



GENERAL MINING INFORMATION

ABORIGINAL COMMUNITIES INFORMATION



# MINING INDUSTRY HUMAN RESOURCES GUIDE *for* Aboriginal Communities




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## 4. CAREERS IN MINING EXPLORATION

### A. DESCRIPTION OF ACTIVITIES IN EXPLORATION

Mineral exploration is the first phase of the mining cycle. In the exploration phase, the goal is to locate new sources of useful materials and metals. If the results of exploration are not promising, then frequently the site will not be developed into a mine. This phase occurs generally during summer months and can last between 7 and 10 years (or more) before the site develops into a mine. Activities at the exploration stage may include: 1) Review of geo-scientific data and maps helps prospectors to narrow in on potential mine locations; 2) Airborne surveys help to investigate the mineral potential of an area; 3) Prospecting is a low-intensity activity. Prospectors generally walk around the area, examine the ground, map rock types, and collect rock and soil samples to analyze; 4) Claim staking is when a prospector registers a claim on an area of land so others can no longer conduct exploration activities on that land. It takes from a day to a week to stake the claim, which must be registered shortly thereafter (depending on the provincial regulations). A claim can last for a number of years as long as the claim is in good standing; 5) Sampling of soil, water, and ore is done to assess the area for mineral content. At this

point in the process, smaller samples are taken to assess whether further exploration is beneficial; 6) Detailed sampling involves a more thorough analysis of the area in order to get a representative sampling of the ore body, and to estimate the size and value of the mineral deposit; 7) Geophysical, geochemical ground surveys involve learning what minerals are present underneath the ground surface; 8) Mapping helps prepare for more detailed drilling programs; 9) Drilling involves using diamond drills to cut a deep hole into the rock and bring up long rock samples called cored rock; and 10) Environmental baseline work involves studying the soil.

### B. TYPICAL EMPLOYMENT OPPORTUNITIES IN EXPLORATION

The following pages in this sub-section are intended to provide a brief description of each job in this phase including the typical activities, employment requirements, work schedules, and typical salary ranges. To create a balanced view of jobs across all skill levels, a variety of entry level, skilled, trades, technical and professional jobs are included. This job inventory is intended to highlight some key occupations of the total estimated 120 occupations in mining.

#### Labourer

**Description:** A mine labourer assists other mine workers in all phases of exploration – from early to advanced phases. Labourers in mining maintain work sites, handle materials and assist in setting up, taking down and transporting equipment. Usually required to clean working areas, mining equipment and hand tools, these workers are employed by coal and mineral mines, drilling servicing contractors and petroleum producing companies. Labourers who assist in geophysical prospecting for oil and gas are included in this group. They may drive trucks to transport materials and equipment. In the exploration phase labourers are likely to provide overall support such as helping to set-up an exploration camp, load supplies from aircrafts and carry out general camp maintenance.

**Employment Requirements:** Minimal experience is required. Many companies will prefer to hire someone with a minimum of a high-school diploma.

**Work Schedule:** A labourer's work schedule will vary widely depending on the location of the exploration project, whether the work is seasonal or not, and the way each project chooses to operate.

Workers might engage in shift work (midnights, days, afternoons), work several long shifts in a row and then have several days off or work for weeks at a time without days off, followed by a longer leave period.

**Salary Range:** \$14-\$29.64 / hour

## Line Cutter

**Description:** A line cutter helps to create straight clearings through the bush of a potential mine site in order to permit sightings for geophysical and other surveys. A line cutter cuts lines out of the brush in a grid pattern, with markings at regular intervals. Work often requires the blazing of trees and cutting of brush.

**Employment Requirements:** A line cutter generally requires grade 12 or less. He or she should be in good physical condition, be able to operate a chain-saw, and be willing to work long hours in sometimes difficult terrain.

**Work Schedule:** A line cutter is involved throughout the exploration phase.

**Salary Range:** Many line cutters earn minimum wage, however a summer student can make anywhere between \$1,000 and \$10,000 a summer depending on their work conditions, their work schedule, and their length of employment.

## Prospector

**Description:** A prospector searches for mineral deposits. Prospectors explore likely regions for discovery using topographical maps, surveys, re-

ports, and knowledge of geology and mineralogy. Prospectors obtain rock samples and test for the presence of minerals. A prospector collects data on rock formations, using geophysical instruments and devices, such as Geiger counters, and determines the feasibility of staking and developing a claim. They may then stake a claim in accordance with federal or provincial/territorial legal requirements. A prospector might use sophisticated equipment to assess the area or might walk around examining and mapping rock types and collecting rock and soil samples for mineral or chemical analysis. A prospector is also the person who stakes a claim to land. This involves indicating the land to be explored, and then applying to have a claim recognized by the appropriate government agency.

**Employment Requirements:** One can become a prospector with a grade-12 education (or less). In order to stake a claim, however, it is necessary to apply for a prospector's license.

**Work Schedule:** A prospector who is self-employed can set their hours. Most often, a prospector's day is long and he or she is navigating through difficult terrain in remote locations.

**Salary Range:** Many prospectors are self-employed or contractual. Their salaries depend on the contracts they hold with different companies, the partnerships they make after staking a claim, and the value of their mineral deposit finds.

## Sampler

**Description:** Samplers collect samples of coal, ore, crushed stone, aggregate, sand or gravel from mines and test materials for conformance to speci-

fications. They weigh the material, then either use a grinding machine to grind and blend the sample or use a screen-testing machine to separate particles by size. Samplers compile reports indicating percentages of materials of specified size and notify management when materials do not meet specifications. A sampler collects ore samples for testing and works within processing plants to collect samples of the product (metals and minerals that are in production).

The challenge of attracting, retaining and advancing Aboriginal people is a growing priority for Canada's mining industry.

