

Exploration and Mining 101

How the Mining Industry Works:

ENVIRONMENT



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The environmental process for a potential mine development starts at the exploration stage, and if successful moves into the development and operation stages followed by closure and long-term maintenance.



Exploration

- Stake claims.
- Contact “First Nations” in area to explain the location of claims, what you intend to do and your schedule.
- Respect overlapping land claims and talk to all interested First Nations.
- Apply for “Notice of Work” Permit under Section 10 of Mines Act.
- May require “Licence to Cut” from MoF if volume of trees to be cut is more than 50 m³. If less than 50 m³ “Free Use Permit” under Mines Act may suffice.



Exploration (continued)

- Be aware of restrictions with in-stream work and sedimentation of streams from drilling. Sedimentation from drilling mud inflow to fish bearing streams is an offence under the Fisheries Act and the BC Environmental Management Act.
- Follow standard of care for safety and environment.
- Contact First Nations during or after your drilling program to provide an update.
- The geologists have the opportunity to set the stage for good relationships moving into development.

Development

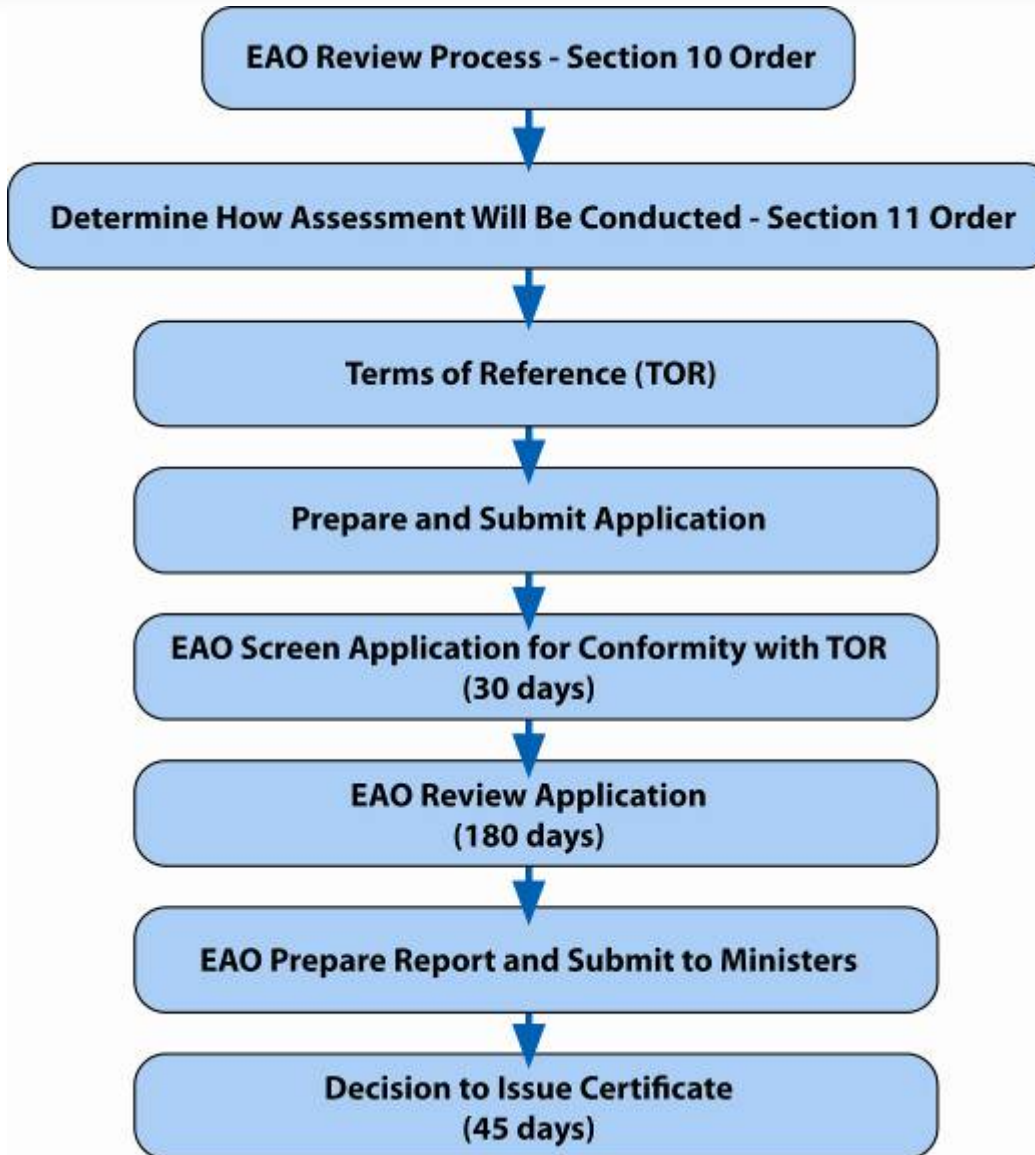
At the development stage the exploration has demonstrated enough potential to warrant moving the project into the environmental review process. The project proponent starts evaluating mine development scenarios:

- First step in the environmental process is to prepare an initial Project Description for submission to the BC Environmental Assessment Office to decide if the project will be a reviewable project and require formal British Columbia environmental review process.
 - *“Criteria under the Environmental Assessment Act’s Reviewable Projects Regulation for a new mine facility is production capacity of $\geq 75,000$ tonnes/year or ≥ 200 tonnes/day of ore”*



British Columbia Environmental Assessment Process

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Funding for First Nations Participation and Benefits

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- Initial step is MOU with First Nation
- Environmental Process Participation Funding Agreement
- Project Participation Agreement
- Impacts & Benefits Agreements



British Columbia/Canada Environmental Assessment Approval Process

Canada/British Columbia Project Approval Process

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- Two approval processes are normally harmonized into a joint process with the BC EA Office taking the lead in the Project Application.
- Canadian Environmental Assessment review process such as the Comprehensive Study process is combined with Provincial Application Process.
- Each process has distinct requirements which require individual approach such as the Scoping Process under Section 21 in CEAA where Federal project scoping is required.
- Provincial process issues a Section 11 Order outlining process to be followed for the environmental process



British Columbia Environmental Assessment Act

Environmental Assessment Office (EAO)



The environmental assessment includes four main elements:

1. Opportunities for all interested parties, including First Nations and neighboring jurisdictions, to identify issues and provide input;
2. Technical studies of the relevant environmental, social, economic, heritage and health effects of the proposed project;
3. Identification of ways to prevent or minimize undesirable effects and enhance desirable effects; and
4. Consideration of the input of all interested parties in compiling the assessment findings and making recommendations about project acceptability.

EAO Establishes Project Review Groups

- Road Access Technical Group
- ML/ARD Technical Group
- Water Quality/Hydrology/Water Management Technical Group
- Wildlife/Terrain Technical Group
- Fisheries and Navigable Water Technical Group
- Socio-Economic Technical Group
- Mine Development and Closure Technical Group





Federal Government of Canada Canadian Environmental Assessment Act (CEAA)

Federal CEAA Process Review

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- Determine if “triggers” exist requiring project to go through federal review process under CEAA
- Typical triggers are Fisheries Act due potential HADDs on fish habitat, Explosives Act due to explosives storage at a minesite, Navigable Waters Act due to crossing navigable streams, Transboundary Rivers Act due to alteration of stream flows into the United States. (0.3 m³ of flow reduction)
- Once triggers have been identified CEAA requires a Project Description to develop a scoping document

Federal CEAA Process Review and Schedule

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- Scoping Document prepared under direction of CEAA with input from Responsible Authorities (NRCan, Fisheries & Oceans, Department of Transport, Environment Canada)
- Purpose of Scoping is to determine federal review process
- Scoping document is a Section 21 under CEAA and provides for a 30 day public review

Federal CEAA Process Review

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Scoping Document to Include:

- Scope of Project (need agreement on the scope of the project with RAs (NRCan, Fisheries, Transport and possibly Environment Canada))
- Scope of Assessment (*i.e.* how is process going to be done: Section 21 of CEAA)
- Scoping the factors to be addressed in review (Section 16 of CEAA)
 - Need and Purpose of the Project
 - Cumulative Effects
 - Environmental Effects of Project After Mitigation
 - Alternatives Considered
 - Effects of Accident & Malfunction
- Funding available to public to review Project Application/Comprehensive Study or Panel Review



Federal CEAA Process Review

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- CEAA prepares and submits a Tracking Report to the Federal Minister of Environment
- Minister decides if project should be a Comprehensive Study Report (CSR) or a Panel.

Federal Comprehensive Study List

There are a number of criteria that could require a mineral project to go through the Federal Review Process. The main criteria for mineral projects is throughput.

- “The proposed construction, decommissioning, or abandonment of a metal mine, other than a gold mine with an ore production capacity of 3,000 t/d or more; a metal mill with an ore input of 4,000 t/d or more. A gold mine other than a placer mine with an ore capacity of 600 t/d or more”





Licenses, Permits and Approvals


Operations

- After Project Certificate is issued provincial permitting can start. If concurrent permitting was initiated at the submission of the EA Application then permits have to issued within 60 days.
- After Federal Environment Minister approves comprehensive study an environmental agreement is negotiated between the proponent and the federal government. This agreement includes bonding to assure that the project proponent will live up to the mitigation commitments made during the environmental assessment process.
- The Metal Mining Effluent regulations apply to the mine as well as provincial requirements.



Summary of Provincial Government Licenses, Permits and Approvals Required for Development

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BC Government Permits and Licenses	Enabling Legislation
Certificate of Environmental Assessment	BC Environmental Assessment Act
Permit Approving Work System & Reclamation Program (Minesite – Initial Development)	Mines Act
Amendment to Permit Approving Work System & Reclamation Program (Pre-production)	Mines Act
Amendment to Permit Approving Work System & Reclamation Program (Bonding)	Mines Act
Amendment to Permit Approving Work System & Reclamation Program (Mine Plan - Production)	Mines Act
Approvals to Construct & Operate (Tailings Impoundment Dam)	Mines Act
Permit Approving Work System & Reclamation Program (Borrow Pit/Wash Plant)	Mines Act

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Summary of Provincial Government Licenses, Permits and Approvals Required for Development

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BC Government Permits and Licenses	Enabling Legislation
Water License – Notice of Intention (Application)	Water Act
Water License – Storage & Use	Water Act
Water License – Use	Water Act
License to Cut – Minesite/Tailings Impoundment	Forest Act
License to Cut – Gravel Pits	Forest Act
License to Cut – Access Road	Forest Act
License to Cut – Borrow Areas	Forest Act
License to Cut/Special Use Permit – Powerline	Forest Act
Special Use Permit – Access Road	Forest Act
License of Occupation – Pump house/Water line	Lands Act
License of Occupation – Borrow/Gravel Pits	Lands Act
License of Occupation – Staging Area	Lands Act
License of Occupation – Powerline	Lands Act

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Summary of Provincial Government Licenses, Permits and Approvals Required for Development

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BC Government Permits and Licenses	Enabling Legislation
Surface Lease – Minesite Facilities	Lands Act
Road Use Permit – Section near Highway #37	Forest Act
Waste Management Permit – Effluent (Tailings & Sewage)	Waste Management Act
Waste Management Permit – Air (Crushers, concentrator)	Waste Management Act
Waste Management Permit – Refuse	Waste Management Act
Camp Operation Permits (Drinking Water, Sewage Disposal, Sanitation and Food Handling)	Health Act
Special Waste Generator Permit (Waste Oil)	Waste Management Act (Special Waste Regulations)
Fuel Storage Approval	Fire Services Act
No Shooting Area Approval	Wildlife Act

Summary of Federal Government Approvals and Licenses Required for Development

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Federal Government Approvals & Licenses	Enabling Legislation
CEAA Approval	Canadian Environmental Assessment Act
Metal Mining Effluent Regulations (MMER)	Fisheries Act/Environment Canada
Fish Habitat Compensation Agreement	Fisheries Act
Section 35(2) Authorization	Fisheries Act
Navigatable Water: Stream Crossings Authorization	Navigatable Waters Protection Act
Explosives Factory License	Explosives Act
Radio Licenses	Radio Communication Act
Radioisotope License (Nuclear Density Gauges/X-ray analyzer)	Atomic Energy Control Act

Rescan Tahltan Environmental Consultants (RTEC)

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- Rescan and the Tahltan Nation Development Corporation (TNDC) formed a partnership in 2004 establishing Rescan Tahltan Environmental Consultants (RTEC).
- The company was established to conduct environmental assessments of projects located within the Tahltan traditional territories.
- Permanent RTEC office was established in Dease Lake managed by Ms. Odelia Dennis and Mr. Shaun Freeman – RTEC Biologists.



- Smithers office opened in fall of 2007 to service Northwest British Columbia.
- Plan to have 20 to 30 people working out of Smithers office this summer.
- Involved with nine (9) major mining projects in Northwest being serviced out of Smithers and Dease Lake.





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