

SCHEDULE C - APPROVED PLANS AND AUTHORIZED ACTIVITIES

PART 1: AUTHORIZED ACTIVITIES

The Licensee is authorized to carry out the following activities set out below as directed by the approved plans set out in Part 2. For greater certainty, if there is no approved plan that addresses the activity to be carried out, the activity cannot be carried out until a plan is approved for the conduct of the activity.

1.0 Access

The Licensee is authorized to access the Undertaking via the Silver Trail Highway and Wernecke Road and to construct, maintain and utilize the haul road between the BK East Portal and BK 625 Adit, the Bellekeno Haul Road, the Lightning Creek Bypass Road, the Christal Lake Road, the Keno City Bypass Road, the Flame and Moth Access Road, Bermingham Access Road, the Calumet Road, and a section of the Duncan Creek Road (between the Mill and Bermingham Mine).

2.0 Camp

The Licensee is authorized to operate a camp for up to 250 people, subject to the following occupancy limitations:

- **camp occupancy maximum for the operational mine site is up to 200 people; and**
- **camp occupancy maximum for the United Keno Hill reclamation project is up to 50 people.**

The camp is inclusive of bunkhouse accommodations, mine dry, cooking facilities, water and sewage facilities, heating and recreational facilities.

3.0 Industrial Complex

The Licensee is authorized to operate and maintain an industrial complex in support of the Undertaking, including an explosives storage area and fuel containment facility.

4.0 Mill and Ancillary Facilities

The Licensee is authorized to operate and maintain a mill consisting of equipment for crushing and grinding ore, silver concentrate flotation, concentrate thickening, tailings filtration, temporary tailings storage, load out of concentrate, ore stockpiles and ancillary infrastructure.

5.0 Underground Mining Operations

The Licensee is authorized to carry out production at Bellekeno, Lucky Queen, Onek, Flame and Moth, and Bermingham using conventional underground mining methods, including rotary drills, blasting and ancillary services.

6.0 Waste Rock and Overburden Management

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Subject to Part III of this License, the Licensee is authorized to deposit waste from the Undertaking in the underground workings, on surface as general fill and in temporary P-AML waste rock storage facilities (Bellekeno, Onek, Lucky Queen, Flame and Moth, and Bermingham).

7.0 Tailings Management

The Licensee is authorized to deposit tailings from the Bellekeno, Lucky Queen, Onek, Flame and Moth, and Bermingham mines in the Phase I and Phase II (expansion) Dry Stack Tailings Facility.

PART 2: APPROVED PLANS

The following plans are approved, subject to the listed conditions.

8.0 Construction, Development and Operations Plans

8.1 Emergency Response

- **“Keno Hill Silver District Mining Operations - Mine Emergency Response Plan” dated November 2023 and prepared by Hecla Yukon.**

8.2 Mill Operations

- **“Keno Hill Silver District Mining Operations, Mill Development and Operations Plan, Revision 6” dated May 2023 and prepared by Hecla Yukon.**

8.3 Mine Development and Operations

- **“Construction Site Plan, Revision 1, Bellekeno Project, Yukon” dated November 2009 and prepared by Access Consulting Group, as amended by Bellekeno Project Construction Site Plan: Alternate Aggregate Sources” dated February 8, 2010, set out in a correspondence from Access Consulting Group (Ethan Allen) to the Director**
- **“Mine Development and Operations Plan, Quartz Mining License QML-0009, Bellekeno Project” dated December 2009 and prepared by Access Consulting Group**
- **“Mine Development and Operations Plan, Lucky Queen and Onek Mines - Keno Hill Silver District, Revision 1” dated January 2013 and prepared by Alexco Keno Hill Mining Corporation**
- **“Alexco Keno Hill Mining Corporation, Mine Development and Operations Plan, Revision 0” dated November 2021 and prepared by Alexco Keno Hill Mining Corporation**

Subject to the following conditions:

- (a) Borrow sources must be developed in accordance with the Construction Site Plan, except as clarified below:
 - i. “Table 4-3 Revision 1 – Site Borrow Areas”, contained in the February 8, 2010 letter, replaces “Table 4-3 Site Borrow Areas” in the Construction Site Plan;
 - ii. Borrow Area #8 (Silver Trail Highway Gravel Pit #1) is not approved for use and is excluded from this approval; and
 - iii. Borrow Area #10 (Silver Trail Highway Gravel Pit #2) must provide visual buffers utilizing contoured stripping and/or setbacks to reduce visual impact from the Silver Trail.
- (b) A ground conditions and support audit, for each mine area, must be carried out by an independent engineer on an annual basis and the results of this audit shall be reported in the inspection required in paragraph 13.2 of this License.

- (c) An engineering design for backfill properties, for each mine area, must be submitted prior to implementation;
- (d) A quality control program for cemented backfill material, for each mine area, must be provided prior to implementation;
- (e) All escapeways must be in place prior to the commencement of production mining. Provide a detailed plan of the vent raise escapeway.

8.4 Road Management Plan

- **“Keno Hill Silver District Mining Operations – Road Development and Operations Plan” dated September 2023 and prepared by Hecla Yukon**

1.1 Tailings Management Plan

- **“Revision 2010-1 Operation, Maintenance and Surveillance Manual, Dry Stack Tailings Facility, Keno Hill District Mill, YT” dated September 2010 and prepared by EBA Engineering Consultants Ltd.**
- **“Dry Stack Tailings Facility Construction and Operation Plan, Part III DSTF Dust Modeling, QML-0009, September 2010, Bellekeno Project” dated September 2010 and prepared by Access Consulting Group**
- **“Dry Stack Tailings Construction and Operation Plan, Revision 4” dated November 2018 and prepared by Alexco Keno Hill Mining Corporation**
- **“Keno Hill Silver District Mining Operations, Tailings Characterization Plan, Revision 6” dated November 2021 and prepared by Alexco Keno Hill Mining Corporation**

Subject to the following conditions:

- (a) Only filtered tailings may be placed in the dry stack tailings facility;
 - (b) The Licensee must monitor geochemical characteristics of the tailings during operation, and develop final design of the closure cover to mitigate any potential geochemical concerns that may be indicated;
 - (c) Accumulated snow must be removed from the facility prior to lift placements;
 - (d) Slopes in the final configuration must be reclaimed progressively to prevent dusting and erosion of exposed tailings slopes;
 - (e) Prior to construction of the DSTF expansion, the Licensee must conduct a subsurface monitoring program including monitoring the installation of stability monitoring equipment, ground temperature cables and groundwater monitoring wells to build adequate baseline data prior to construction;
 - (f) Prior to construction of the DSTF expansion, the Licensee must submit a detailed Tailings Management Plan consistent with the Yukon Government guidance document entitled *Plan Requirement Guidance for Quartz Mining Projects* dated August 2013. This plan must include the following.
 - i. additional subsurface investigations in the footprint of the proposed DSTF expansion area. The subsurface investigations must provide representative

- sampling from across the footprint of the proposed DSTF expansion to support the conclusions of the DSTF design and stability analysis;
- ii. the results of the recommendations made by EBA in Attachment C of Revision 3; and
 - iii. an operations, maintenance and surveillance manual including subsurface monitoring.
- (g) The Licensee must install a geosynthetic liner beneath the expanded DSTF to contain and capture any seepage that may occur from the facility in future and allow for treatment prior to release to the receiving environment.

1.2 Waste Rock and Overburden Management

- **“Typical Waste Containment Facility Design, Keno Hill Silver District, YT” dated July 2008 and prepared by EBA**
- **“Review of Potential site for Typical Waste Rock Containment Facility, Bellekeno East Adit” dated July 30, 2009 and prepared by EBA**
- **“Construction Site Plan, Revision 1, Bellekeno Project, Yukon” dated November 2009 and prepared by Access Consulting Group.**
- **“Waste Rock Management Plan, Revision 6.5” dated October 2021 and prepared by Alexco Keno Hill Mining Corporation/Ensero Solutions**

Subject to the following conditions:

- (a) Prior to construction of waste rock disposal areas, a waste rock management plan with Issued for construction designs of proposed facilities must be submitted to the Director for review and approval as required in paragraph 6.2 of this License;

9.0 Environmental Protection and Environmental Management Plans

- 9.1 Adaptive Management Plan
 - **“Keno Hill Silver District Mining Operations, Adaptive Management Plan,” dated April 2023 and prepared by Hecla Yukon**
- 9.2 Environmental Monitoring, Surveillance and Reporting Plan
 - **“Keno Hill Silver District Mining Operations - Monitoring, Surveillance and Reporting Plan” dated September 2023 and prepared by Hecla Yukon**
- 9.3 Explosives Management Plan
 - **“Explosives Management Plan, Keno Hill Silver District Mining Operations” dated February 2019 and prepared by Alexco Keno Hill Mining Corporation**
- 9.4 Hazardous Materials Management
 - **“Hazardous Materials Management Plan, Keno Hill Silver District Mining Operations” dated July 2018 and prepared by Alexco Keno Hill Mining Corporation**
- 9.5 Spill Contingency

- **“Keno Hill Silver District Mining Operations, Spill Contingency Plan” dated November 2020 and prepared by Alexco Keno Hill Mining Corporation**
9.6 Waste Management Plan
- **“Keno Hill Silver District Mining Operations – Waste Management Plan” dated September 2023 and prepared by Hecla Yukon**

Subject to the following conditions:

- (a) a copy of any permit issued pursuant to the *Environment Act*, R.S.Y. 2002, c.76, must be sent to the Director and the Waste Management Plan must be updated to ensure consistency with these permits;
- (b) incineration of waste is not permitted;
- (c) placement of sludge on the DSTF is not permitted; and
- (d) cement based solidification and stabilization of contaminated soil is not permitted.

9.7 Wildlife Protection

- **“Wildlife Protection Plan, Keno Hill Silver District Mining Operations” dated July 2018 and prepared by Alexco Keno Hill Mining Corporation**

Subject to the following conditions:

- (a) best efforts must be made to ensure that land disturbance in previously undisturbed areas is timed to avoid the core migratory bird breeding period of May 1st to August 31st. In the event that land disturbance must occur during that time, the nests of birds listed under the *Migratory Birds Convention Act*, 1994, S.C. 1994, c.22 must not be disturbed or destroyed.

10.0 Socio-Economic Mitigation Plans

10.1 Dust Abatement and Monitoring

- **“Keno Hill Silver District Mining Operations, Dust Abatement and Monitoring Plan” dated September 2023 and prepared by Hecla Yukon**

10.2 Heritage Resource Protection

- **“Heritage Resources Protection Plan, Keno Hill District Operations” dated March 2019 and prepared by Alexco Keno Hill Mining Corporation**

10.3 Noise Monitoring and Management

- **“Keno Hill Silver District Mining Operations, Noise Monitoring and Management Plan,” dated October 2021 and prepared by Alexco Keno Hill Mining Corporation**

10.4 Traffic Management

- **“Keno Hill Silver District Mining Operations, Traffic Management Plan” dated October 2021 and prepared by Alexco Keno Hill Mining Corporation**

11.0 Reclamation and Closure

11.1 Reclamation and Closure

- **“Reclamation and Closure Plan, Keno District Mine Operations, Keno Hill Silver District, Revision 7” dated October 2022 and prepared by Alexco Keno Hill Mining Corporation**

Subject to the following conditions:

The 2023 Reclamation and Closure Plan, as required pursuant to condition 7.2 of the License, is required to incorporate the following:

- (e) Provide measurable closure completion criteria for all units, including:
 - i. a summary of how consultation on end land use objectives with the First Nation of Na-cho Nyäk Dun were incorporated into the plan.
- (f) Provide description on how the revegetation approach connects to end land use objectives, including:
 - i. results for cover and revegetation trial plots to support design approach; and
 - ii. additional investigations on potential metal uptake in vegetation, to support decision-making about closure measures, including the need for and design of covers, selection of vegetation species, and implications of mine water discharges on contamination in vegetation.
- (g) Provide information on how arsenic concentrations at Bermingham will be controlled/managed by mine pool treatment, specifically addressing the following questions:
 - i. arsenic concentrations increased at Silver King after mine pool treatment, how will concentrations be controlled or decreased at Bermingham; and
 - ii. what is the expected residence time in the underground pool at Bermingham and how does this compare to the residence time at Silver King.
- (h) Provide updated data on the performances of the Silver King in-situ treatment, including:
 - i. performance data up to 2023;
 - ii. clarification that the mine pool treatment is not fully passive and what types of long-term management will be required;
 - iii. details regarding how often carbon addition would be required, what would trigger carbon addition need to be addressed - should carbon addition be required on a regular basis, how will the degree of mixing between carbon and water be measured;
 - iv. a discussion on how the updated data potentially impacts the design and planning of in situ treatment for Bellekeno and Bermingham; and
 - v. a water quality comparison between the Bellekeno and Bermingham sites and the water quality at Silver King.

- (i) Provide updated predictions on mine flows with depth at both Flame and Moth and Birmingham, including:
 - i. updated water treatment plans (mine pool treatment, mill pond bioreactor) and closure strategies based on updated predictions;
 - ii. details on the use of the mill pond as a bioreactor; and
 - iii. assessment of groundwater wells that have been consistently dry for more than two years and/or have structural issues preventing sampling, for decommissioning and replacement to prevent gaps in monitoring network. Provide schedule for those evaluated for decommissioning and replacement.
- (j) Provide updated kinetic results (inclusive of waste material produced from Flame and Moth and Birmingham mines) and demonstrate how the results have been considered and addressed.
- (k) Provide updated geotechnical stability analyses for the DSTF, including:
 - i. information regarding the efficacy of a 3H:1V slope at closure;
 - ii. inclusion of the DSTF Phase 1 design as either an appendix, or briefly described in a dedicated sub-section to demonstrate:
 - a. what slope stability criteria has been used for static and pseudo-static conditions, and which guidelines were followed; and
 - b. general tailings and foundation characteristics and shear strength parameters, and the results of slope stability analyses showing overall slope stability, and stability Factor of Safety values for different conditions, including a failure mode occurring at the interface of the tailings and drainage system; and
 - iii. review of the 2012 FMEA to ensure seismic criteria meets current guidelines (e.g. Mining Dams guidelines 2014 and 2019 by the CDA).
- (l) Provide completed monitoring and analyses on the DSTF cover performance (inclusive of 2023 data), including:
 - i. purpose/primary objective(s) of the cover;
 - ii. detailed description of the monitoring plan for closure;
 - iii. results of all engineering evaluations of the cover; and
 - iv. an estimate of the reduction in precipitation infiltration from the area of the DSTF that was covered based on performance data to-date.
- (m) Provide summary of Bellekeno closure activities, including:
 - i. details on the type of materials used for backfill and procedures used to backfill stopes;
 - ii. location of P-AML material underground;
 - iii. location of crown pillars and any stability assessment results;
 - iv. results of hydrogeological study during mine operations;

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- v. results and summary of all targeted campaigns of water sampling and reagent additions following the cessation of mining; and
 - vi. description of the planned sequencing for constructing, commissioning, and transitioning water treatment systems and contingencies.
- (n) Provide clarification on which specific closure concept is to be used for the following locations: (1) Bellekeno East Portal; (2) Bellekeno 625 Adit; and (3) 200 Level Vent Raise including:
- i. geochemistry of any rock fill material;
 - ii. volume of overburden removal required;
 - iii. location of coffer dam in engineered drawings; and
 - iv. supporting appendices reflect the chosen closure concept; and
 - v. signed and sealed engineered drawings.

Dated this 29th day of December, 2023



Director, Mineral Resources Branch