



Status of Select British Columbia Mine Projects

OPMP Summary Paper

November 2017

DNR, Office of Project Management and Permitting's (OPMP) Canadian Large Project Webpage:
<http://dnr.alaska.gov/commis/opmp/Canadian-Mines/index>

British Columbia's Mine Information Webpage: <http://mines.nrs.gov.bc.ca/>

Red Mountain (IDM Mining Ltd.) – Application in screening review.

- Proposed underground gold and silver project located approximately 11 miles northeast of Stewart, British Columbia (~13 miles from Hyder, Alaska) in the Bear River watershed, which drains into Canadian marine waters at the head of Portland Canal.
- As proposed, the Red Mountain Gold Mine Project would produce approximately 1,000 tons of mineral ore per day and 275,000 tons per year, over an operational mine life of five to seven years.
- This project will follow a coordinated assessment process between the Canadian Environmental Assessment Agency (CEAA) and the B.C. Environmental Assessment Office (EAO). Coordination means that the EAO and the CEAA will work together to align their separate processes and decisions.
- OPMP is coordinating with DNR, DEC, and ADF&G to engage in the review of this project through the technical working group facilitated by the EAO.
- Provincial Environmental Assessment (EA) process:
 - The EAO initiated the EA process in Feb. 2016 by issuance of Section 10 and 11 Orders.
 - The EAO determined the application/EIS complete on November 1, 2017, and initiated a 30-day public comment period on November 14, 2017 that closes on December 14, 2017. Notice and application/EIS are available on-line at <https://projects.eao.gov.bc.ca/api/document/5a03995266e3e40019558468/fetch>
- Federal Canadian Environmental Assessment process:
 - CEAA initiated a 30-day public comment period on November 14, 2017 that closed on December 14, 2017. Notice and application/EIS are available on-line at <http://www.ceaa-acee.gc.ca/050/document-eng.cfm?document=121031>

Red Chris (Imperial Metals) – Operating

- Operating open pit copper and gold mine in the Stikine/Iskut watershed (~150 river-miles from border with AK);
- Full production started in June 2015, averaging 30,000 tons per day milled;
- Current mine life to 2043;
- DNR, DEC, and ADF&G staffs participated in the review of permit amendments for the South Tailings Dam in 2016/2017;
- Monitoring reports are available on OPMP's website (see link at top of summary).
- Areas of continued interest include:
 - tailings dam construction, operation, and maintenance (the tailings facility will have three dams at full build-out); and
 - selenium concentration monitoring in the receiving waters.

Brucejack (Pretium Resources) – Operating

- Operating underground gold project in the Unuk River watershed (~28 river-miles from the border with AK);
- Production started in June 2017, averaging 2,700 tons per day milled;
- Current mine life to 2035;
- No tailings dam due to approved disposal in 80 m deep, non-fish-bearing Brucejack Lake;
- Areas of continued interest include:
 - general water quality monitoring in the receiving waters.
- Permit amendment
 - In Nov. 2017, the Ministry of Energy, Mines and Petroleum Resources (EMPR) initiated the Mine Development Review Committee (MDRC) process to review a proposed amendment of the Mines Act Permit. Pretium proposes to increase daily production from 2,700 tons to 3,800 tons, resulting in a reduced life of mine from 17 years to 14 years.
 - The State of Alaska will participate on the MDRC.

KSM (Seabridge Gold) – Federal & provincial reviews complete; initial permitting complete

- Proposed open pit copper and gold project in the Unuk watershed (~20-miles from border with Alaska).
- Tailings Management Facility (TMF) proposed in the upper Teigen Creek/Treaty Creek watersheds, which do not drain to waters of the State/U.S. These rivers flow to the non-transboundary Nass River, which supports salmon stocks harvested in Alaska fisheries.
- Proposed waste rock disposal locations, water storage facility (540' tall dam), and water treatment facility are all proposed in Sulphurets (resident fish only at lowest reach) and Mitchell watersheds (non-fish bearing), which drain to the Unuk River and waters of the State/U.S.
- The Independent Geotechnical Review Board (IGRB) for KSM released its first report in April 2016, which is available on their website at <http://ksmproject.com/independent-review-board/>
- The Best Available Tailing Technology (BAT) Report was released in June 2016. The review was completed by Klohn Crippen Berger and is available at <http://ksmproject.com/bat-report/>
- Provincial EA process:
 - EA Certificate issued July 30, 2014 with 41 enforceable conditions.
 - Consolidated State comments were submitted on Jan. 24, 2014.
- Federal Canadian Comprehensive Study process:
 - Federal environmental approval issued Dec. 19, 2014.
 - Consolidated State comments submitted to CEAA Aug. 20, 2014.
- Federal permitting:
 - In July 2017, Schedule 2 to the Metal Mining Effluent Regulations, under the Canadian Fisheries Act, were amended; adding a portion of South Teigen Creek and a portion of North Treaty Creek to allow for the disposal of mine tailings.
- Provincial permitting:
 - Initial (concurrent) permitting is completed. These initial permits relate to access (e.g. roads and bridges) and initial or temporary facilities (e.g. camps, laydown areas, temporary water treatment facilities, etc.). These permits do not allow for construction of or production from a mine.
 - Major provincial permits are still required before starting construction of a mine, tailings facility, waste rock facility, or water storage dam.

Johnny Mountain Mine (Seabridge Gold) – Closed

- Past-producing underground gold mine located in the Iskut River watershed (~40 river-miles from the boarder with AK);
- DNR and ADF&G staff visited the project area in Sept. 2017
- Mining and milling occurred from Nov. 1988 to Aug. 1990, and again from Sept. to Nov. 1993 when operations were stopped.

- Facilities include: three adits, five vent shafts, mill building, tailings impoundment, airstrip, fuel tank farm, waste rock piles, a 10-km road from the Bronson Slope area located adjacent to the Iskut River, and several ancillary buildings;
- Seabridge Gold acquired SnipGold in April 2016 and has begun reclamation activities at the Johnny Mountain Mine site while also starting mineral exploration activities in the surrounding area as the Iskut Project;
- A dam safety inspection was completed in 2014 and the report is available online at <http://www2.gov.bc.ca/gov/content/industry/mineral-exploration-mining/bc-mine-info/johnny-mountain>.
- Seabridge Gold has initiated a Project Execution Plan to implement the approved Reclamation Plan. To date, the fuel tank farm has been disassembled and staged for removal, hazardous materials have been removed off site, storm water and erosion controls have been established, the three adits have been closed, and ground and surface water monitoring stations have been established.
- In March 2017, Seabridge Gold published the 2016 Johnny Mountain Aquatics Characterization Report detailing their sampling design, methods, and results for an aquatics study conducted in 2016.
- Seabridge Gold is planning to construct a 17km road in 2018 to service the Johnny Mountain area.
- Seabridge conducted mineral exploration activities near the Johnny Mountain site in 2017 as part of their Iskut Project.
- Areas of continued interest include:
 - Acid mine drainage from adits and exposed waste rock piles
 - Progress of hazardous material removal
 - Stability of tailings facility and associated dam

Tulsequah Chief Mine – In receivership.

- Past-producing underground copper, lead, zinc silver, gold project located in Taku River watershed (~10 river miles from the border with AK);
- The BC Chief Inspector of Mines issued two separate compliance orders in July and October 2017 as part of the on-going compliance and enforcement efforts related to the unpermitted discharge of contact water at the Tulsequah Chief Mine and other violations; available on-line at <http://mines.nrs.gov.bc.ca/p/tulsequah-chief/docs>
- A temporary spillway was completed at the exfiltration pond in 2017 to prevent erosion of the bank between the pond and the Tulsequah River. The water treatment plant remains bypassed.
- B.C. Ministry of Environment contracted additional sampling in 2016 and released a revised Aquatic Ecological Risk Assessment in July 2017;
 - DNR and ADF&G staff provided comments in response
- Areas of continued interest include:
 - Acid mine drainage into the Tulsequah River, a tributary of the transboundary Taku River;
 - On-going permit violations including bypass of the Interim Water Treatment Plant (IWTP) that was constructed in fall 2011 and operated from March to June 2012 before being shut down;
 - The outcome of the receivership process.

Galore Creek (NovaGold (50%) and Teck (50%)) Pre-permitting.

- Proposed open pit copper, gold, silver project in Stikine River watershed (~25 miles from border with AK).
- EA Certificate issued in 2007 with 193 enforceable conditions.
- Revised feasibility study completed in 2011.
- Permitting is on hold pending site optimization by project proponent.

Schaft Creek (Teck (75%) and Copper Fox (25%)) – Withdrawn from environmental review by applicant.

- Conceptual open pit copper, gold, molybdenum, and silver project in the Stikine River watershed (~40 miles from border with AK).
- Feasibility study released in January 2013.
- On May 4, 2016, CEAA notified OPMP that the comprehensive study of the Schaft Creek Project had been terminated due to a request for withdrawal by Teck Resources Limited.
- Limited engineering studies conducted in 2014.

Mount Polley (Imperial Metals) – Operating

- Mount Polley is an open pit copper/gold mine located in south-central B.C in the upper region of the Fraser River watershed, which does not drain into to State/U.S. waters, but supports Alaska fisheries.
- The SOA did not participate in the EA process for this project.
- On Aug. 4, 2014, a tailings pond breach occurred at Mount Polley Mine. The breach released approximately 17 million cubic meters of effluent water and 8 million cubic meters of tailings material into Hazeltine Creek, Polley Lake and Quesnel Lake.
<http://www.env.gov.bc.ca/eemp/incidents/2014/mount-polley/>
- The B.C. Ministry of Environment is the lead agency responding to and monitoring the breach while the B.C. Conservation Office Service (COS) is the lead agency investigating the cause of the incident.
- The Mount Polley Independent Expert Investigation and Review Report was released Jan. 30, 2015.
<https://www.mountpolleyreviewpanel.ca/final-report>. Two additional investigations are pending.
- On July 9, 2015, MoE and MEM approved Imperial Metal to restart the Mount Polley Mine under partial operations.
- On June 23, 2016, MEM approved Imperial Metals to return to full production using the repaired tailings storage facility following a geotechnical review, 30-day public consultation period, and detailed technical review by federal, provincial, local, and First Nation government representatives;
- On Sept. 19, 2016, MoE amended the EMA Permit authorizing treated effluent from the Springer Pit and the site runoff and seepage collection water management systems to be discharged to Hazelton Creek in compliance with several water quality and quantity parameters and monitoring plans;
- The latest updates related to continued environmental sampling and remediation at the Mount Polley Mine can be found at <https://www.imperialmetals.com/our-operations-and-projects/operations/mount-polley-mine/mount-polley-updates/remediation-and-monitoring>