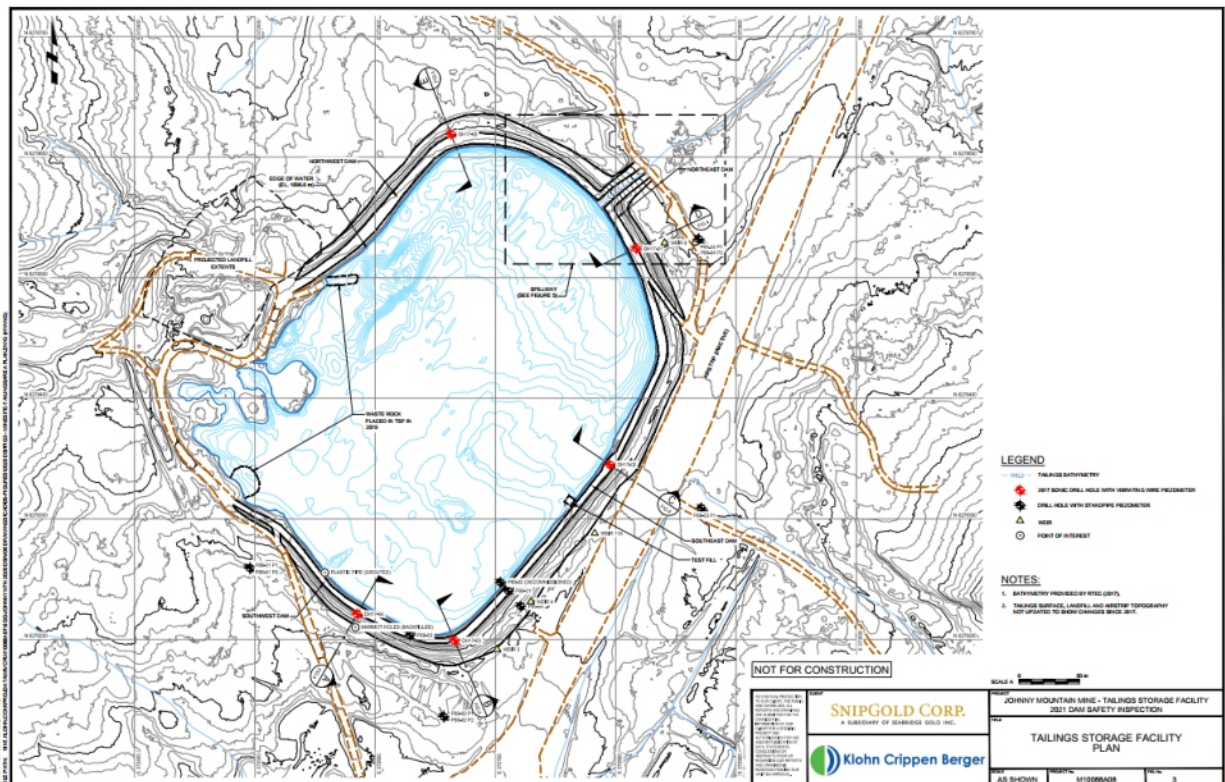
JMM's TQP will work with the EoR to prepare an agenda prior to each meeting that will, as appropriate, include key technical questions or topics that JMM, its consultants and key stakeholders wish to raise with the ITRB. This agenda along with the required documents will be provided to the ITRB at least two weeks prior to the review meeting to allow the ITRB to review the material and add items or issues.

The review meeting will generally comprise a preliminary presentation during which JMM and the EoR will summarize recent developments, current operating conditions, construction activities and monitoring instrumentation performance, followed by a site inspection (if at site) and a discussion session. The ITRB will be provided a copy of the presentation materials.

2.4 FACILITIES

The ITRB will perform reviews to confirm that the tailings facility and related water conveyance and water management facilities have been designed, constructed, and are being operated in a manner consistent with the guidelines listed in Section 1.0. The facilities within the scope of this review are:

- Tailings Dams (Northwest, Northeast, Southeast and Southwest Dams)
- Seepage collection ditches
- Spillway
- Tailings pond water management pumps



JOHNNY MOUNTAIN MINE TAILINGS FACILITY – ITRB REVIEW SCOPE

Figure 1

The ITRB will:

- Perform reviews of designs, plans, and operations when specifically requested to do so by JMM;
- Provide review comments on design, construction, and operational activities that may have long-term stability or other critical performance implications;

-
- Provide technical support, in an independent review capacity, to JMM for design and implementation of corrective measures or other activities, if required; and
 - Provide technical support and recommendations, in an independent review capacity, on future projects regarding tailings and water management.

2.5 REPORTING

Reporting by the ITRB will be as follows:

- At the end of each review meeting, the ITRB will make a brief presentation of preliminary findings to SnipGold Corp management.
- It is recognized that the timeframe for preparation of the ITRB's Report will depend on the extent of the review. Following the site visit or review meeting, it is expected that a date for production of a Draft report will be agreed, with a goal of providing within four weeks.
- The ITRB will submit the Draft report to JMM's TQP for distribution to other team members. JMM will be given the opportunity to comment on the Draft report prior to the ITRB issuing a Final report.
- The ITRB will submit the Final report directly to the SnipGold Project Sponsor and Project.

The Report will include a summary of findings and advice. The Report shall contain figures, photographs, or other materials necessary to assist the reader in understanding the key findings of the ITRB's assessment.

The ITRB will report on matters within the expertise of the ITRB that:

- Affect the integrity of the facilities.
 - Impact upon health, safety, and environment.
 - Affect the continued operation of each facility.
 - May be outside accepted practice in the industry.
 - May impact the closure works for the tailings facility.
 - Relate to relevant questions within the ITRB's areas of expertise that have been raised to the ITRB.
 - Provide a discussion of observed improvements since the previous ITRB review (where relevant); and
 - Comment on advancement toward completion of previous ITRB recommendations with the goal of closing out former recommendations.
-

2.6 CONFIDENTIALITY

Confidential, non-public, or other information considered material to the company that may be discussed in meetings to provide context to technical discussions shall not be disclosed to external parties in any reporting or conversations without written consent from JMM.

2.7 LIMITATIONS

The role of the Board is advisory only. The responsibility for the design of the tailings facility remains with the Engineer of Record (EoR) and the responsibility for operation and performance of the tailings facility remains with SnipGold Corp. The Board cannot direct the EoR nor SnipGold.



400-4100-CO-STA-0001

ITRB Revised Terms of Reference

400-4100-CO-STA-0001 ITRB Revised Terms of Reference	CONTROLLED IN CDMS. UNCONTROLLED WHEN PRINTED OR SAVED		Page 1 of 11
Revision 9 / 3 February 2022	Revised By: Milos Vojvodic	Review Period: 24 Months	Next Review: 2024-02-03
Authorized By: TIA, Manager, Bing Wang		Document Owner: TIA, Manager, Bing Wang	

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Revision 9 / 3 February 2022	Revised By: Milos Vojvodic	Review Period: 24 Months	Next Review: 2024-02-03
Authorized By: TIA, Manager, Bing Wang		Document Owner: TIA, Manager, Bing Wang	

1. INTENT

This standard outlines the roles and responsibilities of the Independent Tailings Review Board (ITRB) and its relationship to Newcrest Red Chris JV, the Mine Operator. The ITRB is to provide expert technical guidance to all aspects of the design, construction, operation, closure, and post closure planning for the Tailings Impoundment Area (TIA).

2. APPLICATION

The contents of the document apply to Red Chris Mine's operator, Newcrest Mining Ltd., and members of the ITRB.

3. DEFINITIONS AND ABBREVIATIONS

Statement	Definition
HSRC	Health and Safety and Reclamation Code
ToR	Terms of Reference
TIA	Tailings Impoundment Area
ITRB	Independent Tailings Review Board
EoR	Engineer of Record
PAC	Project Advisory Committee

4. DOCUMENT DETAILS

Red Chris Development Company (RCDC) established its ITRB for its TIA in early 2015 and 13 review meetings have taken place through late October 2021. As of 13 December 2021, the current ITRB Terms of Reference (ToR) meets the requirements of BC's Health and Safety and Reclamation Code (HSRC) Section 10 Guidance Document. It should be noted that up until Rev. 09 of this document (and ITRB reports 1 to 13), the ITRB was referred to as the Independent Engineering Review Panel (IERP) but was changed to ITRB in Rev. 09 to be consistent with the HSRC.

4.1 GENERAL

- BC's Health and Safety and Reclamation Code (HSRC) - stipulations regarding ITRB are given in Sections 10.4.2 (1), (2), (4) and 10.4.4.
- This new ToR (Version 09) reflects Newcrest Corporate's continued commitment on dam safety as outlined in the recent issuances of Newcrest Tailings Governance Policy and Tailings and Water Storage Standard. It is also demonstrating Red Chris Mine's adherence to abide the HSRC during its operation.

4.2 ITRB MISSION STATEMENT AND GOALS

The ITRB is to provide expert technical guidance to all aspects of the design, construction, operation, closure, and post closure planning for the TIA. To achieve this, ITRB is to:

- Confirm that the design and operation of the TIA are consistent with industry standards.

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- Identify areas where risk reduction measures may be required.
- Provide advice that may add value to the safe operation, closure, and long-term maintenance of the TIA.
- Include “environmental performance” of the TIA – with mine-impacted water flows and associated water quality as an important component.

4.3 ITRB MEMBERSHIP

The ITRB is supported by the operator, Newcrest Red Chris JV, and is composed of five qualified experts (four independent and one sitting member), acceptable to the Chief Inspector of Mines from the Ministry of Energy, Mines and Low Carbon Innovation, and the Tahltan Nation (represented by the Tahltan Heritage Resources Environmental Assessment Team).

The Klohn Crippen Berger 3rd party review of the Red Chris Tailings Impoundment Area (TIA) commissioned by Tahltan Central Council (now the Tahltan Central Government) recommended:

“Each owner retains an Independent Geotechnical Review Board comprised of senior specialists, to provide on-going third-party review of geotechnical issue of significance to the operation.

One of the major responsibilities of such Boards is to review all aspects related to safety of tailings dams over the life cycle from design, construction, operation, and closure.

Commentary: We strongly consider that the Red Chris site appoints a technical review board immediately that consists of senior, independent engineers, and scientists in the following technical areas: geotechnical and tailings engineering, hydrology, hydrogeology, and geochemistry/water quality.

Good practice is to have a management system in place that plans tailings disposal and, executes tailings disposal raises, monitors, and improves the performance of the system.”

At the request of either the ITRB, or the Newcrest Red Chris JV, additional experts may be asked to participate in or observe a meeting. These experts are to provide input/advice on areas outside the expertise of the board members but critical to operation or the facilities.

The ITRB working group meetings will be attended by Newcrest Red Chris JV staff representatives as required.

An appointed Newcrest Red Chris JV representative will act as coordinator and liaison for the ITRB. In this role the individual will assist the ITRB with arrangements and logistics and may chair meetings if requested by the ITRB.

A representative of the Tahltan Nation, appointed by the Project Advisory Committee (PAC), may attend working group meetings on as required basis.

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ITRB			
Name	Title	ITRB Role	Email
Bill Chin, M.Eng., P.Eng.	Principal, Sr. Geotechnical Engineer, Chair	Geotechnics, Dam Design and Dam Safety, Cyclone Tailings Dam Operation	BChin@Klohn.com
Henri Sangam, Ph.D., P.Eng.	Sr. Water Resource Engineer, Core member	Hydrogeological, Hydrological, Contaminant Transport, Geochemistry	henri.sangam@geomino.com
Maire-Helene Turgeon, M. Env. P.Geo. (pending)	Sr. Environmental and Social Specialist, Core Member	Environmental, Water Treatment, Social Engagement, Geochemistry	marie-helene@turgeonconsult.com
Roger Beckie, Ph.D., P.Eng	Professor at University of British Columbia, Core Member (Representing Tahltan Central Government)	Hydrogeology, Contaminant Transport, Geochemistry	rbeckie@mail.ubc.ca
Mike Jacobs, P.E., CP Eng.	Head of Tailings, Sr. Geotechnical Engineer, Sitting Member (non-voting and non-signatory to ITRB reports)	Corporate Tailings Governance Advisor, Technical Oversight	Mike.Jacobs@newcrest.com.au
Newcrest Red Chris JV			
Name	Title	ITRB Role	Email
Phil Stephenson	COO Australia, and Americas	Newcrest	philip.stephenson@newcrest.com.au
Suresh Vadrnagra	Chief Technical and Projects Officer (Accountable Executive)	Newcrest	suresh.vadrnagra@newcrest.com.au
Jon Gaunt	General Manager, Red Chris JV	Newcrest	jon.gaunt@newcrest.com.au
Bing Wang	Manager, TIA Operations	Newcrest	bing.wang@newcrest.com.au
Greg Naus	Principal Engineer, TIA	Newcrest	greg.naus@newcrest.com.au
Denis Corbeil	TIA Construction Superintendent	Newcrest	denis.corbeil@newcrest.com.au
Ben Wither	Manager, HSEC and Permitting	Newcrest	ben.wither@newcrest.com.au
David Hamilton	Environmental Superintendent	Newcrest	david.hamilton@newcrest.com.au
Bryant Schwengler	Operations Manager, Red Chris JV	Newcrest	Bryant.Schwengler@newcrest.com.au
Tahltan			
Name	Title	ITRB Role	Email
Nalaine Morin	Principal, Arrow Blade Consulting Services	Tahltan Representative	nalmorin@arrowbladeconsulting.ca
Christine Creyke	Tahltan Lands Director	Tahltan Representative	landsdirector@tahtlan.org
Engineer of Record / Qualified Persons – BGC			
Name	Title	ITRB Role	Email
Daryl Dufault	Pr. Geotechnical Engineer	Engineer of Record	DDufault@bgcengineering.ca
Carl Mendoza	Pr. Hydrogeologist	Qualified Professional	CMendoza@bgcengineering.ca
Rob Millar	Pr. Hydrologist	Qualified Professional	RMillar@bgcengineering.ca

Table 1: Active Member Contact Information

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4.4 TERMS OF MEMBERSHIP

There is no fixed term of membership imposed upon members of the ITRB. When any member(s) of the ITRB is or are vacating their position(s), it shall be ensured that the remaining membership maintains sufficient continuity to provide knowledge transfer between existing and entering members. Newcrest Red Chris JV's consent will be required for removing any member from the ITRB.

New membership may be appointed through consultation and discussion with the Tahltan and be acceptable to the Chief Mines Inspector from the Ministry of Energy, Mines and Low Carbon Innovation.

Revised Part 10 of the HSRC stipulates the following:

- 10.4.2** (1) *The manager of a mine with one or more tailings storage facilities shall:*
- (c) *establish an Independent Tailings Review Board, unless exempted by the chief inspector,*
 - (d) *review annually the tailings storage facility risk assessment to ensure that the quantifiable performance objectives and operating controls are current and manage the facility risks,*
- (2) *The composition of an Independent Tailings Review Board established under subsection (1) (c) shall be commensurate with the complexity of the tailing's storage facility in consideration of the HSRC Guidance Document.*
- (3) *The manager shall submit the terms of reference for the Independent Tailings Review Board including the qualifications of the board members to the chief inspector for approval.*
- (4) *The terms of reference for the Independent Tailings Review Board shall be developed or updated as required in consideration of the review under subsection (1) (d).*

The establishment of the ITRB is intended to provide independent review of all aspects of the TIA, with consideration of Best Available Technology (BAT)/Best Applicable Practice (BAP) and to provide recommendations and guidance to the Newcrest Red Chris JV. The ITRB is seen as a valuable medium to add value to stakeholders of the Red Chris Mine, including, but not limited to Newcrest Red Chris JV, Newcrest Red Chris JV's Engineer of Record, regulators, Tahltan Central Government, and the local communities.

The ITRB should provide non-binding opinion, but does not direct the work or perform the role of the Engineer of Record, on:

- Whether the design, construction and operation of the TIA has considered BAT/BAP.
- Whether the design and construction have been performed in accordance with their expectation of best management practices.
- Whether safety and operation of the TIA conform to their expectation of best management practices.

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- Whether the environmental performance of the TIA is considered BAP.
- Whether there are weaknesses that would reasonably be expected to have a material adverse effect on the integrity of the TIA, safety, human health, surrounding environment, and successful operation of the facility for its intended purpose.

4.5 FREQUENCY, FORMAT OF MEETINGS AND MANNER OF CALLS

The ITRB shall meet at a minimum of once, but preferably twice a year or as set out in any future permit amendments. These meetings shall include a site tour at least once a year of the Red Chris Mine TIA. The ITRB may also be convened for special sessions to address critical issues. Such special sessions may include a site tour if required.

Format of the first annual meeting will be a one- or two-day meeting in Vancouver. The second annual meeting will include a one to two-day meeting in Vancouver followed by a site tour. The Vancouver meeting will include presentations from Newcrest Red Chris JV, the EOR and other consultants with a primary focus on stability, structural integrity of the TIA dam structures and the “environmental performance” of the TIA. However, in consideration of the current pandemic COVID-19 situation, virtual on-line meetings may be substituted.

Meetings will be attended by ITRB members, Newcrest Red Chris JV staff, the EOR team, other consultants as appropriate and a member of the Tahltan Nation, appointed through PAC.

The ITRB will be called by the Newcrest Red Chris JV TIA Operations Manager or Newcrest Red Chris’s JV Engineer of Record by e-mail, with e-mails being copied to all members of the respective parties as outlined in the Active Membership Contact Information herein.

4.6 RESOURCES AND BUDGET

The members of the ITRB shall be under contract to Newcrest Red Chris JV. The Newcrest Red Chris JV TIA Operations Manager or designate shall manage resources and provide support to the ITRB, with costs to be borne by Newcrest Red Chris JV; the ITRB shall not be responsible for any budgetary contribution to the convening, reporting or presentation as applicable to their work.

4.7 REPORTING AND DELIVERABLES

The ITRB will make a presentation of their findings to the General Manager Red Chris JV. This information will also be provided to the Tahltan Nation through the PAC.

The ITRB shall be responsible to produce a report, submitted to the Newcrest Red Chris JV TIA Operations Manager who will then forward copies to Newcrest Red Chris JV’s Engineer of Record and to the designated Tahltan representative, upon the conclusion of any convening of the ITRB. The ITRB shall also be responsible to produce a report at the request of the Newcrest Red Chris JV TIA Operations Manager for any special sessions for which they are convened.

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4.8 ANNUAL REPORTING

At the end of every calendar year Newcrest will complete a report of activities document and submit by March 31 as per requirements in the HSRC which stipulates the following:

10.4.4 (c) *A report of the activities of the Independent Tailings Review Board established under section 10.4.2 (1) (c) of this code that describes the following:*

- (i) a summary of the reviews conducted that year, including the number of meetings and attendees,*
- (ii) whether the work reviewed that year meets the Board's expectations of reasonably good practice,*
- (iii) any conditions that compromise tailings storage facility integrity or occurrences of non-compliance with recommendations from the engineer of record; and*
- (iv) signed acknowledgement by the members of the Board, confirming that the report is a true and accurate representation of their reviews.*

Newcrest Red Chris JV will send a summary of the findings annually to any interested Tahltan committees. Interested committees must make a written request to PAC.

A member of the ITRB will meet annually with PAC and any interested Tahltan committee to discuss work completed by the ITRB. These meetings will be scheduled upon request to the ITRB and approved by PAC.

4.9 COMMUNICATIONS

The primary means of communication will be through attendance of scheduled meetings. Correspondence is also accepted by e-mail if they are copied to all members of the respective parties.

It shall be the responsibility of Newcrest Red Chris JV to organize any convening of the ITRB to present their work or reports. At a minimum, the ITRB shall be made available once per year, as organized by Newcrest Red Chris JV, for discussion with Tahltan and identified stakeholders regarding their continued work on the Red Chris Mine TIA.

4.10 MATERIALS TO BE PROVIDED TO THE ITRB

Newcrest Red Chris JV will provide the current draft and final design documents, construction documentation, operating manuals/procedures, and operations history documentation, as appropriate, necessary to support the work to be carried out by the ITRB. This information is intended to provide technical information to the ITRB in a timely manner to allow Newcrest Red Chris JV sufficient time to consider ITRB advice prior to the finalization of project designs and procedural documents. All information provided to the ITRB for scheduled meetings will be provided to the ITRB a minimum of two weeks prior to the meetings.

In addition to the above Newcrest Red Chris JV submissions, Newcrest Red Chris JV will submit Tahltan provided materials for ITRB's consideration.

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5. RESPONSIBILITIES

The following table outlines key accountabilities, responsibilities, and contact information in relation to the Terms of Reference:

Role	Responsibility
General Manager	<ul style="list-style-type: none"> Endorse and co-approve the content of the Standard. Ensure the implementation of the Standard. Participate in ITRB meetings.
TIA Operations Manager	<ul style="list-style-type: none"> Review and approve the Standard. Ensure awareness and understanding of the Standard by ITRB members. Organize, inform ITRB, and participate in ITRB meetings. Ensure periodic review/assessment of the Standard. Ensure completion of appropriate ITRB recommendations.
Engineer of Record	<ul style="list-style-type: none"> Review and accept the Standard. Coordinate with Qualified Persons to provide and present documents to TIA Operations Manager and ITRB Members. Participate in ITRB meetings Address and implement relevant ITRB comments and recommendations in consultation with Newcrest Red Chris TIA Operations Manager.
Principal Engineer/ Superintendent	<ul style="list-style-type: none"> Ensure awareness and understanding of the Standard. Organize, prepare and make technical presentations to ITRB members. Participate in ITRB meetings. Participate in preparation, periodic review/assessment of the Standard. Address and implement relevant ITRB comments and recommendations.
ITRB Members	<ul style="list-style-type: none"> Ensure awareness and understanding of the Standard. Review and comment on technical reports and presentations. Participate in ITRB meetings. Present and provide non-binding independent, unbiased, and relevant review comments and recommendations. Complete and issue draft review report four weeks after each ITRB meetings. Signing off the Annual Activity Report summarized by Newcrest for submission to Ministry.

6. PRE-REQUISITE COMPETENCY SKILLS

All ITRB members shall possess high standard of technical competency in their respective field of expertise and be recognized as technical experts in the mining industry with respect to tailings and water managements. Their membership in the ITRB is subject to acceptance and approval by Newcrest Mining and Tahltan Central Government.

6.1 RELATED DOCUMENTS

BC's Health and Safety and Reclamation Code (HSRC)

Newcrest Tailings Governance Policy and Tailings and Water Storage Standard

6.2 DOCUMENT CONTROL

No amendments to this document may be made without the approval of the TIA Operations Manager.

6.2.1 Amendments and Approvals

Rev No	Issue Date (DD/MM/YYYY)	Next Review Date (DD/MM/YYYY)	Approval				Signature
			Description & Location of Revision Change	Prepared By Department, Title & Name	Checked By Department, Title & Name	Approved By Department, Title & Name	
09	03/02/2022	02/02/2022	Revised to reflect new ITRB panel members and new Newcrest personnel. IERP changed to ITRB.	TIA, Senior Hydrogeological Engineer, Milos Vojvodic	TIA Operations Manager, Bing Wang	TIA Operations Manager, Bing Wang	<i>Bing Wang</i>
08	8/05/2021	05/01/2022	Issue to new template	TIA, Manager, Bing Wang	TIA, Principal Engineer, Greg Naus	TIA, Manager, Bing Wang	
07	07/04/2021	N/A	Revised to reflect new Newcrest Tailings Governance Policy and new Newcrest Tailings and Water Standard	Greg Naus	Bing Wu Wang,	Bing Wu Wang	
06	25/11/2020	N/A	Revised to replace Chris Fleming with Bing Wu Wang as Manager TIA Operations			Mark Adams	
05	25/02/2020	N/A	Revised to highlight that "environmental performance" of the TIA to be included explicitly in the ToR			Chris Fleming	
04	08/09/2019	N/A	Revised considering			Mark Adams	

Rev No	Issue Date (DD/MM/YYYY)	Next Review Date (DD/MM/YYYY)	Approval				
			Description & Location of Revision Change	Prepared By Department, Title & Name	Checked By Department, Title & Name	Approved By Department, Title & Name	Signature
			change of JV Ownership and Newcrest as Operator on August 15, 2019			Scott Paddington Raj Anand	
03	16/07/2019	N/A	Revised to highlight primary focus of meetings as stability and structural integrity of the TIA dam structures.			Raj Anand Chris Fleming	
02	03/01/2017	N/A	Revised considering BC Health and Safety Code Revisions of July 20, 2016.			Raj Anand	
01	19/03/2015	N/A	RCDC proposed Terms of Reference and agreed by Tahlitan and IERP Members.			Raj Anand	



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December 12st , 2022

TO: ITRB

CC: Ministry of Energy, Mines and Low Carbon Innovation

FROM: Sylvie St-Jean, Mine Manager

RE: Terms of Reference – Goldstream Mine Independent Tailings Review Board

Introduction

Osisko Development Corporation (ODV) has established an Independent Tailings Review Board (ITRB) to review the technical aspects of the investigations, designs, construction, operation and closure of the Tailings Storage Facility (TSF) for the at the Goldstream Mine (GSM) located near Revelstoke, British Columbia

Following is the Terms of Reference for the GSM ITRB.

Purpose

The purpose of the ITRB is to:

- Provide independent opinion as to whether the TSF, including all pertinent control structures or systems, meet accepted design and operational guidelines based on internationally accepted practices;
- Provide advice and guidance on technical issues associated with the design, construction, operation and maintenance and closure of the TSF, including all pertinent control structures and systems; and
- If the Board considers it warranted, make recommendations regarding improvements to the structures or systems that will enhance the safety and/or longevity of the structures and reduce risks posed by the structures during construction, operations and closure.

Responsibilities

Mine Manager

- Accountable for all aspects of the performance and management of Tailings and

1100, avenue des Canadiens-de-Montréal, suite 300, Montreal, Québec, Canada H3B 2S2

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Water Retaining Structures, including the designation of the EoR and ITRB.

- Responsible for compliance with regulatory requirements and relevant guidelines.
- Responsible to submit all compliance reports to the required regulatory agencies by the due dates.
- Defines site roles and responsibilities, authority and accountability.
- Allocates required human and financial resources.
- Reports dangerous occurrences including significant TSF or dam safety incidents to the Chief Inspector.
- Acts as the TSF Qualified Person, and:
 - Develops and implements the tailings and water management plans for the TSFs under their supervision.
 - Coordinates the design, construction and overall management of tailings storage facilities on the site with the EoR as well as internal and external resources.
 - Develops succession plan for EoR.
 - Implements training programs for tailings and water management activities.
 - Implements the surveillance, inspection, monitoring and maintenance plan outlined in the Operations, Monitoring and Surveillance Manual (OMS).
 - Provides QPOs for operational and maintenance activities for inclusion in the OMS.

Engineer of Record

- Holds the professional responsibility for the facility design, and is responsible for evaluating the adequacy of the as-built facility relative to the design as well as applicable standards, criteria, and guidelines.
- Performs and report on annual Dam Safety Inspections.
- Participates in Dam Safety Reviews.
- Participates in risk assessments.
- Provides Quantitative Performance Objectives and monitoring frequencies required to ensure the facility is functioning as designed for inclusion in the OMS.
- In the event of a change of the EoR, participates in implementing the succession plan, including understanding the risks and liabilities associated with such changes and employing appropriate change management procedures.

Independent Tailings Review Board (ITRB)

- Conducts site visits as deemed necessary, which must include an initial visit the site within 6 months of being appointed to the Board.



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- Provides an independent assessment to senior mine management and regulators whether the tailings storage facility is designed, constructed and operated appropriately, safely and effectively.
- Provides the site team with practical guidance, perspective, experiences and standard/best practices from other operations.
- Reviews and comments on the planning and design process, monitoring programs, data analysis methodology and work performed by site team and/or contract consultants.
- Provides non-binding advice and guidance, but does not direct the work or perform the role of the Engineer of Record.
- Participates in the completion of an annual report of the activities of the Independent Tailings Review Board that includes the following:
 - a summary of the reviews conducted that year, including the number of meetings and attendees;
 - whether the work reviewed that year meets the Board's expectations of reasonably good practice;
 - any conditions that compromise tailings storage facility integrity or occurrences of non-compliance with recommendations from the engineer of record;
 - signed acknowledgement by the members of the Board, confirming that the report is a true and accurate representation of their reviews.

Designated Members

The designated members of the ITRB are:

- Ms. Jennifer Sinclair (P.Eng; EGBC), and
- Mr Richard C. Sisson (PhD Geotech. Eng; P.Eng EGBC).

The designated Engineer of Record is Mr. Marty Sangster (P.Eng EGBC).

The designated Mine Manager and TSF Qualified person is Ms. Sylvie St. Jean, Ph.D.

Reporting

The ITRB will report on matters within their expertise which:

- Affect the integrity of the of the TSF,



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- Affect the continued successful operation of the TSF,
- Affect the closure plan for the TSF,
- May be outside of accepted industry practice,
- Have been raised to the ITRB by the Vice President Operations for specific review.

All reports from the ITRB will be confidential and issued to the Senior Vice President, Project Development, Technical Services and Environment, and CC'ed the Director Environment and Reclamation. A summary ITRB report will be issued, and a debriefing session held with the Senior Vice President, and other personnel designated by the Senior Vice President, prior to the board adjourning each meeting.

Reporting of ITRB activities to the CEO Osisko, regulators, communities of interest and the public shall be the responsibility of the Senior Vice President. The Senior Vice President will produce an annual report summarizing the ITRB review for that year including the number of meetings, meeting attendees, reviews conducted and a statement of whether the work reviewed met the ITRB's expectation of reasonably good practice. In addition, the Senior Vice President's annual report will include any findings from the ITRB of occurrences of non-compliance with the Engineer of Record's recommendations or the approved TMS as well as actions taken as a result of the ITRB's findings.

The ITRB members are required to review the Senior Vice President's annual report on their activities and provide a signed acknowledgment confirming that the report is a true and accurate representation of their work.

Review Process

The Senior Vice President will ensure that the ITRB is provided with design documentation, construction documentation, recent DSI and DSR reports as well as operating manuals and procedures, as appropriate, to support the Board's work.

The Senior Vice President will ensure that an orientation meeting is held to familiarize new ITRB members with the TSF, current conditions of major structures and the ITRB's mandate.

ODV will provide all the ITRB with relevant background reports at least 1 week prior to scheduled review meetings. The EoR will provide an overview of key items noted during the Annual Inspection and key issues or ongoing studies. The review meetings may



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include a TSF site visit. The ITRB will submit a report to the Mine Manager within 3 weeks following each meeting.

In addition to the regular reviews by the ITRB, ODV will also ensure a third-party Dam Safety Review (DSR) is completed every 5 years as per the requirements of the BC Ministry of Energy, Mines and Low Carbon Initiative (EMLI) following the guidance set forth by the Canadian Dam Association (CDA) and Engineers & Geoscientists of British Columbia (EGBC). In the DSR, a third-party Engineering Company completes a comprehensive review of the design, construction and operation of the TMF for conformance with relevant regulations and standards. The objective of the DSR is to confirm the design or identify opportunities to improve the design.

Confidentiality

The materials reviewed, subjects discussed, and opinions expressed by the ITRB are all confidential. To fully establish and acknowledge these confidentiality requirements each member of the ITRB will be required to sign the standard Osisko Confidentiality Agreement.

Indemnity

Osisko will indemnify the ITRB members from professional liability for incidents, accidents or unfavorable results in the performance of the TSF as a result of the ITRB member's advice, opinions or lack thereof as a result of this independent review process. The indemnity will not cover incidents of gross negligence, willful misconduct or fraud. Overall responsibility for the performance of the Goldstream TSF remains with the Senior Vice President and professional responsibility for the TSF design remains with the Engineer of Record.

Updates

Any changes or updates to these terms of reference will be provided to the ITRB, EoR, and EMLI.



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Sylvie St-Jean, PhD
Goldstream Mine, Mine Manager
Osisko Development Corp.



400-4100-CO-STA-0001

ITRB Revised Terms of Reference

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1. INTENT

This standard outlines the roles and responsibilities of the Independent Tailings Review Board (ITRB) and its relationship to Newcrest Red Chris JV, the Mine Operator. The ITRB is to provide expert technical guidance to all aspects of the design, construction, operation, closure, and post closure planning for the Tailings Impoundment Area (TIA).

2. APPLICATION

The contents of the document apply to Red Chris Mine's operator, Newcrest Mining Ltd., and members of the ITRB.

3. DEFINITIONS AND ABBREVIATIONS

Statement	Definition
HSRC	Health and Safety and Reclamation Code
ToR	Terms of Reference
TIA	Tailings Impoundment Area
ITRB	Independent Tailings Review Board
EoR	Engineer of Record
PAC	Project Advisory Committee

4. DOCUMENT DETAILS

Red Chris Development Company (RCDC) established its ITRB for its TIA in early 2015 and 16 review meetings have taken place through to the end of 2022. As of 31 December 2022, the current ITRB Terms of Reference (ToR) meets the requirements of BC's Health and Safety and Reclamation Code (HSRC) Section 10 Guidance Document. It should be noted that up until Rev. 09 of this document (and ITRB reports 1 to 13), the ITRB was referred to as the Independent Engineering Review Panel (IERP) but was changed to ITRB in Rev. 09 to be consistent with the HSRC.

4.1 GENERAL

- BC's Health and Safety and Reclamation Code (HSRC) - stipulations regarding ITRB are given in Sections 10.4.2 (1), (2), (4) and 10.4.4.
- This new ToR (Version 09) reflects Newcrest Corporate's continued commitment on dam safety as outlined in the recent issuances of Newcrest Tailings Governance Policy and Tailings and Water Storage Standard. It is also demonstrating Red Chris Mine's adherence to abide the HSRC during its operation.

4.2 ITRB MISSION STATEMENT AND GOALS

The ITRB is to provide expert technical guidance to all aspects of the design, construction, operation, closure, and post closure planning for the TIA. To achieve this, ITRB is to:

- Confirm that the design and operation of the TIA are consistent with industry standards.
- Identify areas where risk reduction measures may be required.
- Provide advice that may add value to the safe operation, closure, and long-term maintenance of the TIA.
- Include “environmental performance” of the TIA – with mine-impacted water flows and associated water quality as an important component.

4.3 ITRB MEMBERSHIP

The ITRB is supported by the operator, Newcrest Red Chris JV, and is composed of four independent qualified experts, acceptable to the Chief Inspector of Mines from the Ministry of Energy, Mines and Low Carbon Innovation, and the Tahltan Nation (represented by the Tahltan Heritage Resources Environmental Assessment Team).

The Klohn Crippen Berger 3rd party review of the Red Chris Tailings Impoundment Area (TIA) commissioned by Tahltan Central Council (now the Tahltan Central Government) recommended:

“Each owner retains an Independent Geotechnical Review Board comprised of senior specialists, to provide on-going third-party review of geotechnical issue of significance to the operation.

One of the major responsibilities of such Boards is to review all aspects related to safety of tailings dams over the life cycle from design, construction, operation, and closure.

Commentary: We strongly consider that the Red Chris site appoints a technical review board immediately that consists of senior, independent engineers, and scientists in the following technical areas: geotechnical and tailings engineering, hydrology, hydrogeology, and geochemistry/water quality.

Good practice is to have a management system in place that plans tailings disposal and, executes tailings disposal raises, monitors, and improves the performance of the system.”

At the request of either the ITRB, or the Newcrest Red Chris JV, additional experts may be asked to participate in or observe a meeting. These experts are to provide input/advice on areas outside the expertise of the board members but critical to operation or the facilities.

The ITRB working group meetings will be attended by Newcrest Red Chris JV staff representatives as required.

An appointed Newcrest Red Chris JV representative will act as coordinator and liaison for the ITRB. In this role the individual will assist the ITRB with arrangements and logistics and may chair meetings if requested by the ITRB.

A representative of the Tahltan Nation, appointed by the Project Advisory Committee (PAC), may attend working group meetings on as required basis.

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ITRB			
Name	Title	ITRB Role	Email
Bill Chin, M.Eng., P.Eng.	Principal, Sr. Geotechnical Engineer, Chair	Geotechnics, Dam Design and Dam Safety, Cyclone Tailings Dam Operation	BChin@Klohn.com
Henri Sangam, Ph.D., P.Eng.	Sr. Water Resource Engineer, Core member	Hydrogeological, Hydrological, Contaminant Transport, Geochemistry	henri.sangam@geomino.com
Maire-Helene Turgeon, M. Env. P.Geo.	Sr. Environmental and Social Specialist, Core Member	Environmental, Water Treatment, Social Engagement, Geochemistry	marie-helene@turgeonconsult.com
Roger Beckie, Ph.D., P.Eng	Professor at University of British Columbia, Core Member (Representing Tahltan Central Government)	Hydrogeology, Contaminant Transport, Geochemistry	rbeckie@eoas.ubc.ca
Newcrest Red Chris JV			
Name	Title	Role	Email
Craig Jones	COO Americas	Newcrest Corporate	Craig.jones@newcrest.com.au
Suresh Vadnagra	Chief Technical and Projects Officer (Accountable Executive)	Newcrest Corporate	suresh.vadnagra@newcrest.com.au
Jon Gaunt	General Manager, Red Chris JV	Newcrest Red Chris	jon.gaunt@newcrest.com.au
Kate Brand	Group Manager Tailings and Water	Newcrest Corporate	Kate.brand@newcrest.com.au
Greg Naus	Principal Tailings and Water (Responsible Tailings Facility Engineer)	Newcrest Red Chris ITBR coordinator and Liaison	greg.naus@newcrest.com.au
Alex Weryha	Principal Dam Construction	Newcrest Red Chris	Alex.weryha@newcrest.com.au
Ben Wither	VP – HSE and Permitting Western Canada	Newcrest Corporate	ben.wither@newcrest.com.au
Marina Bravo Foster	Principal Water Resources and Environment	Newcrest Corporate	marina.bravofoster@newcrest.com.au
David Hamilton	Environmental Superintendent	Newcrest Red Chris	david.hamilton@newcrest.com.au
Tahltan			
Name	Title	Role	Email
Davide Elmo	Tahltan Heritage Resources Environmental Assessment Team (THREAT) Project Manager	Tahltan Representative	delmo@mining.ubc.ca
Connor Pritty	Tahltan Lands Director	Tahltan Representative	landsdirector@tahtlan.org
Roger Beckie	ITRB Member	Tahltan Selected ITRB Representative	rbeckie@eoas.ubc.ca
Engineer of Record / Qualified Persons – BGC			
Name	Title	Role	Email
Daryl Dufault	Principal Geotechnical Engineer	Engineer of Record	DDufault@bgcengineering.ca
Carl Mendoza	Principal Hydrogeologist	Qualified Professional	CMendoza@bgcengineering.ca
Rob Millar	Principal Hydrologist	Qualified Professional	RMillar@bgcengineering.ca

Table 1: Active Member Contact Information

4.4 TERMS OF MEMBERSHIP

There is no fixed term of membership imposed upon members of the ITRB. When any member(s) of the ITRB is or are vacating their position(s), it shall be ensured that the remaining membership maintains sufficient continuity to provide knowledge transfer between existing and entering members. Newcrest Red Chris JV's consent will be required for removing any member from the ITRB.

New membership may be appointed through consultation and discussion with the Tahltan and be acceptable to the Chief Mines Inspector from the Ministry of Energy, Mines and Low Carbon Innovation.

Revised Part 10 of the HSRC stipulates the following:

- 10.4.2** (1) *The manager of a mine with one or more tailings storage facilities shall:*
- (c) *establish an Independent Tailings Review Board, unless exempted by the chief inspector,*
 - (d) *review annually the tailings storage facility risk assessment to ensure that the quantifiable performance objectives and operating controls are current and manage the facility risks,*
- (2) *The composition of an Independent Tailings Review Board established under subsection (1) (c) shall be commensurate with the complexity of the tailing's storage facility in consideration of the HSRC Guidance Document.*
- (3) *The manager shall submit the terms of reference for the Independent Tailings Review Board including the qualifications of the board members to the chief inspector for approval.*
- (4) *The terms of reference for the Independent Tailings Review Board shall be developed or updated as required in consideration of the review under subsection (1) (d).*

The establishment of the ITRB is intended to provide independent review of all aspects of the TIA, with consideration of Best Available Technology (BAT)/Best Applicable Practice (BAP) and to provide recommendations and guidance to the Newcrest Red Chris JV. The ITRB is seen as a valuable medium to add value to stakeholders of the Red Chris Mine, including, but not limited to Newcrest Red Chris JV, Newcrest Red Chris JV's Engineer of Record, regulators, Tahltan Central Government, and the local communities.

The ITRB does not provide independent investigations or analyses and does not have any decision-making authority. The ITRB should provide non-binding opinion, but does not direct the work or perform the role of the Engineer of Record, on:

- Whether the design, construction and operation of the TIA has considered BAT/BAP.
- Whether the design and construction have been performed in accordance with their expectation of established industry good management practices.
- Whether safety and operation of the TIA conform to their expectation of established industry good management practices.
- Whether the environmental management practices for the TIA has considered BAT/BAP and conform with their expectation of established industry good practice.
- Whether there are weaknesses that would reasonably be expected to have a material adverse effect on the integrity of the TIA, safety, human health, surrounding environment, and successful operation of the facility for its intended purpose.

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4.5 FREQUENCY, FORMAT OF MEETINGS AND MANNER OF CALLS

The ITRB shall meet at a minimum of once, but preferably twice a year or as set out in any future permit amendments. These meetings shall include a site tour at least once a year of the Red Chris Mine TIA. The ITRB may also be convened for special sessions to address critical issues. Such special sessions may include a site tour if required.

Format of the first annual meeting will be a one- or two-day meeting in Vancouver for those who reside in the Vancouver area or on-line for those who reside outside of the Vancouver area. The second annual meeting will include a one to two-day in-person meeting on site in conjunction with a site tour. The Vancouver and on-site meetings will include presentations from Newcrest Red Chris JV, the EOR and other consultants with a primary focus on stability, structural integrity of the TIA dam structures and the “environmental performance” of the TIA. However, in consideration of the current pandemic COVID-19 situation, virtual on-line meetings may be substituted.

Meetings will be attended by ITRB members, Newcrest Red Chris JV staff, the EOR team, other consultants as appropriate and a member of the Tahltan Nation, appointed through PAC.

The ITRB will be called by the Newcrest Red Chris JV Responsible Tailings Facility Engineer or Newcrest (RTFE) Red Chris’s JV Engineer of Record by e-mail, with e-mails being copied to all members of the respective parties as outlined in the Active Membership Contact Information herein.

4.6 RESOURCES AND BUDGET

The members of the ITRB shall be under contract to Newcrest Red Chris JV. The Newcrest Red Chris JV TIA General Manager and RTFE shall manage resources and provide support to the ITRB, with costs to be borne by Newcrest Red Chris JV; the ITRB shall not be responsible for any budgetary contribution to the convening, reporting or presentation as applicable to their work.

4.7 REPORTING AND DELIVERABLES

The ITRB will make presentation of their main findings to the Newcrest Red Chris JV and the project team members who participated at the meetings, including the General Manager of Newcrest Red Chris JV and representatives of the Tahltan Nation. This information will also be provided to the Tahltan Nation through the PAC.

The ITRB shall be responsible to produce a report, submitted to the Newcrest Red Chris JV RTFE who will then forward copies to the Accountable Executive, to Newcrest Red Chris JV’s Engineer of Record and to the designated Tahltan representative, upon the conclusion of any convening of the ITRB. The ITRB shall also be responsible to produce a report at the request of the Newcrest Red Chris JV RTFE for any special sessions for which they are convened. Final report should be addressed to the Accountable Executive copies to GM and RTFE.

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4.8 ANNUAL REPORTING

At the end of every calendar year Newcrest will complete a report of activities document and submit by March 31 as per requirements in the HSRC which stipulates the following:

10.4.4 (c) *A report of the activities of the Independent Tailings Review Board established under section 10.4.2 (1) (c) of this code that describes the following:*

- (i) *a summary of the reviews conducted that year, including the number of meetings and attendees,*
- (ii) *whether the work reviewed that year meets the Board's expectations of reasonably good practice,*
- (iii) *any conditions that compromise tailings storage facility integrity or occurrences of non-compliance with recommendations from the engineer of record; and*
- (iv) *signed acknowledgement by the members of the Board, confirming that the report is a true and accurate representation of their reviews.*

Newcrest Red Chris JV will send a summary of the findings annually to any interested Tahltan committees. Interested committees must make a written request to PAC.

A member of the ITRB, designated as Representing Tahltan Central Government, will meet annually with PAC and any interested Tahltan committee to discuss work completed by the ITRB. These meetings will be scheduled upon request to the designated ITRB member and approved by PAC. These meetings are outside the scope and terms of reference of the other ITRB members who are not designated as Representing Tahltan Central Government.

4.9 COMMUNICATIONS

The primary means of communication will be through attendance of scheduled meetings. Correspondence is also accepted by e-mail if they are copied to all members of the respective parties.

It shall be the responsibility of Newcrest Red Chris JV to organize any convening of the ITRB to present their work or reports to address emerging concerns as communicated to Newcrest. At a minimum, the ITRB shall be made available once per year, as organized by Newcrest Red Chris JV, for discussion with Tahltan and identified stakeholders regarding their continued work on the Red Chris Mine TIA.

4.10 MATERIALS TO BE PROVIDED TO THE ITRB

Newcrest Red Chris JV will provide the current draft and final design documents, construction documentation, operating manuals/procedures, and operations history documentation, as appropriate, necessary to support the work to be carried out by the ITRB. This information is intended to provide technical information to the ITRB in a timely manner to allow Newcrest Red Chris JV sufficient time to consider ITRB advice prior to the finalization of project designs and procedural documents. All information provided to the ITRB for scheduled meetings will be provided to the ITRB a minimum of two weeks prior to the meetings.

In addition to the above Newcrest Red Chris JV submissions, Newcrest Red Chris JV will submit Tahltan provided materials for ITRB's consideration.

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Newcrest Red Chris JV acknowledges that for the ITRB to properly perform its work, the ITRB is relying upon the full disclosure and accuracy of this information.

5. RESPONSIBILITIES

The following table outlines key accountabilities, responsibilities, and contact information in relation to the Terms of Reference:

Role	Responsibility
Accountable Executive	<ul style="list-style-type: none"> Accountable for the safety of the tailings facility and for environmental and social performance Approval of the adopted design criteria and measures to reduce the risk of failure of existing facilities to ALARP Accountable for tailings management training, emergency preparedness and response Selection of the RTFE and the EOR Appointment of the ITRB or senior independent technical reviewer
General Manager	<ul style="list-style-type: none"> Ensure the implementation of the Standard. Participate in ITRB meetings. Accountability for implementation of recommendations
Group Manager Tailings and Water Storages	<ul style="list-style-type: none"> Review and gain approval of the Standard. Ensure periodic review/assessment of the Standard. Governance of ITRB process and recommendations.
Responsible Tailings Facility Engineer (RTFE)	<ul style="list-style-type: none"> Ensure awareness and understanding of the Standard by ITRB members. Organize, inform ITRB, and participate in ITRB meetings. Ensure completion of appropriate ITRB recommendations. Participate in preparation, periodic review/assessment of the Standard.
Engineer of Record	<ul style="list-style-type: none"> Review and accept the Standard. Coordinate with Qualified Persons to provide and present documents to RTFE and ITRB Members. Participate in ITRB meetings Address and implement relevant ITRB comments and recommendations in consultation with Newcrest RTFE.
ITRB Members	<ul style="list-style-type: none"> Ensure awareness and understanding of the Standard. Review and comment on technical reports and presentations. Participate in ITRB meetings. Present and provide non-binding independent, unbiased, and relevant review comments and recommendations. Complete and issue draft review report four weeks after each ITRB meetings. Signing off the Annual Activity Report summarized by Newcrest for submission to Ministry.

6. PRE-REQUISITE COMPETENCY SKILLS

All ITRB members shall possess high standard of technical competency in their respective field of expertise and be recognized as technical experts in the mining industry with respect to tailings and water managements. Their membership in the ITRB is subject to acceptance and approval by Newcrest Mining and Tahlitan Central Government.

6.1 RELATED DOCUMENTS

BC's Health and Safety and Reclamation Code (HSRC)

Newcrest Tailings Governance Policy – February 2021

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Newcrest Tailings and Water Storage Standard – May 2022

6.2 DOCUMENT CONTROL

No amendments to this document may be made without the approval of the General Manager and RTFE.

6.2.1 Amendments and Approvals

Rev	Issue Date	Description & Location of Revision	Prepared By	Checked By	Approved	Signature
10	Dec 31, 2022	Revision to reflect changes to ITRB panel members, Newcrest site and Newcrest corporate team.	Greg Naus	Greg Naus	Kate Brand (as delegated by AE)	
09	Feb 3, 2022	Revised to reflect new ITRB panel members and new Newcrest personnel. IERP changed to ITRB.	Milos Vojvodic	Bing Wang	Bing Wang	
08	May 8, 2021	Issue to new template	Bing Wang	Greg Naus	Bing Wang	
07	Apr 7, 2021	Revised to reflect new Newcrest Tailings Governance Policy and new Newcrest Tailings and Water Standard	Greg Naus	Bing Wang	Bing Wang	
06	Nov 25, 2020	Revised to replace Chris Fleming with Bing Wu Wang as Manager TIA Operations			Mark Adams	
05	Feb 25, 2020	Revised to highlight that "environmental performance" of the TIA to be included explicitly in the ToR			Chris Fleming	
04	Sep 8, 2019	Revised considering change of JV Ownership and Newcrest as Operator on August 15, 2019			Mark Adams Scott Paddington Raj Anand	
03	Jul 16, 2019	Revised to highlight primary focus of meetings as stability and structural integrity of the TIA dam structures.			Raj Anand Chris Fleming	
02	Jan 3, 2017	Revised considering BC Health and Safety Code Revisions of July 20, 2016.			Raj Anand	
01	Mar 18, 2015	RCDC proposed Terms of Reference and agreed by Tahltan and IERP Members.			Raj Anand	

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December 16, 2016

Al Hoffman
Chief Inspector of Mines
Ministry of Energy and Mines
Victoria, BC

Dear Mr. Hoffman,

Reference: Teck Coal Limited – Independent Tailings Review Board

I am writing to confirm that Teck Coal has established an Independent Tailings Review Board (ITRB) as required by section 10.4.2(1)(c) of the July 2016 update to the Health, Safety and Reclamation Code (HSRC) for Mines in British Columbia. Teck Coal's ITRB consists of three individuals – Mr. Peter Lighthall, P.Eng., Dr. Richard Sisson, P.Eng. (Alberta), and Dr. Leslie Smith, P.Geo. The terms of reference for Teck Coal's ITRB cover the tailings storage facilities at our Elkview Operations, Greenhills Operations, Fording River Operations and Quintette Coal Operations sites.



As per the requirement of section 10.4.2(3) of the HSRC, please find attached for your approval the terms of reference for Teck Coal's ITRB along with the qualifications of the three ITRB members.

Please contact me if you have any questions.

Sincerely,

A handwritten signature in black ink that reads "Andrew Bidwell".

Andrew Bidwell, M.Eng., P.Eng.
Senior Engineer Supervisor Geotechnical

Cc: Don Sander, Teck Coal
Geoff Brick, Teck Coal
Dean Runzer, Teck Coal
Rob Muise, Teck Coal
Larry Davey, Teck Coal
Eric Jensen, Teck Coal
Bruce Donald, Teck Resources
Stu Anderson, Teck Resources
Peter Lighthall
Richard Sisson
Leslie Smith

Attachments: Terms of Reference – Teck Coal Independent Tailings Review Board
Curriculum vitae – Mr. Peter Lighthall
Curriculum vitae – Dr. Richard Sisson
Curriculum vitae – Dr. Leslie Smith

Terms of Reference – Independent Tailings Review Board (ITRB) for Teck Coal
November 10, 2016

1. Purpose

The purpose of the Teck Coal ITRB (Board) is to:

- Provide an independent opinion to Teck Coal as to whether Teck Coal's tailings storage facilities (TSFs) meet the dam safety requirements of the following technical guidelines:
 - Canadian Dam Association (CDA) Guidelines and Technical Bulletins
 - BC Dam Safety Regulations
 - Health, Safety and Reclamation Code for Mines in British Columbia (dam safety related aspects)
 - Mining Association of Canada (MAC) Tailings Management Guidelines
 - Applicable International Congress on Large Dams (ICOLD) Guidelines on Tailings and Water Dams. (See Appendix 1)

The Board's scope does not include geochemistry and water quality considerations for the tailings storage facilities and adjacent areas.

- Review and comment on the design process, monitoring programs, and data analysis methodology and results.
- Provide non-binding advice and guidance to Teck Coal on technical matters associated with the design, failure consequence assessment, construction, operation and closure of the dams, and review future options or plans regarding tailings disposal or water storage.

2. Terms of Reference

The terms of reference for the Board are as follows:

2.1 Lines of Communication

- The Board will officially report to the Teck Coal, Vice President, Development, who will designate a geotechnical engineer from Teck Coal's Corporate Engineering group to act as the liaison and primary point of contact for the Board.
- A Teck Coal coordinator will assist with arrangements and logistics for the Board meetings.

2.2 Board Membership

- The Board will consist of three (3) independent technical consultants: two (2) Geotechnical Engineers, and one (1) Hydrogeologist.

- No Board member will have been the Engineer of Record (EoR), at any point, for any facility being reviewed nor should they be currently employed by any organization that is an EoR for any facility being reviewed.
- At the request of the Board, or Teck Coal, additional technical consultants may be asked to participate in or observe a review meeting. These experts are to provide input and /or advise on areas outside the expertise of the board members but critical to operation of the facilities.

2.3 Review Meetings and Agenda

- It is intended that review meetings will be scheduled at regular intervals to suit the construction and operational activities.
 - The Board will typically meet annually and may schedule additional meetings as agreed between Teck Coal and the Board.
 - Review meetings will be attended by Teck Coal staff and their geotechnical and/or hydrogeological consultants.
 - Teck Coal may require that an independent technical consultant participate in the Board meetings as a stakeholder representative.
- Teck Coal will prepare an agenda prior to each meeting that will, as appropriate, include key technical questions or topics that Teck Coal, its consultants and key stakeholders wish to raise with the Board.
- Teck Coal will provide this agenda along with the required documents to the Board at least two weeks prior to review meetings to allow the Board to review the material and add items or issues.
- The review meetings will generally comprise a preliminary presentation during which Teck Coal and their consultants will summarize recent developments and current operating conditions followed by a site inspection and a discussion session. The Board will be provided a copy of the presentation materials.
- Time will be scheduled for the Board to prepare a presentation for a debriefing session at the end of the review meeting.

2.4 Facilities

The Board will perform reviews to confirm that the dams at the tailings storage facilities listed below have been designed, constructed and are being operated in a manner consistent with the guidelines listed in Section 1.0.

Elk Valley area sites:

- Elkview Operations (EVO)
 - Lagoons A, B and C (inactive TSFs).
 - Lagoon D (active TSF)
 - West Fork (active TSF)
- Greenhills Operations (GHO)
 - Tailings Facility (active TSF)
- Fording River Operations
 - South Tailings Pond (active TSF)
 - North Tailings Pond (inactive TSF)

Tumbler Ridge, BC area sites:

- Quintette Coal Operations (QCO)
 - Plantsite Tailings Facility (inactive TSF)
 - Shikano North Tailings Facility (inactive TSF)
- Bullmoose Operations (BMO)
 - Tailings Storage Dam (inactive TSF)

The Board will:

- Perform reviews of designs and operations when specifically requested to do so by Teck Coal;
- Provide review comment on design, construction, and operational activities that may have long-term stability or other critical performance implications;
- Provide technical support, in an independent review capacity, to Teck Coal for design and implementation of corrective measures or other activities, if required; and
- Provide technical support and recommendations, in an independent review capacity, on future projects regarding tailings and water management.

2.5 Reporting

ITRB report to Teck Coal:

At the end of each review meeting, the Board will make a presentation of their findings to the Teck Coal, Vice President, Development (or their designate) and other Teck Coal personnel.

The Board will submit a Draft report to Teck Coal within one month of each meeting. The report will include a summary of findings and recommendations.

The Board will report on matters within the expertise of the Board that:

- Affect the integrity of the facilities;
- Impact the safe operation of the facilities;
- Affect the continued operation of the facility;
- May be outside accepted practice in the industry;
- Impact closure plans for active and inactive tailings facilities;
- Relate to relevant questions that have been raised to the Board.

Teck Coal annual summary report on ITRB activities:

The Board will review and provide comments on Teck-authored annual summary reports of the ITRB's activities that include:

- A summary of the ITRB reviews conducted that year, including the number of meetings and attendees.
- A description of whether or not the work reviewed by the ITRB that year meets the Board's expectations of reasonably good practice.
- A listing of any conditions that compromise TSF integrity or occurrences of non-compliance with recommendations from the Engineer of Record for a TSF.

Teck will finalize each annual report with consideration of the Board's comments. Teck will provide a final version of the report to the Board for their final review and signature of an acknowledgement page stating that the report is a true and accurate representation of their reviews for the year. Teck will submit a copy of the final report with signed acknowledgement page to the Ministry of Energy and Mines.

2.6 Materials to be provided to the Board

- Teck Coal will provide the design documents, construction documentation, operating manuals/procedures and operational history documentation, as possible, to support the Board's work.

2.7 Confidentiality

- Confidential, non-public, or other information considered material to the company that may be discussed in meetings to provide context to technical discussions shall not be disclosed to external parties in any reporting or conversations without written consent from Teck.

3.0 ***Schedule***

- The next Board meeting is planned for June and late July/early August 2017 at various Teck Coal sites. An itinerary will be provided in advance of the meeting.

Appendix 1: Relevant ICOLD Bulletins

Bulletin Preprint-164 - Internal Erosion of Existing Dams, Levees and Dikes, and their Foundations
Bulletin Preprint-158 - Dam surveillance guide
Bulletin 155 - 2013 - Guidelines for use of numerical models in dam engineering
Bulletin 153 - 2013 - Sustainable design and post-closure performance of tailings dams
Bulletin Preprint-150 - Cutoffs for dams
Bulletin Preprint-148 - Selecting seismic parameters for large dams - Guidelines (revision of Bulletin 72)
Bulletin 139 - 2011 - Improving tailings dam safety - Critical aspects of management, design, operation and closure.
Bulletin 130 - 2005 - Risk Assessment in Dam Safety Management. A reconnaissance of Benefits. Methods and Current Applications
Bulletin 129 - 2005 - Dam Foundations. Geologic considerations. Investigation Methods. Treatment. Monitoring
Bulletin 121 - 2001 - Tailings dams risk of dangerous occurrences - Lessons learnt from practical experiences
Bulletin 120 - 2001 - Design features of dams to resist seismic ground motion
Bulletin 113 - 1999 - Seismic observation of dams-Guidelines and case studies
Bulletin 106 - 1996 - A guide to Tailings Dams and impoundments - Design, construction, use and rehabilitation
Bulletin 104 - 1996 - Monitoring of Tailings Dams - Review and Recommendations
Bulletin 103 - 1996 - Tailings Dams and Environment - Review and Recommendations
Bulletin 101 - 1995 - Tailings Dams. Transport. Placement. Decantation - Review and recommendations
Bulletin 97 - 1994 - Tailings Dams - Design of drainage
Bulletin 95 - 1994 - Embankment dams - Granular filters and drains
Bulletin 74 - 1989 - Tailings dams safety - Guidelines

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To: Independent Tailings Review Board

From: Mike Westendorf

Date: October 7, 2021

Re: Terms of Reference – Update 6

Following is the Terms of Reference for the Copper Mountain Mine (CMM) Independent Tailings Review Board (ITRB).

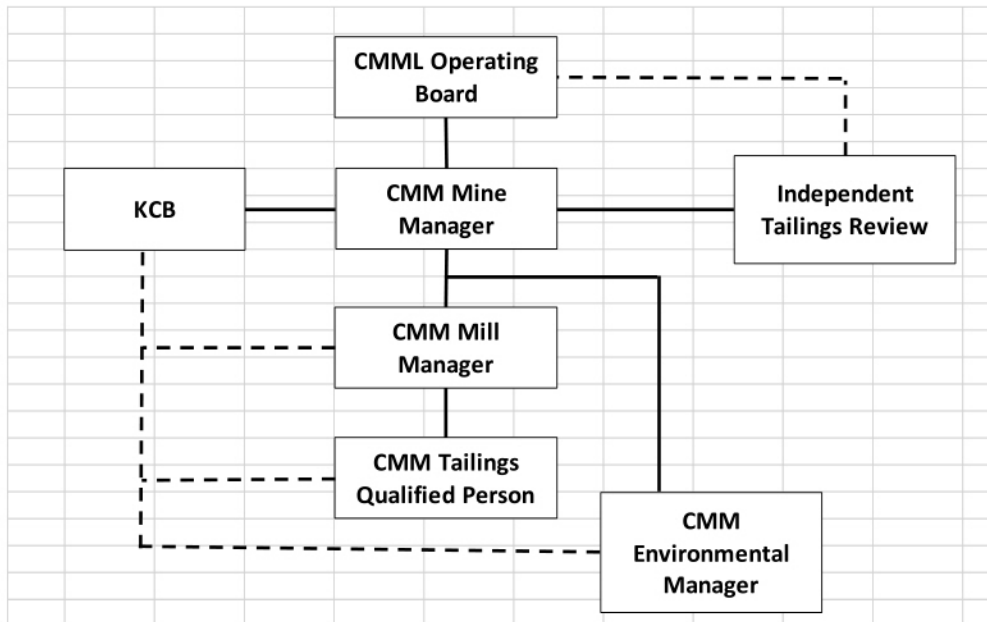
The existing Tailings Management structure includes a Designer of Record (DoR) and an Engineer of Record (EoR) for the Tailings Management Facility (TMF). The DoR is an Engineering Company (Klohn Crippen Berger, KCB) and the EoR (Andrew Witte, P.Eng. of KCB) is a qualified professional engineer representing the Engineering Company (KCB). Each year prior to March 31st, there is an updated construction plan generated as part of the Annual Review and As-built Report. This construction plan is completed by the DoR and includes an internal senior level review within the Engineering Company. The EoR is responsible to ensure the construction is completed within the design parameters.

In addition to the above design management, there is a third party Dam Safety Review (DSR) completed every 5 years as per the requirements of the BC Ministry of Energy, Mines and Low Carbon Initiative (EMLI) following the guidance set forth by the Canadian Dam Association (CDA) and Engineers & Geoscientists of British Columbia (EGBC). In the DSR, a third party Engineering Company completes a comprehensive review of the design, construction and operation of the TMF for conformance with relevant regulations and standards. The objective of the DSR is to confirm the design or identify opportunities to improve the design.

Mike Westendorf, P.Eng. is designated as the Mine Manager for CMM under the Health, Safety and Reclamation Code for Mines in British Columbia, and is thus responsible and accountable for the safe design, construction and operation of the TMF.

The Mine Manager has designated a CMM employee (Jaime Weber, P.Eng.) as the Tailings Qualified Person (TQP). The TQP is responsible for being fully informed of all Tailings Management functions including dam design, construction, instrumentation, water balance, etc; and is the main point of contact for communication with the EoR and DoR.

The objective for the ITRB is to provide non-binding advice and guidance to the Mine Manager on the TMF. The ITRB will provide high level experienced review of the TMF to ensure robust management and conformance with relevant regulations, guidelines and industry best practices. The intention is the ITRB does not duplicate efforts of the EoR, DoR or DSR. The ITRB reports directly to the Mine Manager, with direct parallel reporting to the Copper Mountain Mine Limited (CMML) Accountable Executive, Don Strickland, P.Eng..



The ITRB presently consists of Peter Lighthall, P. Eng., Peter Campbell and Terry Eldridge, P. Eng. The ITRB members may change as required to meet the objectives of the ITRB.

The ITRB will meet at least once per year at the start of the tailings construction season to review the annual report and construction plan. However, the board may schedule to meet twice a year to include a meeting near the end of the tailings construction season. The ITRB meetings will be attended by the EoR, the TQP, the Mill Manager, the CMMC Executive Vice President, Sustainability and the Mine Manager. The TQP will provide the ITRB with relevant background reports at least 1 week prior to the meeting. The EoR will provide an update presentation of key items noted during the Annual Inspection and key issues or ongoing studies. The meeting will include a TMF site visit. The ITRB will submit a report to the Mine Manager and the Accountable Executive of the CMML Board of Directors within 3 weeks following each meeting.



Confidential, non-public, or other information considered material to Copper Mountain that may be discussed in the ITRB meetings to provide context to technical discussions shall not be disclosed to external parties in any reporting or conversations without written consent from the Mine Manager.

In the Annual EMLI Tailings Management Facility submission, the Mine Manager will note ITRB meeting dates, and any material concerns identified by the ITRB which have not been noted in the TMF Annual Review and As-Built Report.

A handwritten signature in black ink, appearing to read "Mike Westendorf", is positioned above a horizontal line.

Mike Westendorf
Acting Mine Manager



COPPER MOUNTAIN
MINE (BC) LTD.

To: Independent Tailings Review Board

From: Eric Dell

Date: December 15, 2020

Re: Terms of Reference – Update 5

Following is the Terms of Reference for the Copper Mountain Mine (CMM) Independent Tailings Review Board (ITRB).

The existing Tailings Management structure includes a Designer of Record (DoR) and an Engineer of Record (EoR) for the Tailings Management Facility (TMF). The DoR is an Engineering Company (Klohn Crippen Berger, KCB) and the EoR (Andrew Witte, P.Eng. of KCB) is a qualified professional engineer representing the Engineering Company (KCB). Each year prior to March 31st, there is an updated construction plan generated as part of the Annual Review and As-built Report. This construction plan is completed by the DoR and includes an internal senior level review within the Engineering Company. The EoR is responsible to ensure the construction is completed within the design parameters.

In addition to the above design management, there is a third party Dam Safety Review (DSR) completed every 5 years as per the requirements of the BC Ministry of Energy and Mines (MEM) following the guidance set forth by the Canadian Dam Association (CDA) and Association of Professional Engineers and Geoscientists of BC (APEGBC). In the DSR, a third party Engineering Company completes a comprehensive review of the design, construction and operation of the TMF for conformance with relevant regulations and standards. The objective of the DSR is to confirm the design or identify opportunities to improve the design. KCB completed a DSR in 2016 prior to assuming the DoR responsibilities from AMEC.

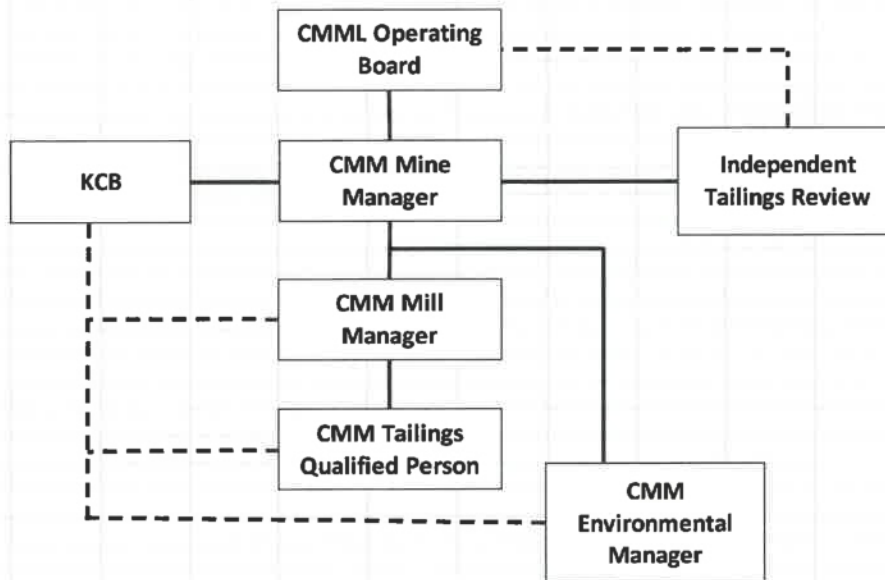
Eric Dell, P.Eng. is designated as the Mine Manager for CMM under the Health, Safety and Reclamation Code for Mines in British Columbia, and is thus responsible and accountable for the safe design, construction and operation of the TMF.

The Mine Manager has designated a CMM employee (Graham Bonn, P.Eng.) as the Tailings Qualified Person (TQP). The TQP is responsible for being fully informed of all Tailings Management functions including dam design, construction, instrumentation, water balance, etc; and is the main point of contact for communication with the EoR and DoR.



COPPER MOUNTAIN MINE (BC) LTD.

The objective for the ITRB is to provide non-binding advice and guidance to the Mine Manager on the TMF. The ITRB will provide high level experienced review of the TMF to ensure robust management and conformance with relevant regulations, guidelines and industry best practices. The intention is the ITRB does not duplicate efforts of the EoR, DoR or DSR. The ITRB reports directly to the Mine Manager, with direct parallel reporting to the Copper Mountain Mine Limited (CMML) Accountable Executive, Don Strickland, P.Eng..



The ITRB presently consists of Peter Lighthall, P. Eng., Peter Campbell and Terry Eldridge, P. Eng. The ITRB members may change as required to meet the objectives of the ITRB.

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COPPER MOUNTAIN
MINE (BC) LTD.

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In the Annual MEM Tailings Management Facility submission, the Mine Manager will note ITRB meeting dates, and any material concerns identified by the ITRB which have not been noted in the TMF Annual Review and As-Built Report.

Eric Dell
Mine Manager



October 31, 2019

Mr. Hermanus Henning
Chief Inspector of Mines
Mines and Mineral Resources Division
Ministry of Energy and Mines and Petroleum Resources
P.O. Box 9320 Stn Prov Gov
6th Floor, 1810 Blanshard Street
Victoria, BC V8W 9N3

Dear Mr. Henning,

Re: Update of Copper Mountain Independent Tailings Review Board Terms of Reference and Board Member Qualifications

Copper Mountain Mine (B.C.) Ltd. (CMML) is submitting for your approval an updated Independent Tailings Review Board (ITRB) terms of reference (TOR) as required per Code 10.4.2(3) and Advisory #1 of the Geotechnical Inspection Report 129032 dated June 6, 2019. The principal updates to the TOR is the inclusion of Mr. Terry Eldridge, P.Eng to the ITRB and changing the Tailings Qualified Person to Mr. Jim MacKay, P.Eng.

As mentioned above, the member composition of the CMML ITRB has now been expanded to include Mr. Terry Eldridge, P.Eng. Mr. Eldridge joins existing ITRB members Mr. Peter Lighthall, P.Eng and Mr. Peter Campbell.

Attached to this letter is the updated TOR and qualifications of the three ITRB members.

A handwritten signature in blue ink, appearing to read "Eric Dell", is written over a faint, larger signature that appears to read "Eldridge".

Eric Dell P.Eng
Mine General Manager
Copper Mountain Mine

Encl.

Cc. Paul Hughes – MEMPR
Blythe Golobic – MEMPR
Jaime Weber – CMML
Jim McKay - CMML
Michelle DesJardins – CMML



To: Independent Tailings Review Board

From: Eric Dell

Date: October 31, 2019

Re: Terms of Reference – Updated 4

Following is the Terms of Reference for the Copper Mountain Mine (CMM) Independent Tailings Review Board (ITRB).

The existing Tailings Management structure includes a Designer of Record (DoR) and an Engineer of Record (EoR) for the Tailings Management Facility (TMF). The DoR is an Engineering Company (Klohn Crippen Berger, KCB) and the EoR (Andrew Witte, P.Eng. of KCB) is a qualified professional engineer representing the Engineering Company (KCB). Each year prior to March 31st, there is an updated construction plan generated as part of the Annual Review and As-built Report. This construction plan is completed by the DoR and includes an internal senior level review within the Engineering Company. The EoR is responsible to ensure the construction is completed within the design parameters.

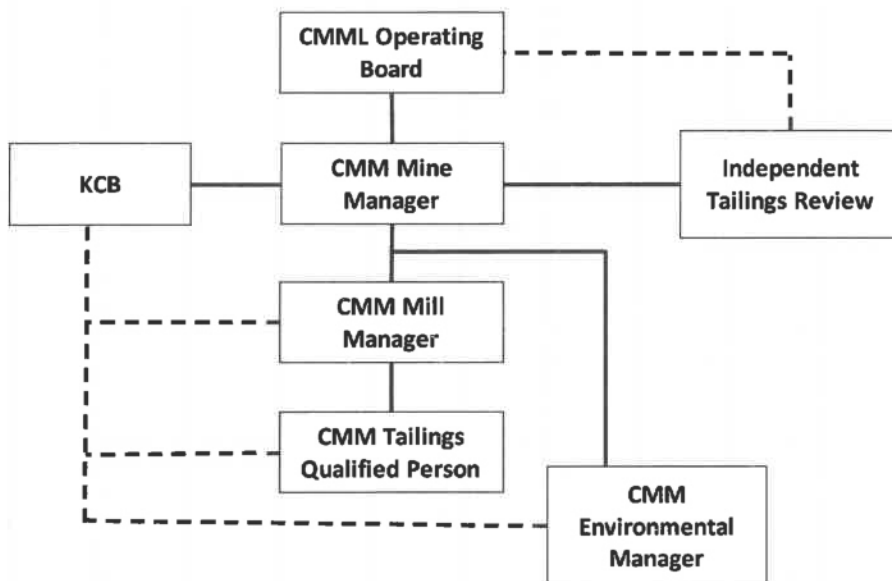
In addition to the above design management, there is a third party Dam Safety Review (DSR) completed every 5 years as per the requirements of the BC Ministry of Energy and Mines (MEM) following the guidance set forth by the Canadian Dam Association (CDA) and Association of Professional Engineers and Geoscientists of BC (APEGBC). In the DSR, a third party Engineering Company completes a comprehensive review of the design, construction and operation of the TMF for conformance with relevant regulations and standards. The objective of the DSR is to confirm the design or identify opportunities to improve the design. KCB completed a DSR in 2016 prior to assuming the DoR responsibilities from AMEC.

Eric Dell, P.Eng. is designated as the Mine Manager for the CMM under the Health, Safety and Reclamation Code for Mines in British Columbia, and is thus responsible and accountable for the safe design, construction and operation of the TMF.

The Mine Manager has designated a CMM employee (Jim Mackay, P.Eng.) as the Tailings Qualified Person (TQP). The TQP is responsible for being fully informed of all Tailings Management functions including dam design, construction, instrumentation, water balance, etc; and is the main point of contact for communication with the EoR and DoR.



The objective for the ITRB is to provide non-binding advice and guidance to the Mine Manager on the TMF. The ITRB will provide high level experienced review of the TMF to ensure robust management and conformance with relevant regulations, guidelines and industry best practices. The intention is the ITRB does not duplicate efforts of the EoR, DoR or DSR. The ITRB reports directly to the Mine Manager, with direct parallel reporting to the Copper Mountain Mine Limited (CMML) President for the Board of Directors.



The ITRB presently consists of Peter Lighthall, P. Eng., Peter Campbell and Terry Eldridge, P. Eng. The ITRB members may change as required to meet the objectives of the ITRB.

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In the Annual MEM Tailings Management Facility submission, the Mine Manager will note ITRB meeting dates, and any material concerns identified by the ITRB which have not been noted in the TMF Annual Review and As-Built Report.

A handwritten signature in blue ink, appearing to read 'Eric Dell', is written over a horizontal line.

Eric Dell
Mine Manager

Page 247 of 281 to/à Page 262 of 281

Withheld pursuant to/removed as

s.22



To: Independent Tailings Review Board

From: Frank Catalano

Date: December 13th, 2021

Re: Terms of Reference – Update 7

Following is the Terms of Reference for the Copper Mountain Mine (CMM) Independent Tailings Review Board (ITRB).

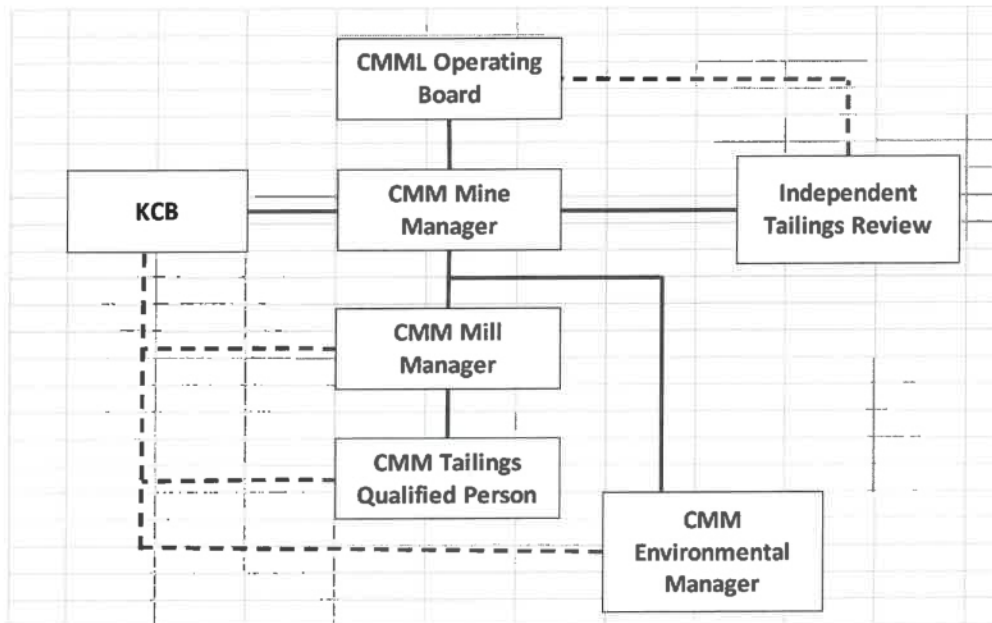
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In addition to the above design management, there is a third party Dam Safety Review (DSR) completed every 5 years as per the requirements of the BC Ministry of Energy, Mines and Low Carbon Initiative (EMLI) following the guidance set forth by the Canadian Dam Association (CDA) and Engineers & Geoscientists of British Columbia (EGBC). In the DSR, a third party Engineering Company completes a comprehensive review of the design, construction and operation of the TMF for conformance with relevant regulations and standards. The objective of the DSR is to confirm the design or identify opportunities to improve the design.

Frank Catalano, P.Eng. is designated as the Mine Manager for CMM under the Health, Safety and Reclamation Code for Mines in British Columbia, and is thus responsible and accountable for the safe design, construction and operation of the TMF.

The Mine Manager has designated a CMM employee (Mike Allen, P.Eng.) as the Tailings Qualified Person (TQP). The TQP is responsible for being fully informed of all Tailings Management functions including dam design, construction, instrumentation, water balance, etc; and is the main point of contact for communication with the EoR and DoR.

The objective for the ITRB is to provide non-binding advice and guidance to the Mine Manager on the TMF. The ITRB will provide high level experienced review of the TMF to ensure robust management and conformance with relevant regulations, guidelines and industry best practices. The intention is the ITRB does not duplicate efforts of the EoR, DoR or DSR. The ITRB reports directly to the Mine Manager, with direct parallel reporting to the Copper Mountain Mine Limited (CMML) Accountable Executive, Don Strickland, P.Eng..



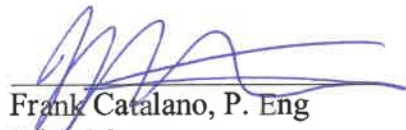
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In the Annual EMLI Tailings Management Facility submission, the Mine Manager will note ITRB meeting dates, and any material concerns identified by the ITRB which have not been noted in the TMF Annual Review and As-Built Report.



Frank Catalano, P. Eng
Mine Manager



COPPER MOUNTAIN MINE
(BC) LTD.

To: Independent Tailings Review Board

From: Don Strickland

Date: May 9, 2016

Re: Terms of Reference

Following is the Terms of Reference for the Copper Mountain Mine (CMM) Independent Tailings Review Board (ITRB).

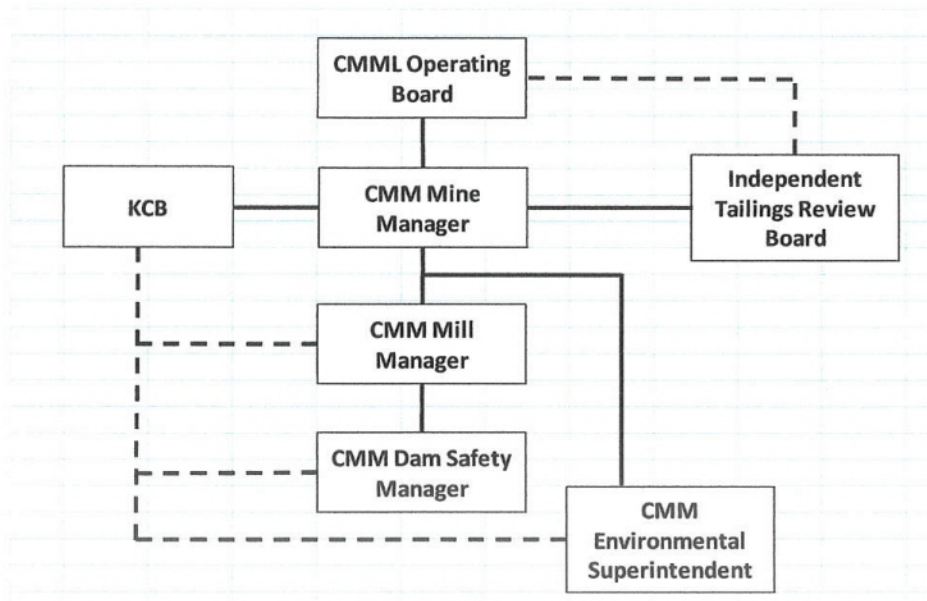
The existing Tailings Management structure includes a Designer of Record (DoR) and an Engineer of Record (EoR) for the Tailings Management Facility (TMF). The DoR is an Engineering Company (AMEC for 2016) and the EoR (Andrew Witte, P.Eng. of Klohn Crippen Berger, KCB) is a qualified professional engineer representing the Engineering Company (KCB). Each year prior to March 31st, there is an updated construction plan generated as part of the Annual Review and As-built Report. This construction plan is completed by the DoR and includes an internal senior level review within the Engineering Company. The EoR is responsible to ensure the construction is completed within the design parameters.

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Don Strickland, P.Eng. is designated as the Mine Manager for the CMM under the Health, Safety and Reclamation Code for Mines in British Columbia, and is thus responsible and accountable for the safe design, construction and operation of the TMF.

The Mine Manager has designated a CMM employee (Jaime Weber, P.Eng.) as the Dam Safety Manager (DSM). The DSM is responsible for being fully informed of all Tailings Management functions including dam design, construction, instrumentation, water balance, etc; and is the main point of contact for communication with the EoR and DoR.

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In the Annual MEM Tailings Management Facility submission, the Mine Manager will note ITRB meeting dates, and any material concerns identified by the ITRB which have not been noted in the TMF Annual Review and As-Built Report.

Don Strickland, P.Eng
VP Operations and Mine Manager



31 December 2016

BY E-MAIL

British Columbia Ministry of Energy and Mines
6th Floor – 1810 Blanshard Street
Victoria BC, V8W 9N3

Attention: Mr. Al Hoffman, Chief Inspector of Mines

Re: New requirements under Parts 10.1.12, 10.1.13, 10.4.2(1)(c) and 10.5.2(3) of the BC Health, Safety and Reclamation Code

Dear Mr. Hoffman:

Barrick Gold Inc. (Barrick Gold) acknowledges receipt of your letter dated 18 August 2016 confirming applicability and compliance dates for revisions to Section 10 of the Health, Safety and Reclamation Code for Mines in British Columbia (Code). Barrick Gold hereby advises that Barrick Gold is now in compliance with the matters required by Parts 10.1.12(1), 10.1.13 and 10.5.2(3) of the Code.

Pursuant to Part 10.4.2(1)(c) of the Code, Barrick Gold hereby establishes an Independent Tailings Review Board (ITRB) for the following tailings storage facilities (TSFs):

- Giant Nickel
- Nickel Plate
- Snip

The ITRB will be comprised of two of three of the following individuals

- Peter Lighthall
- Dirk Van Ziel
- Iain Bruce

We ask that the Chief Inspector of Mines waive the requirement for an ITRB for the Eskay Creek lacustrine tailings storage facilities. There are no man-made structures at the Eskay Creek facilities to constrain the level of water in the lakes and no credible failure mechanism by which any significant amount of tailings could be released from these impoundments.

The terms of reference for the ITRB, in accordance with the HSRC guidance document, are as follows:

- The ITRB for each of the Giant Nickel, Nickel Plate and Snip TSFs will be comprised of two independent subject-matter experts who have no prior involvement with the facilities in question;
- ITRB inspections will be held in accordance with the inspection schedule in Table 1. The rationale behind the inspection schedule is set forth below;

Table 1 – ITRB Inspection Schedule

Facility	Frequency of ITRB Inspection	First ITRB Inspection
Giant Nickel	Every 4 years	2018
Nickel Plate	Every 4 years	2018
Snip	Every 7 years	2018

- The ITRB will provide an independent assessment to Barrick Gold's BC Closure Manager and the Ministry of Energy and Mines (MEM) as to whether the TSF in question was closed properly and is being managed appropriately and safely in its closure phase;
- The ITRB will provide Barrick Gold's mine closure team with guidance, perspective, experiences and standard/best practices from other similar closed sites;
- The ITRB will, with respect to the TSF in question, review and comment on closure monitoring programs, performance of the closure team on the Quantifiable Performance Objectives (QPOs), monitoring programs, data analysis methodology and any future planned work at the TSF in question; and
- The ITRB will provide non-binding advice and guidance, but will not direct the work or perform the role of the Engineer of Record.

The suggested ITRB inspection schedule in Table 1 is derived, in part, from Barrick Gold Corporation's Tailings Management and Heap Leach Standard (Barrick TSF Standard). The Barrick TSF Standard is a risk-based tailings review and monitoring standard that, among other things, stipulates the types and frequency of facility inspections based on operations phase of, and risk posed by, the facility in question. Under the Barrick TSF Standard, ITRB reviews would be carried out in accordance at the frequencies set out in Table 2.

Table 2. Frequency for ITRB Reviews as required by the Barrick TSF Standard

Facility	Consequence Rating ¹	Phase ²	Frequency of ITRB Inspection
Giant Nickel	Extreme	Transitional Closure	Every 4 years
Nickel Plate	Extreme	Active Closure	Every 5 years
Snip	High	Active Closure	Every 7 years

Notes:

¹ The Barrick TSF Standard employs a 3-category consequence matrix: Low, High and Extreme

² The Barrick TSF Standard employs the same operation phases as are set out in the Canadian Dam Association Dam Safety Guidelines and associated publications

I look forward to discussing this submission with you and your staff when your schedule permits.

Yours truly,

BARRICK GOLD INC.



Dan Bornstein (Mine Manager)
Director, Mine Closure Strategy and BC Properties
Telephone: 647-401-7714
E-mail: dbornstein@barrick.com

Cc. Diane Howe, Deputy Chief Inspector, Reclamation and Permitting, Ministry of Energy and Mines
Lowell Constable, A/ Manager, Geotechnical Engineering, Ministry of Energy and Mines
Michelle Hynes, Senior Policy Analyst, Ministry of Energy and Mines
Vanessa Bell, Senior Environmental Specialist, Barrick Gold
Allison Brown, Senior Environmental Consultant, Barrick Gold
Walter Baumann, Manager, Closure Programs, Barrick Gold
Holton Burns, Director, Water Treatment and Uranium, Barrick Gold

October 2, 2019

British Columbia Ministry of Energy, Mines and Petroleum Resources
6th Floor – 1810 Blanshard Street
Victoria BC, V8W 9N3
ATTN: Ms. Heather Narynski – A/ Manager, Geotechnical Engineering

Re: Independent Tailings Review Board Membership Update

Dear Ms. Narynski,

Barrick Gold Inc. (Barrick) is writing to inform you of updates to the Independent Tailings Review Board (ITRB) membership for the closed Nickel Plate Mine (Permit M-173) and the closed Giant Nickel Mine (Permit M-64). Pursuant to Part 10.4.2 of the Health, Safety and Reclamation Code for Mines in British Columbia, Barrick established an ITRB for Nickel Plate and Giant Nickel in 2016. Barrick received confirmation from the Ministry of Energy, Mines and Petroleum Resources (EMPR) in 2017 that the proposed ITRB membership and Terms of Reference had been accepted.

Going forward, the ITRB will comprise the following board members:

- Mr. Bryan Watts
- Dr. Alex Sy
- Dr. Peter Robertson

The inspection frequency and Terms of Reference remain as reported in 2016 with the first inspection completed at Nickel Plate in 2017, and the first inspection scheduled for Giant Nickel in 2020.

If you have any questions or would like to discuss further please don't hesitate to contact me.

Yours truly,
BARRICK GOLD INC.



Allison Brown
Canadian Closed Sites Manager
Telephone: 778-929-3079
E-mail: allisonbrown@barrick.com

Cc. Paul Hughes, EMPR
Victor Marques, EMPR
Lowell Constable, EMPR
Bassam El Hussein, Barrick Gold Corporation
Jessica Guselle, Barrick Gold Inc.
Vanessa Bell, Barrick Gold Inc.



31 December 2016

BY E-MAIL

British Columbia Ministry of Energy and Mines
6th Floor – 1810 Blanshard Street
Victoria BC, V8W 9N3

Attention: Mr. Al Hoffman, Chief Inspector of Mines

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The terms of reference for the ITRB, in accordance with the HSRC guidance document, are as follows:

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Table 2. Frequency for ITRB Reviews as required by the Barrick TSF Standard

Facility	Consequence Rating ¹	Phase ²	Frequency of ITRB Inspection
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Notes:

¹ The Barrick TSF Standard employs a 3-category consequence matrix: Low, High and Extreme

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Yours truly,

BARRICK GOLD INC.



Dan Bornstein (Mine Manager)

Director, Mine Closure Strategy and BC Properties

Telephone: 647-401-7714

E-mail: dbornstein@barrick.com

Cc. Diane Howe, Deputy Chief Inspector, Reclamation and Permitting, Ministry of Energy and Mines
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Vanessa Bell, Senior Environmental Specialist, Barrick Gold
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Walter Baumann, Manager, Closure Programs, Barrick Gold
Holton Burns, Director, Water Treatment and Uranium, Barrick Gold

Red Chris Mine Tailings Storage Facility
Independent Engineering Review Panel (IERP)
Revised Terms of Reference (Version 005) as of February 25, 2020

Revision tracker

DATE	VERSION	CHANGES	BY
March 19, 2015	001	RCDC proposed Terms of Reference and agreed by Tahltan and IERP Members.	Raj Anand
January 03, 2017	002	Revised in Light of BC Health and Safety Code Revisions of July 20, 2016.	Raj Anand
July 16, 2019	003	Revised to highlight primary focus of meetings as stability and structural integrity of the TIA Dam structures.	Raj Anand and Chris Fleming
September, 08, 2019	004	Revised in light of JV Ownership and Newcrest as of August 15, 2019	Mark Adams, Scott Paddington and Raj Anand
February 25, 2020	005	Revised to highlight that “environmental performance” of the TIA to be included explicitly in the ToR	Chris Fleming

Background

- As of August 15, 2019, Newcrest Red Chris JV owns the Red Chris Mine and Newcrest operates the Red Chris Mine. Before August 15, the Red Chris Development Company Ltd. (RCDC) owned and operated the Red Chris Mine.

General

- Part 10 of BC’s Health and Safety and Reclamation Code was revised on July 20, 2016. Stipulations regarding IERP are given in Sections 10.4.2 (1) and 10.4.4.
- In addition, HSRC Guidance Document of July 20, 2016 stipulates other requirements regarding IERP.
- RCDC established it’s IERP for its Tailings Storage Facility in early 2015 and nine review meetings have taken place to late September 2019.
- RCDC’s current TOR for the IERP (of March 19, 2015) meets the requirements of the HSRC Section 10 Guidance Document.

Official Name

The Red Chris Mine Tailings Storage Facility (TSF) Independent Engineering Review Panel; herein referred to as the “Independent Engineering Review Panel” (IERP).

Membership

The IERP is established by the Owner [Newcrest Red Chris JV] and made up of four (4) qualified experts, acceptable to the Ministry of Energy and Mines (MEM) Chief Inspector and the Tahltan Nation (represented by the Tahltan Heritage Resources Environmental Assessment Team).

The Klohn Crippen Berger 3rd party review of the Red Chris Tailings Impoundment Area (TIA) commissioned by Tahltan Central Council (now the Tahltan Central Government) has recommended:

“Each owner retains an Independent Geotechnical Review Board comprised of senior specialists, to provide on-going third party review of geotechnical issue of significance to the operation.

One of the major responsibilities of such Boards is to review all aspects related to safety of tailings dams over the life cycle from design, construction, operation and closure.

Commentary: We strongly consider that the Red Chris site appoints a technical review board immediately that consists of senior, independent engineers and scientists in the following technical areas: geotechnical and tailings engineering, hydrology, hydrogeology, and geochemistry/water quality.

Good practice is to have a management system in place that plans tailings disposal and, executes tailings disposal raises, monitors, and improves the performance of the system.”

At the request of the IERP, or Newcrest Red Chris JV, additional experts may be asked to participate in or observe a meeting. These experts are to provide input/advice on areas outside the expertise of the board members but critical to operation or the facilities.

The IERP working group meetings may be attended by Newcrest Red Chris JV staff representatives as required.

An appointed Newcrest Red Chris JV representative will act as coordinator and liaison for the IERP. In this role the individual will assist the IERP with arrangements and logistics and may chair meetings if requested by the IERP.

A representative of the Tahltan Nation, appointed by the Project Advisory Committee (PAC), may attend working group meetings on as required basis.

Term of Membership

There is no fixed term of membership imposed upon members of the IERP. When a member of the IERP is vacating his position, it shall be ensured that the remaining membership maintains sufficient continuity to provide knowledge transfer between existing and entering members. Newcrest Red Chris JV consent will be required for removing any member from the IERP.

New membership may be appointed through consultation and discussion with the Tahlitan and be acceptable to the Ministry of Energy and Mines (MEM) Chief Inspector.

Vision

Revised Part 10 of the HSRC (as of July 20 2016) stipulates the following:

10.4.2 (1) The manager of a mine with one or more tailings storage facilities shall

- (c) establish an Independent Tailings Review Board, unless exempted by the chief inspector,
 - (d) review annually the tailings storage facility risk assessment to ensure that the quantifiable performance objectives and operating controls are current and manage the facility risks,
- (2) The composition of an Independent Tailings Review Board established under subsection (1) (c) shall be commensurate with the complexity of the tailings storage facility in consideration of the HSRC Guidance Document.
- (3) The manager shall submit the terms of reference for the Independent Tailings Review Board including the qualifications of the board members to the chief inspector for approval.
- (4) The terms of reference for the Independent Tailings Review Board shall be developed or updated as required in consideration of the review under subsection (1) (d).

The establishment of the IERP is intended to provide independent review of all aspects of the TIA, with consideration of Best Available Technology (BAT) / Best Applicable Practice (BAP) and to provide recommendations and guidance to Newcrest Red Chris JV. The IERP is seen as a valuable medium to add value to stakeholders of the Red Chris Mine, including, but not limited to: Newcrest Red Chris JV, Newcrest Red Chris JV's Engineer of Record, regulators, Tahlitan and the local communities.

The IERP should provide non-binding opinion on:

- whether the design, construction and operation of the TIA have given consideration to BAT / BAP;
- whether design and construction have been performed in accordance with their expectation of best management practices;
- whether safety and operation of the TIA conform to their expectation of best management practices; and
- whether there are weaknesses that would reasonably be expected to have a material adverse effect on the integrity of the TIA, human health, safety, and successful operation of the facility for its intended purpose.

Mission Statement

The IERP is to provide expert technical guidance to all aspects of the design, construction, operation, closure, and post closure planning for the Red Chris Mine TIA.

Goals

1. To confirm that the design and operation of the TSF is consistent with industry standards of best practice
2. To identify areas where risk reduction measures may be required
3. To provide advice that may add value to the safe operation, closure and long-term maintenance of the TIA.
To include “environmental performance” of the TIA – with water flows and associated water quality as an important component

Frequency, Format of Meetings and Manner of Call

The IERP shall meet at a minimum once, if possible twice per year or as set out in any future permit amendments. These meetings shall include a site tour at least once a year of the Red Chris Mine TIA. The IERP may also be convened for special sessions to address critical issues. Such special sessions may include a site tour if required.

Format of the first annual meeting will be a one or two day meeting in Vancouver. The second annual meeting will include a one to two day meeting in Vancouver followed by a site tour. The Vancouver meeting will include presentations from Newcrest Red Chris JV, the EOR and other consultants with a primary focus on stability, structural integrity of the TIA dam structures and the “environmental performance” of the TIA.

Meetings will be attended by Newcrest Red Chris JV staff and a member of the Tahltan Nation, appointed through PAC.

The IERP will be called by the Newcrest Red Chris JV representative or Newcrest Red Chris's JV Engineer of Record by e-mail, with e-mails being copied to all members of the respective parties as outlined in the Active Membership Contact Information herein.

Resources and Budget

The members of the IERP shall be under contract to Newcrest Red Chris JV. The Newcrest Red Chris JV representative or his designate shall manage resources and provide support to the IERP, with costs to be borne by Newcrest Red Chris JV; the IERP shall not be responsible for any budgetary contribution to the convening, reporting or presentation as applicable to their work.

Reporting and Deliverables

The IERP will make a presentation of their findings to the General Manager Red Chris JV. This information will also be provided to the Tahltan Nation through PAC.

The IERP shall be responsible for the production of a report, submitted to the Newcrest Red Chris JV representative with copies to Newcrest Red Chris JV's Engineer of Record and to the designated Tahltan representative, upon the conclusion of any convening of the IERP. The IERP shall also be responsible for the production of a report at the request of the Newcrest Red Chris JV representative for any special sessions for which they are convened.

Annual Reporting

Section 10.4.4 of the HSRC (July 20, 2016) stipulates as below:

The manager shall submit annual reports in a summary form (to the Chief Inspector) by March 31 of the following year on the following:

- (c) a report of the activities of the Independent Tailings Review Board established under section 10.4.2 (1) (c) of this code that describes the following:
 - (i) a summary of the reviews conducted that year, including the number of meetings and attendees;
 - (ii) whether the work reviewed that year meets the Board's expectations of reasonably good practice;
 - (iii) any conditions that compromise tailings storage facility integrity or occurrences of non-compliance with recommendations from the engineer of record;
 - (iv) signed acknowledgement by the members of the Board, confirming that the report is a true and accurate representation of their reviews;
- (d) a summary of tailings storage facility and dam safety recommendations including a scheduled completion date;

Newcrest Red Chris JV will send a summary of the findings annually to any interested Tahltan committees. Interested committees must make a written request to PAC.

A member of the IERP will meet annually with PAC and any interested Tahltan committee to discuss work completed by the IERP. These meetings will be scheduled upon request to the IERP and approved by PAC.

Communications

The primary means of communication will be through attendance of scheduled meetings. Correspondence is also accepted by e-mail provided that they are copied to all members of the respective parties.

It shall be the responsibility of Newcrest Red Chris JV to organize any convening of the IERP to present their work or reports. At a minimum, the IERP shall be made available once per year, as organized by Newcrest Red Chris JV , for discussion with Tahltan and identified stakeholders in regards to their continued work on the Red Chris Mine TIA .

Materials to be provided to the IERP

Newcrest Red Chris JV will provide the current draft and final design documents, construction documentation, operating manuals/procedures and operations history documentation, as appropriate, necessary to support the work to be carried out by the IERP. This information is intended to provide technical information to the IERP in a timely manner to allow Newcrest Red Chris JV sufficient time to consider IERP advice prior to the finalization of project designs and procedural documents.

In addition to the above Newcrest Red Chris JV submissions, Newcrest Red Chris JV will submit Tahltan provided materials for IERP's consideration.

Reviewing Terms of Reference

The Terms of Reference shall be reviewed annually, but may be requested to be reviewed by the group or individuals at any time. Date of last ToR review: September 2019.

Active Membership Contact Information

IERP

Name	Title	IERP Role	Email
Terry Eldridge	Golder Associates	Geotechnical Engineer	Terry_Eldridge@golder.com
Christoph Wels	Robertson Consultants	Hydrogeologist/Hydrologist	cwels@robertsongeo.com
Shannon Shaw	pHase Geochemistry Inc	Geochemist	sshaw@phase-geochemistry.com
Daryl Hockley	SRK Corporate Consultant	Civil Engineer	dhockley@srk.com

Newcrest Red Chris JV

Name	Title	IERP Role	Email
Phil Stephenson	COO Australia, Indonesia and Americas	Newcrest Red Chris JV Representative	Philip.stephenson@newcrest.com.au
Mark Adams	General Manager, Red Chris JV	Newcrest Red Chris JV Representative	Markh.adams@newcrest.com.au
Scott Paddington	Manager – Technical Services	Newcrest Red Chris JV Representative	Scott.paddington@newcrest.com.au
Chris Fleming	TIA Operations Manager	Newcrest Red Chris JV Representative	gnaus@redchrismine.ca
Greg Naus	TIA Superintendent	Newcrest Red Chris JV Representative	cfleming@redchrismine.ca
Ben Wither	Manager, HSEC and People	Newcrest Red Chris JV Representative	Ben.wither@newcrest.com.au
Marina Bravo Foster	Superintendent Environment	Newcrest Red Chris JV Representative	mfooster@redchrismine.ca

Tahltan

Name	Title	IERP Role	Email
Nalaine Morin	Principal, ArrowBlade Consulting Services	Tahltan Rep.	nalmorin@arrowbladeconsulting.ca
Christine Creyke,	Tahltan Lands Director,	Tahltan Rep.	landsdirector@tahtlan.org

Engineer of Record – BGC

Name	Title	IERP Role	Email
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