



Energy, Mines and Resources

Box 2703, Whitehorse, Yukon Y1A 2C6

December 19th, 2017

Mr. Jing You Lu
Chief Operating Officer
Yukon Zinc Corporation
Suite 705, 1030 W Georgia Street
Vancouver, BC V6E 2Y3

Dear Mr. Lu,

Re: Extension of Temporary Closure Period, Updated Reclamation and Closure Plan and Security Determination – Wolverine Mine, Yukon Territory

On June 14, 2017th, Yukon Zinc Corporation ("YZC") requested an extension of the temporary closure period pursuant to Sections 2.1 and 9.3 of the Quartz Mining License QML-0006 (the "License") from three years to five years, specifically until January 15th, 2020.

In support of the extension and pursuant to Section 8.8 of the License, Yukon Zinc Corporation ("YZC") submitted an updated reclamation and closure plan for review and approval. This plan, entitled *Wolverine Mine Reclamation and Closure Plan Version 2016-07-V.3* (the "Plan"), was prepared by YZC in conjunction with Shuksan Environmental Services Ltd., and received electronically in my office on December 19th, 2017.

Upon review and consideration, I approve the extension of the temporary closure period to January 15th, 2020 in conjunction with the updated Plan and subject to the terms and conditions set out in Appendix 1 of this letter.

As stated in section 6.3 and 6.5 of the Licence, you are authorized to carry out the activities in accordance with the approved plan and the terms and conditions set out in Appendix 1 of this letter. Schedule C of the License has been revised to reflect this approval and is attached to this letter. This amended Schedule C replaces all earlier versions.

I would like to remind you that, pursuant to Section 8.8 of the License, an updated reclamation and closure plan must be submitted by YZC no later than July 17th, 2019. It is expected that the closure plan submitted by this date will include closure measures for permanent closure, based upon the configuration of the mine site at that time. The plan should demonstrate that the site can be reclaimed and closed such that the area is environmentally stable and suitable for future land use.

For reference, the updated plan must include the requirements detailed in Section 8.6 of the License, the guidance document issued by Yukon Government and Yukon Water Board, entitled

"Reclamation and Closure Planning for Quartz Mining Projects" dated August 2013 or the most recent revision, and any conditions set out in Appendix 1 of this letter.

Pursuant to Section 11.2 of the Licence, security is to be reviewed each time the Licensee submits for approval a document updating the Reclamation and Closure Plan. I have considered the activities required to implement this updated Plan and the results of an independent third party review. As a result of this review, I am of the view that security needs to be adjusted to provide for all reasonable closure costs including contingencies. The total amount of security to be furnished and maintained by YZC, and the form and scheduled of payment, will be determined in early 2018.

Please do not hesitate to contact me at (867) 667-3126 if you have any questions or wish to discuss.

Sincerely,



Robert Holmes
Director, Mineral Resources

cc: Paul Christman, Chief Mine Engineer, Mineral Resources
Heather Jirsourek, Director, Water Resources Branch
Sevn Bonnet, Senior Natural Resources Officer
Roger Lockwood, Director, Water Board Secretariat

encl: Appendix 1: Terms and Conditions of Approval
Schedule C: Plans Approved by the Chief

Appendix 1
Terms and Conditions of Approval

The *Wolverine Mine Reclamation and Closure Plan Version 2016-07-V.3* [Prepared by Yukon Zinc Corporation in conjunction with Shuksan Environmental Services Ltd, December 19th, 2017] (the "Plan") is approved subject to the following conditions:

- 1) **Maintain the water level in the TSF below the 1310m elevation.**
- 2) **Commission the full-scale water treatment plant and commence treatment and discharge of water from the TSF to Go Creek by August 1st, 2018. Submit monthly water treatment progress reports and site water balance updates (no more than thirty (30) days after the conclusion of the month in which that data was collected) including, but not limited to:**
 - a) Daily discharge volume to Go Creek
 - b) Reagent and power consumption
 - c) Reverse Osmosis reject production volume and electrocell treatment volume
- 3) **Commence in-situ and/or batch treatment and discharge of underground mine water to Go Creek using ferric sulphate and lime treatment by May 1st, 2018 and cease transfer of the underground mine water to the TSF. Submit monthly water treatment progress reports and site water balance updates (no more than thirty (30) days after the conclusion of the month in which that data was collected).**
- 4) **Submit a re-vegetation plan by May 1st, 2019 to meet QML-0006 Schedule D Terrestrial Performance Standards for the Wolverine Project including, but not limited to:**
 - a) Vegetation that is self-sustaining 3 to 5 years after the last application of re-seeding or fertilizer;
 - b) Vegetation cover that is capable of self-regeneration without continued dependence on re-seeding or fertilizer; and
 - c) Successive vegetation that is assessed as similar to natural occurring habitats.
- 5) **Submit an updated Wolverine Wildlife Protection Plan (WPP) by March 1st, 2018 to reflect the temporary and final closure changes in monitoring programs including, but not limited to the:**
 - a) Annual Wildlife Records Program
 - b) 2018 re-commencement of Tailings Facility Monitoring that is focussed on migratory waterfowl and shorebirds during spring and fall migration periods;
 - c) 2019 sampling of Monitoring of Metal Levels in Vegetation and subsequent Monitoring of Metals in Small Mammals should statistical metal contamination be detected; and
 - d) Discontinuation of Winter Wildlife Monitoring and Regional Wildlife Monitoring Programs, as the mine is undergoing temporary closure activities.
- 6) **Conduct a bathymetric survey of the TSF using a qualified hydrologist by June 1st, 2018 and submit a report within thirty (30) days.**
- 7) **Develop a numerical hydrogeological model using a qualified hydrogeologist by May 1st, 2018 to meet the requirements of QML-0006, Section 8.6 and submit a report within thirty (30) days.**

- 8) Repair or replace compromised groundwater monitoring wells. Repair or replace compromised groundwater monitoring wells MW05-5B, MW05-7B, MW06-7B, MW06-8S, MW06-10M, MW06-10D, MW06-12S and MW06-08D by August 1st, 2018.**
- 9) As per QZ04-065 Licence Conditions, Schedule A, Part II - continue sampling monitoring station T1, with the following additional conditions:**
 - a) conduct depth profiling samples at: 0m (surface), 6m and 9m depth to monitor water quality stratification in the TSF water column; and
 - b) Inclusion of thiosulphate to the parameters monitored monthly.
- 10) Submit a standalone Adaptive Management Plan for review and approval by July 1st, 2019 to respond to changing groundwater and surface water conditions in both Wolverine Creek and Go Greek watersheds including, but not limited to:**
 - a) Trigger points to initiate increased monitoring efforts;
 - b) Specific actions to undertake if an increase in metals is detected in groundwater wells;
 - c) Trigger points to initiate construction of the biopass system in Wolverine Creek; and
 - d) Specific incremental actions to undertake for biopass system design, testing and construction including, but not limited to:
 - i) Conduct ground water treatment tests
 - ii) Refine location and size of biopass system using site specific groundwater information

**YUKON ZINC CORPORATION
WOLVERINE PROJECT
QML-0006**

**SCHEDULE C
PLANS APPROVED BY THE CHIEF
December 19, 2017**

General Site Plan:

General Site Plan, Version 2011-05, dated August 22nd, 2011 and prepared by Yukon Zinc Corporation

- *Wolverine Mine, Waste Rock Storage Pad*, dated October 13, 2011 and prepared by Klohn Crippen Berger
- Revision to Section 2.2 – addition of site road map “Figure 1.2-2” as outlined in letter from Jing You Lu to Robert Holmes, dated May 16, 2016, entitled “*Addendum to General Site Plan V2011-05*”
- Revision to Section 5.3.4.1 – references to the installation of a “temporary access control gate “ and Figure 3 are removed

Reclamation & Closure Plan:

Wolverine Mine Reclamation and Closure Plan, Version 2016-07-V.3, dated December 19th, 2017 and prepared by Yukon Zinc Corporation in conjunction with Shuksan Environmental Services Ltd.

Environmental Protection Plans:

Heritage Resource Protection Plan, Version 2007-01, dated November 2007 and prepared by Yukon Zinc Corporation in conjunction with Ross River Dena Council, Ross River, Yukon

Monitoring and Surveillance Plan, Version 2011-03, dated October 28, 2011 and prepared by Yukon Zinc Corporation

- Revision to Section 8.3 – discontinuance of remaining humidity cells as outlined in letter from Mary Mioska to Arlene Kyle, dated April 26, 2012, entitled “*Revision to Monitoring and Surveillance Plan V2011-03 Section 8.3*”

Spill Contingency Plan V2010-03, dated March 10, 2011 and prepared by Yukon Zinc Corporation

Waste Management Plan, V2010-03, dated February 4, 2011 and prepared by Yukon Zinc Corporation

Wildlife Protection Plan, Version 2009-01, dated April 9, 2009 and prepared by Yukon Zinc Corporation, Vancouver, British Columbia in partnership with Ross River Dena Council, Ross River, YT, Liard First Nation, Watson Lake, YT and Yukon Environment, Whitehorse/Watson Lake, YT

Mine Operation Plans:

Mill Operating Plan, Version 2010-02, dated May 25, 2010 and prepared by Yukon Zinc Corporation, Vancouver, British Columbia

Mine Development and Operation Plan, Version 2010-02, dated July 8, 2010 and prepared by Yukon Zinc Corporation

Tailings and Infrastructure Design and Construction Plan, Version 2009-02, dated March 2009 and prepared by Klohn Crippen Berger Ltd. in association with Yukon Zinc Corporation, Vancouver, British Columbia

- *Tailings Storage Facility Operation, Maintenance and Surveillance Manual, Version 2010-01*, dated July 16th, 2010 and prepared by Yukon Zinc Corporation in conjunction with Klohn Crippen Berger
- *Wolverine Mine Tailings Facility Design Overview for Stage 2 Dam Construction*, dated March 2, 2012 and prepared by Klohn Crippen Berger