

Status of Select British Columbia Mine Projects

- **DNR, Office of Project Management and Permitting's (OPMP) Canadian Large Project Webpage**
 - <http://dnr.alaska.gov/commis/opmp/Canadian%20Mines/index.htm>
- **British Columbia's Mine Information Webpage**
 - <http://mines.nrs.gov.bc.ca/>
- **Red Mountain (IDM Mining Ltd.) – Application complete, entering assessment process.**
 - Proposed underground gold and silver project located approximately 11 miles northeast of Stewart, British Columbia (~13 miles from Hyder, Alaska). 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.
 - The project is proposed in a transboundary watershed; however, all potential discharge from the project area would enter Portland Canal in Canadian marine waters.
 - 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.
 - Federal Canadian Environmental Assessment process:
 - CEAA initiated a 30-day public comment period that ended October 19, 2015.
 - The Office of Project Management and Permitting (OPMP) coordinated with DNR-Mining Section, DEC-Water Division, and ADF&G-Habitat staffs to provide comments on Oct. 16, 2015. OPMP recommended that the CEAA hold public meetings in Hyder and Ketchikan and consult with “Alaska Native representatives that have current, traditional, or cultural ties to Portland Canal.”
 - Provincial Environmental Assessment (EA) process:
 - The EAO has initiated the EA process by issuing a Section 10 and Section 11 orders (Feb. 2016).
 - A 30-day public comment period on the Application Information Requirements (AIR) was administered by the EAO from October 5, 2016 through November 4, 2016. The AIR was issued in March 2017.
 - The Proponent has notified EAO that they intend to submit the Application for an Environmental Assessment Certificate in late May 2017. Once the Application is received, EAO will notify the Working Group of the commencement of the 30-day screening evaluation of the Application.
- **Red Chris (Imperial Metals) – construction complete; in production.**
 - Operating open pit copper and gold mine in the Stikine/Iskut watershed (~150 miles from border with AK). Construction was completed in October 2014. Production started in Oct./Nov. 2014, with full production starting in June 2015.
 - Provincial EA process:
 - EA Certificate issued July 21, 2005 (amended Feb. 24, 2012).
 - Provincial MA/EMA Permitting:
 - On June 12, 2015, the Ministry of Environment issued an amended EMA permit, which replaces the previously issued interim approval and allows the mine to discharge tailings into the tailings storage facility (TSF) and discharge water from the TSF, subject to water quality guidelines.
 - On April 4, 2016, Imperial Metals submit applications to amend their MA/EMA permits to allow a redesign of their south tailings dam and to address a number of other changes to ensure project conformance.
 - OPMP coordinated with DNR-Dam Safety, DEC, and ADF&G to review and comment on the amendment application.
 - The amended EMA Permit and Trigger Response Plan was issued by B.C. Ministries of Environment (MOE) on Oct. 27, 2016, and the Water License was issued by MOE on Oct. 11, 2016.
 - Ministry of Energy and Mines (MEM) issued their Mines Act Permit amendment on 2/28/17 approving operation of the South Tailings Dam.
 - Monitoring
 - OPMP is receiving monthly monitoring reports and posting them on the Canadian Large Project webpage.
- **Brucejack (Pretium Resources) – Construction complete. Production starting summer 2017.**
 - Permitted underground gold project in the Unuk River watershed (~28 miles from the border with AK).

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- Subaqueous (“wet”) tailings disposal in the non-fish bearing Brucejack Lake, which drains to Brucejack Creek, under Sulphurets Glacier, to Sulphurets Creek, and finally the transboundary Unuk River. Water quality (WQ) baseline data and modelling indicate no measurable change in WQ at the Alaska Border.
- No tailings dam or water storage dam proposed or permitted.
- Production is expected to start in 2017
- Provincial EA process (started on March 26, 2013).
 - On March 26, 2015, the EAO issued an EA Certificate with 15 enforceable conditions.
 - OPMP coordinated with DNR-Mining Section, DEC-Water Division, and ADF&G-Habitat staffs to participation in the technical working groups organized by the EAO.
- B.C. Mines Act and Environmental Management Act Permit Applications (MA/EMA)
 - OPMP, in coordination with ADF&G-Habitat Div., DNR-Mining Section, and DEC-Water Div., submitted written comments to the Mine Review Committee (MRC) on June 5, 2015 in response to the MA/EMA application. No significant concerns were identified.
 - The MA permit was issued by the B.C. Ministry of Energy and Mines on July 22, 2015.
 - The EMA permit was issued by the B.C. Ministry of Environment on August 31, 2015.
- Federal Canadian Environmental Assessment process:
 - Consolidated state agency comments were submitted to the Canadian Environmental Assessment Agency (CEAA) on Oct. 1, 2014, and June 11, 2015. No significant concerns were identified.
 - A favorable federal environmental decision was issued July 30, 2015 by the Minister of Environment, along with a direct response to SOA comments.
- **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 back in April, which is now available on their website at <http://ksmproject.com/independent-review-board/>
 - Seabridge Gold issued a press release on Aug. 2nd announcing the results of its Best Available Tailing Technology (BAT) review for its KSM Project. The review was completed by Klohn Crippen Berger. The press release may be found at <http://seabridgegold.net>
 - Provincial EA process:
 - EA Certificate issued July 30, 2014 with 41 enforceable conditions.
 - Consolidated State comments were submitted on Jan. 24, 2014. No significant concerns were identified.
 - Federal Canadian Comprehensive Study process:
 - Federal environmental approval issued Dec. 19, 2014.
 - Consolidated State comments submitted to CEAA Aug. 20, 2014. The State made several recommendations to the Minister of Environment for her consideration in the final decision.
 - 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 or production.
 - In November 2015, Seabridge Gold submitted a joint application to amend their MA Permit and request an EMA Permit. Seabridge proposed to construct an exploration adit into the Deep Kerr resource that would measure 2,100 m long by 4.2 m wide by 4.8 m high, along with associated laydown area, waste rock pile, temporary water treatment plant and settling ponds.
 - OPMP is coordinated with DNR, DEC, and ADF&G to review the application and submit technical comments to the Mine Review Committee (MRC), facilitated by the MEM.
 - Seabridge Gold and MEM addressed the State’s technical comments through amendments to the proposed activities and clarifying information.

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- The EMA Permit was issued by MOE on Aug. 24, 2016; the MA Permit was issued by MEM on Oct. 12, 2016, requiring a total bond of \$17.133 M; and MOE issued the Water License on Oct. 6, 2016.
- Seabridge Gold has not yet started construction on the approved Deep Kerr Exploration Adit.
- **Tulsequah –Project is currently in receivership.**
 - Historic underground copper, lead, zinc silver, gold project located in Taku River watershed (~10 miles from the border with AK) that is proposed for new development.
 - EA Certificate issued Dec. 12, 2002 with 126 enforceable conditions.
 - Acid Mine Drainage (AMD) releases into Tulsequah River from the old mine workings have occurred following closure in 1957. An Interim Water Treatment Plant (IWTP) was constructed in Fall 2011 and operated from March to June 2012 before being shutdown and bypassed.
 - On July 25, 2012, B.C. Ministry of Environment issued a Notice of Non-Compliance and Warning to Chieftain Metals Inc. (CMI), requiring a remedial action plan be submitted and implementation of a weekly monitoring program.
 - On November 5, 2015, B.C. Ministry of Environment issued a Non-compliance Advisory Letter to CMI resulting from an inspection conducted Oct. 15, 2015, requiring the following actions: 1) Commission the IWTP immediately once site development occurs, and 2) Ensure monitoring occurs in the locations, frequencies and parameters required in the June 12, 2014 Amendment to the EMA permit.
 - On November 10, 2015, the EAO issued a Non-compliance Order to CMI finding they were not compliant with Condition 1 of the EA Certificate due to “a failure to construct and operate the Project in accordance with the Spill Plan and that non-compliance with this condition has resulted in hydrocarbons spilling into the environment.” The Ministry required CMI to 1) immediately implement spill prevention measures that are adequate to ensure that hydrocarbons are not spilled or otherwise release into the environment from any equipment or hydrocarbon storage located on the Project site; 2) by November 30, 2015, develop a plan to remove the hydrocarbons that have been spilled at the four-non compliant locations into the receiving environment; and prevent future spills or other releases of hydrocarbons into the receiving environment at the Project site; and 3) develop and implement the plan to the satisfaction of the EAO.
 - On Feb. 9, 2016, CMI submitted a compliance status update to the EAO confirming they had:
 - ✓ Implemented spill prevention measures to ensure that hydrocarbons are not spilled or otherwise released into the environment from any equipment or hydrocarbon storage at the Project site;
 - ✓ Develop and implemented most of their required Plan to prevent future spills and to remove hydrocarbons spilt;
 - ✓ Covered their secondary containment site with a temporary roof and has committed to modifying the design prior to operations;
 - ✓ Cleaned up and secured all conflict wildlife attractants (lubrication grease);
 - ✓ Removed pipes that were directing the discharge from the 5200 level adit directly to the river. The water is now flowing to the Exfiltration Pond;
 - ✓ Temporarily addressed the Portal Creek diversion pipe issue with ditching and has committed to maintaining the ditching until there is funding to replace the pipe.
 - On May 18, 2016, EAO confirmed with OPMP that the EAO is satisfied with Chieftain’s corrective actions, including excavation and storage of the contaminated soils, to date.
 - Whole body metals concentration results for Dolly Varden char sampled by ADF&G-Habitat from the Tulsequah River above and below the mine site and from the Taku River at the U.S. Border in June 2011 were published in 2012 (Report No. 11-09, Hitzelberger, 2012). ADF&G-Habitat collected additional samples in 2014, 2015, and 2016 and published the results in Technical Report No. 16-06 (Oct. 2016).
 - BC has seized the financial surety totaling about \$1.4 million (Canadian) and they are using those funds to contract for limited clean-up work and additional environmental analyses.
 - BC Ministry of Environment has collected additional environmental samples and is currently working on an updated Aquatic Ecological Risk Assessment, which is expected to be released publicly in April/May.
 - MEM is preparing to publish a Request for Proposals (RFP) to develop a reclamation and closure plan for the project.

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- **Galore Creek (NovaGold (50%) and Teck (50%)) Federal & provincial reviews complete, on hold.**
 - 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.
 - Final 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) – Full production has re-started.**
 - 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 Hazeltime 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. The amended EMA Permit does not authorize the discharge of water, but an additional amendment is expected in late fall to allow for waste water discharge. The amended MA Permit authorizes the company to operate at about half capacity and tailings must be placed in an existing open pit on the mine site, not the tailings storage facility that failed previously. Weekly monitoring reports are required, and the company has until June 30, 2016 to submit a long-term water treatment and discharge plan and reclamation and closure plan.
 - 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>
- **BC Actions**
 - On Feb. 28, 2017, Minister of Energy and Mines Bill Bennett outlined the BC Government's actions, including new policies and funding, to increase competitiveness, strengthen First Nations involvement, and enhance responsible resource development in British Columbia's mining sector. More information, fact sheets, and several reports are available at <https://news.gov.bc.ca/releases/2017MEM0008-000420>
 - (MEM) commissioned Stantec Consulting Ltd. to examine how jurisdictions in Canada and abroad deal with the issue. The report, completed in September 2016, is available here: http://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/mineral-exploration-mining/documents/reclamation-and-closure/stantec_report_mine_reclamation_security_sept_30_2016.pdf
 - MEM and the Ministry of Finance commissioned Ernst and Young to undertake an in-depth examination of reclamation securities practice. Their report is available here: http://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/mineral-exploration-mining/documents/reclamation-and-closure/bc_mem_ey_report_on_mine_reclamation_security_final.pdf
 - The updated Health, Safety and Reclamation Code for Mines in British Columbia is available here: http://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.pdf
 - MEM also commissioned Klohn Krippen Berger to complete a third-party comparison of mining legislation and guidelines in British Columbia, Montana and Alaska. The comparison found B.C.'s

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requirements for mining to be equal to or more stringent than those in Montana or Alaska. The Klohn Krippen Berger analysis is available here: <http://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/mineral-exploration-mining/documents/health-and-safety/code-review/161125l-miningcodereview.pdf>

- **BC Auditor General Report**

- On May 3, 2016, the BC Auditor General released an “Audit of Compliance and Enforcement of the Mining Sector.” The full report and related documents may be downloaded at <http://www.bcauditor.com/pubs/2016/audit-compliance-and-enforcement-mining-sector>
 - In a press release (5/3/16), the Auditor General stated, “The compliance and enforcement activities of both the Ministry of Energy and Mines, and the Ministry of Environment are not set up to protect the province from environmental risks.”
 - The Auditor General makes one overall recommendation “that the Government of British Columbia create an integrated and independent compliance and enforcement unit for mining activities, with a mandate to ensure the protection of the environment. Given that the Ministry of Energy and Mines (MEM) is at risk of regulatory capture, primarily because MEM’s mandate includes a responsibility to both promote and regulate mining, our expectation is that this new unit would not reside within this ministry.”
 - The Auditor General also made 16 additional recommendations “that provide further guidance to government in the development of this new unit.” Those 16 recommendations are categorized as “Planning, Permitting, Compliance Promotion, Compliance Verification, Enforcement and Adjustment, and Reporting.”
 - In response to the Auditor General, the Ministries stated, “While we do not accept that the Ministries have been deficient in protecting the environment, or the recommendation to reorganize the compliance and enforcement programs within a separate agency, we do believe the 16 sub-recommendations provide meaningful and constructive guidance that will complement current initiatives already underway.”

- **Site Characterization for Dam Foundations in B.C.**

- On September 1, 2016, The Association of Professional Engineers and Geoscientists of British Columbia (APEGBC) have developed and published Professional Practice Guidelines – Site Characterization for Dam Foundations in BC in response to Recommendation 6 in the Report on Mount Polley Tailings Storage Facility Breach prepared by the Independent Expert Engineering Investigation and Review Panel. The guidelines may be downloaded at <https://www.apeg.bc.ca/News/Articles/Site-Characterization-Guidelines-Improve-Dam-Safet>