

MINERAL EXPLORATION

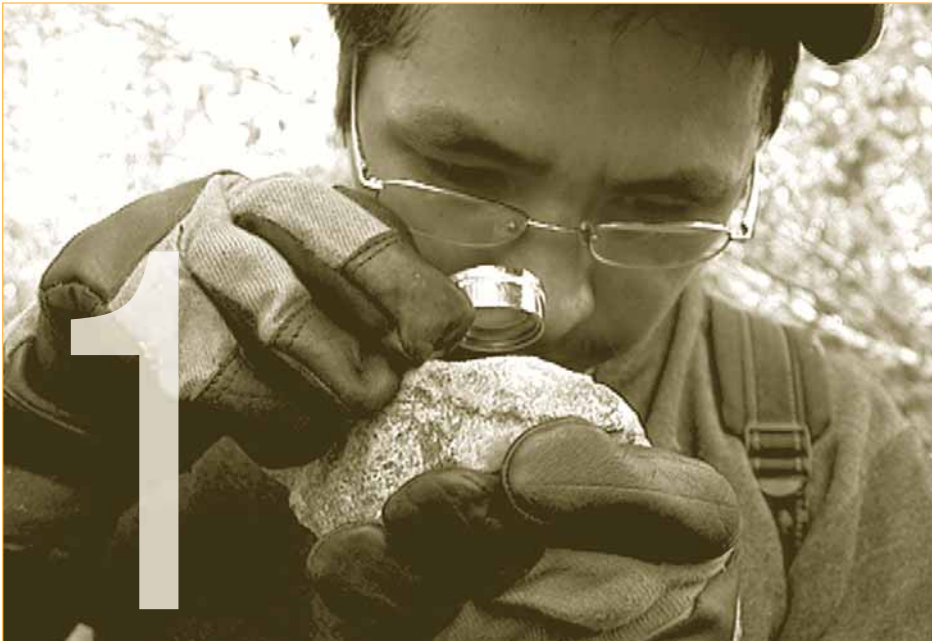
Overview

Acts and Regulations

Environmental and Social Impacts

Community Employment and
Other Economic Opportunities

Community Experiences





1.1 Overview

This section of the mineral exploration module explains the purpose of mineral exploration, identifies the main activities and players, and outlines opportunities for Aboriginal communities to get involved during exploration.

have a certain type of ore deposit that could be developed as a resource. For example, the types of rocks (geology) in parts of Nunavut are similar to rocks found in other areas of Canada where gold deposits have already been discovered. This early work involves reviewing maps, surveys and reports available from the provincial/territorial and Canadian Geological Surveys or universities.

Types of Mineral Exploration

- Preliminary or “grassroots” exploration involves looking for a deposit in an area where the mineral or metal has not been found before.
- “Brownfield” exploration is the search for additional deposits near a known mine.
- On-mine-site exploration is done to expand a mineral resource that has already been found and developed on the property of an existing mine.



What Is Mineral Exploration?

Mineral exploration is the first phase of the mining cycle. It is the search for mineral deposits. Every new mine has its beginnings as an exploration project; however, most exploration projects will not advance to become mines.

The purpose of exploration is to locate a new source of metal or useful minerals. This includes industrial minerals (such as silica used in the making of glass or clay minerals used in the making of ceramics), metals (such as iron, lead, zinc, copper, etc.), and precious metals and gemstones (such as gold and diamonds).

The exploration phase starts with identifying large areas that may

The purpose of exploration is

Facts & Figures

The success rate for exploration is extremely low for “grassroots” exploration. Fewer than 1 in 10 000 mineral showings discovered actually become a mine.

Success Rates

The success rate is extremely low for grassroots exploration. A prospector would be fortunate to find one or two prospects that become a mine in his or her lifetime. If grassroots exploration

leads to the discovery of a mineral prospect or “showing,” many of these mineral showings (10s to 100s) need to be examined to discover one that can be taken to the next stage. Of the prospects that get to the intermediate stage, few are worth being taken to the advanced exploration stage and fewer still go beyond that. It has been estimated that fewer than 1 in 10 000 mineral showings discovered actually become a mine.

Time Frames

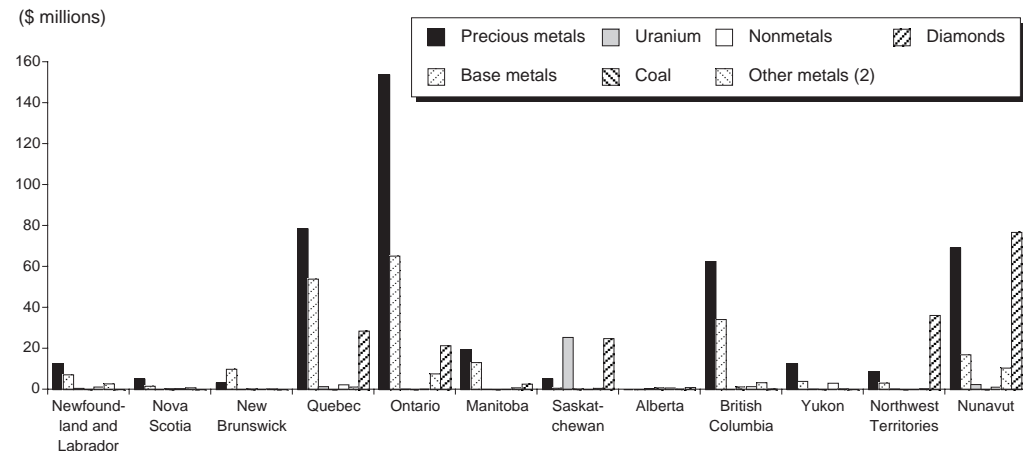
Exploration is a very slow process. For exploration programs where a promising mineral showing is discovered, it will take at least 7 to 10 years before the start of a new mine. In some cases, it can take longer depending upon a number of factors, including the willingness of investors to advance the money to explore more fully over the years. A property can be explored many times, by different companies, without success. Properties can also change ownership many times during this stage.

Canadian Mineral Exploration Expenditures

The role of the junior exploration sector has become increasingly important in mineral exploration. In 2004, junior company spending on exploration in Canada overtook senior company spending.

In 2004, exploration expenditures reached \$903 million, compared to \$538 million in 2003. Precious metals ranked first representing close to 50% of total exploration expenditures in 2004, followed by base metals and diamonds at around 20% each. Together, Ontario, Nunavut and Quebec accounted for 65% of total exploration expenditures in 2004. Exploration is defined here as activities conducted to search for, discover and carry out the first delineation of a previously unknown mineral deposit to establish its potential economic value (tonnage and grade) and to justify further work.

Exploration Expenditures (1) by Province and Territory, by Mineral Commodity, 2004



(1) Includes on-mine-site plus off-mine-site activities. Includes field work, overhead, engineering, economic and pre-feasibility studies, environmental and land access costs. (2) Includes ferrous metal.

Source: Natural Resources Canada



What Are the Mineral Exploration Activities?

Prospecting

Prospecting is the hunt for mineral deposits. It is the least disruptive exploration activity. It takes place in the summer. It is highly competitive and therefore a very secretive activity until the prospector has secured a mining claim.

Prospecting is a low-intensity activity. It can take many forms, from a prospector walking through the bush with a rock hammer and gold pan, to a prospector using sophisticated tools to identify exact positions using satellites (global positioning system [GPS]). It largely includes prospectors walking the ground examining and mapping rock types and collecting rock and soil samples by hand for either mineral or chemical analysis.

If there are signs of minerals, prospecting activities progress to more detailed work programs (more sampling, small portable drilling). These programs may be started to get deeper or larger samples that can be checked in a lab.

Basic geoscience surveys, such as geological mapping and even satellite coverage, help guide the search for a

mine. Many mineral deposits are structurally controlled, so understanding the basic structural geology of an area (i.e., how the rocks have been folded and faulted) is very important.

After the rocks have been examined on the ground, geological mapping is created to show the location of different types of rocks or structures of the earth. Provincial and territorial geological surveys do most of the mapping in Canada. Prospectors use geological maps to locate the best areas to explore for minerals that could lead to a mine. Maps can greatly reduce the search time.

During prospecting, a community may notice prospectors walking around. If there are no towns or other facilities near the exploration area, a small exploration camp is usually set up. The camp is often set up quickly at the start of the program and may be left in place for several seasons. The camp may consist of a few wall tents or trailers. The size and type of camp will depend on the length of the job and the number of people staying at the camp. Small aircraft for bringing in supplies, taking out samples and sending prospectors onto the land usually support the camp.

These activities do not mean that a mine is going to be developed but, rather, that there are people searching for signs of minerals.





Mining Claim Staking

If a prospector believes that further work is justified, a mining claim

will be staked. A prospecting licence is needed to stake a claim. The licence required to stake a claim can be applied for at a mining recorder's office. Claim staking is used in all provinces and territories as a way of indicating to the government and other prospectors/exploration companies the area that a claim staker wishes to explore. A claim staker may decide to stake a mining claim if test results (called **assays**) show the presence of minerals with some value.

Once a claim is staked and approved by the appropriate government agency, it gives the prospector/company the exclusive right to explore that piece of ground for a certain time. It does NOT mean the prospector or exploration company owns the land; it means just that no one else can collect samples or do other exploration work on it.

In order to keep claims in good standing, a minimum amount of work “expenditures” must be done and assessment reports must be given to the appropriate government body. These assessment reports show the results of

the work done by the prospector. They can be viewed by the public through provincial, territorial, or federal mine offices. If no money is spent within a given time frame, the claim will expire and the mineral rights will return to the government. At this point, someone else can re-stake the land.

Any area of open **Crown Land** can be staked, including land traditionally used by Aboriginal people and communities. Crown Land is land that is owned by all Canadians and that is administered and regulated by government (surface and mineral rights). Anyone can purchase a prospector’s licence and prospect on Crown Land. This is known as “free entry.”

In addition to Crown Land, staking and prospecting are allowed on private land. Private land is any land that is owned by private individuals or corporations rather than the Crown. The mineral rights are usually still owned by the Crown. In some parts of Canada, Aboriginal people own both the surface and mineral rights, based on land claims agreements.

Areas that cannot be staked include:

- Land on an Indian Reserve;
- Land in a registered plan, subdivision or town site;



- Parks or other protected areas; and
- Land already staked by another prospector or mining company.

In most **jurisdictions**, claim staking is done on the ground. This is called physical staking. Claim posts are pounded into the ground in a certain pattern to mark the boundary of the ground to be explored. Claim tags are put on the posts to identify the claim itself, the staker, and the date the ground was staked. The claim must then be filed at the mining recorder's office. Information is available on how to stake claims and file the paperwork. There is also a fee for registering a claim.

In some provinces, claim staking is done by map. This is called map staking. British Columbia, Quebec, and Newfoundland and Labrador have developed an electronic, web-based system for mineral claim staking that allows people to acquire mineral rights by selecting a claim on an electronic map over the Internet rather than staking a claim on the ground.

Detailed Exploration

Once a claim has been staked, the exploration program will move forward to determine if there is a mineral occurrence worth further

investigation. Based on the results of its initial prospecting work, the company will decide whether to continue with more detailed exploration.

Facts & Figures

Any area of Crown Land not specifically protected from mining development, including land traditionally used by Aboriginal people, can be staked.



Many mineral deposits are not exposed at the surface of the earth, but are buried beneath soil, glacial **tills** or other rock formations. To test if minerals are present, it is often necessary to look beneath the surface materials to see what is there. This is done using advanced techniques such as geophysical and geochemical surveys, and

diamond drilling programs. To prepare for this advanced work, various surveys must be planned. For the surveys to be exact, a map grid is created on the land marked by narrow cut-lines in forest or by a long line of pickets on open land. Once this grid has been done, geophysical instruments can be carried along the grid and more precise work can be done, including trenching (cutting a long ditch in the ground). At this stage, the community may notice not only increased work on the ground, but also a helicopter or an airplane carrying special antennas or instruments pulled through the air.

Sampling and Drilling

Initial prospecting takes small samples, whereas trenching, in soil or rock, can provide a larger and more representative sampling of a mineral occurrence. If earlier work indicates that there is the possibility of a mineral deposit underground, the exploration company must now be able to sample that rock to estimate the extent and shape of that mineral deposit. A diamond drill is used to cut through rock, going down hundreds of metres and bringing up lengths of cored rock (drill core). Typically, an average drill program would cost several times the total amount spent so far. The cost is per metre and varies depending on the location of activity (north is more expensive) and the availability of drilling contractors. The samples



are then sent to laboratories for “assay” and the company will analyze the results.

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Environmental Baseline Work

Although environmental baseline studies are normally done at the advanced exploration phase, companies are encouraged to do some environmental baseline work during the exploration activity period. These are studies of soil and vegetation types, wildlife, and water analysis. These studies could include collecting water samples for testing or having an elder identify cultural areas that are to be respected. The background data provide a reference point that can be used to measure the impacts of a project over time and, if the project goes ahead, that can be used in the environmental assessments.

Facts & Figures

During detailed exploration, the community may notice not only increased work on the ground, but also a helicopter or an airplane carrying special antennas or instruments pulled through the air.





Preliminary Deposit Evaluation

The evaluation phase is the period during and after the field program where samples and survey information are carefully reviewed to see if the work that has been done is encouraging enough to continue with more detailed and expensive activities, such as detailed drilling and **bulk sampling**, and then advance to mine development.

Who Are the Main Players in Mineral Exploration?



Governments

Provincial/territorial governments support mineral exploration by developing and providing geological maps and reports that guide prospectors and exploration companies to areas with mineral potential. Also, some jurisdictions enable prospectors, through special programs of training and limited financial support, to promote grassroots mineral exploration. Government also has a regulatory role of administering mineral claims and providing work permits for exploration activities.



Prospectors

A prospector is usually the first person to look for minerals in a new area. Anyone can prospect. Prospectors can work

for themselves or for exploration and mining companies. They usually work alone or in small groups. Prospectors start by purchasing a licence and then looking for areas that have shown evidence of certain minerals or favourable geology. They use maps and reports created by government geological surveys to pick areas to explore.



A prospector may get funding called “**grub staking**” from a company to cover some of his/her expenses. Usually, a staking deal would mean that the company would keep some interest in a discovery.



Junior Exploration Companies

A junior exploration company is a smaller company, typically with three to five employees, most of whom are professional geologists. Often junior companies are not large enough to operate a mine. They tend to focus on exploration, looking for mineral deposits that could be developed into

Facts & Figures

The community of Kasabonika Lake First Nations develops and supports local prospectors through the creation of the “Kasabonika Prospectors Alliance” for training and information sharing. They work with exploration companies and encourage their members to stake their own claims.



mines. They are publicly owned. This means that they depend on investors to provide the funds to acquire land and conduct exploration programs. When a worthwhile mineral deposit is found, some junior exploration companies go into production themselves, but usually they sell an interest or become a partner with a senior mining company.

Senior Mining Companies



Senior mining companies operate one or more mines. They have many employees with experience in a wide range of mining-related activities. Senior mining companies conduct exploration programs on the mine property in hopes of increasing the mine life.

Contractors/Service Providers



Many contractors are needed during mineral exploration for specialized expertise or services. The main contracts are for:

- *Drilling Companies*

Drilling companies generally act as contractors to mineral exploration companies and provide drilling services.

- *Expeditors*

Expeditors are very important to exploration companies. They provide key supplies and services, usually from the nearest communities. They can also set up camps, arrange aircraft and supplies, and provide other services like claim staking and line cutting.

- *Helicopter Services*

Helicopters are needed in many remote areas where there are no roads. Helicopters are used for moving people, supplies and drilling equipment into field areas. Pilots and engineers are provided along with the helicopter and stay at the camp with the exploration group.



- *Geophysical Survey Companies*

Junior companies and mining operators contract geophysical survey companies to search for ore deposits. They do this by measuring the earth's magnetic fields and the gravitational properties of rocks and minerals. Some ore deposits may have special properties (like

Facts & Figures

Opportunities exist for Aboriginal people to be involved in the services aspect of mineral exploration. Many contractors are needed during exploration, including prospectors, line cutters, caterers, equipment suppliers, and construction workers for camps.





containing magnetic minerals or being more dense than the surrounding rocks) that help the companies find the mineral area.

- *Geological Services*

Geological services include mapping of the rocks or soils/tills and collection of surface samples or rocks. The samples and maps provide useful clues on the location of orebodies.

- *Caterers*

A caterer is someone, usually from a local community, who provides food and cleaning services to an exploration camp or a mine.

- *Local Businesses*

Local businesses provide companies with the goods and services they need to support exploration activities.



- *Investors and Financiers*

Junior exploration companies carry out most of the exploration activities. In order to fund their work, the juniors need investment and financing. This investment can come from private individuals or by raising money on the stock market.

Investors find the Canadian exploration and mining industry attractive for many reasons, including its tax and regulatory climate, skilled work force, and infrastructure.

How Can Aboriginal Communities Get Involved in Mineral Exploration?

Unless a mineral deposit is brought into production (a 1 in 10 000 chance), Aboriginal communities are most likely to participate in and be affected by mineral exploration. Although the benefits and opportunities are not as significant as in later phases of the mining cycle, mineral exploration projects are an important way for communities to learn about the benefits, opportunities and impacts of mining.

Exploration projects vary in scope. Some may simply involve gathering rock samples, while others may involve establishing a camp for 6 to 10 people with a helicopter and drilling rig. Some may involve digging trenches or detailed mapping. Whatever the scope of the project, it is important for communities to have open dialogue with the company involved. Governments encourage prospectors and exploration companies to talk to Aboriginal community members before going onto the land. Prospectors and exploration companies have found that early discussion with Aboriginal community members is in



everyone's interest.

Early community involvement allows both the community and the company to learn. The company can explain what the project involves,



where it is located, and who will be doing the work. Community members can ask questions or raise concerns. With their in-depth knowledge of the land, elders may be able to recommend good sites to establish a camp and point out significant locations to avoid, such as ceremonial sites, traplines, and hunting grounds.

Through early engagement, a community can learn about the needs of the exploration company. Perhaps the company needs a cook, a supply of food, a helicopter, or employees to help with the exploration activities. Learning about these needs will help the community identify and respond to potential economic, employment and business opportunities. It will also help identify training needs.

1.2 Acts and Regulations

This section identifies the general legal and regulatory requirements, jurisdictions, and licences and permits that apply during mineral exploration.

Canada is somewhat distinctive in that responsibility for matters affecting mining activities is shared by the provincial, territorial and federal governments. The responsibility for managing mineral resources has been granted to the provinces and territories, with the exception of Nunavut, the Northwest Territories and Indian Reserves, where it rests with the federal government through Indian and Northern Affairs Canada (INAC). The provinces, the Yukon and INAC have put in place mining-related acts and regulations for the administration of exploration, mining activities, and closure.

The rules governing land acquisition vary greatly by jurisdiction (i.e., province and territory). Mineral claim staking, map staking, prospecting permits, etc., are used in various jurisdictions. Individuals must check with the specific jurisdiction and follow its regulations.

What Are the Jurisdictions?

There are many jurisdictions across Canada and the regulations covering mineral exploration are

Facts & Figures

By working closely together and through the signing of a Memorandum of Understanding (MOU), the Timiskaming First Nation (TFN) and Tres-Or Resources Ltd. have participated in the discovery of a diamond-bearing kimberlite in Ontario. The TFN has established an Economic Development Committee to proactively assist in the education and development of skilled workers.





Facts & Figures

Aboriginal-owned land is becoming significant. In Nunavut, the Inuit own large tracts of land called Inuit Owned Lands. For these lands, the Inuit enjoy surface rights and, in selected cases, sub-surface rights. Nunavut Tunngavik Incorporated (NTI) oversees the use of Inuit-owned lands in Nunavut. Where land claims are in negotiation, the federal government makes interim (temporary) land arrangements to protect Aboriginal interests during the negotiations.

(Source: www.tunngavik.com)

largely similar, but with regional differences. Normally, ownership of the surface land is separate from ownership of the sub-surface (including mineral rights). So, just because someone owns the surface does not mean they own the sub-surface mineral rights below the land.

There are two types of land available for exploration: Crown Lands and privately owned lands. The federal government through INAC is responsible for federal Crown Lands in Nunavut, the Northwest Territories, and on Indian Reserves, and has legislation covering its use. Provinces and the Yukon are responsible for Crown Lands within their province/territory and have legislation covering its use and disposition. Government controls surface and sub-surface rights for provincial, territorial and federal Crown Land. Exploration is generally allowed on all Crown Land except for land that is specifically protected from mines or other development (for example, national parks).

Privately owned land includes, among others, farmland, city land, and Aboriginal-owned lands, including Indian Reserves. Access to privately owned lands is prohibited unless consent is given and compensation is paid to the surface rights holders.

What Licences and Permits Are Required?

The requirement for licences and permits in the exploration phase varies between provinces and territories. It also varies depending on the type of exploration work being done. The table below shows a summary of the permits that may be required during different exploration activities.

Exploration Permits	
Activity	Possible Permits Required
Basic prospecting	Prospectors licence
Airborne surveys	No permits required
Claim staking	Register claims according to requirements of the area
Ground exploration/drilling	Land use permit (depending on the amount of work and size of project)
Tree cutting	Permit to cut trees
Camp and drilling program	A land use permit is required for larger projects that have a camp and helicopter
Road construction for access, fuel storage or exploration trenching	Various permits may be required

1.3 Environmental and Social Impacts

This section identifies the possible environmental and social impacts a community may experience during mineral exploration. Ideas for monitoring and reducing impacts (mitigation), and community participation are included.

What Are the Potential Environmental Impacts?

Environmental impacts during mineral exploration are usually very low, especially during grassroots exploration.

The Canadian mining industry is a world leader in environmentally safe and clean exploration practices. The Canadian exploration industry (as represented by the Prospectors and Developers Association of Canada [PDAC]) has its own “Exploration Code of Conduct.” It defines the way that prospectors and exploration companies agree to work in the field. They understand that they have to respect the rights of others, to operate safely, and to take care not to harm the wildlife, land or water. They need to follow provincial or territorial and federal laws and respect the communities they operate near.

With these measures in place, negative impacts are reduced, but they are still possible. Some of the main impacts and how they are minimized are shown in the table below.

Environmental Impacts		
Type	Condition	Mitigation
Land use	Camp construction	Government regulations for camps, roads and airstrips
	Road construction	
	Airstrip construction	
	Line cutting	Minimize area
	Drilling programs	Established drill waste disposal
	Fuel storage	Fuel storage standards Spill recovery plans
Water quality	Waste from drilling programs (mud)	Carefully plan and locate drill program to prevent water contamination
Wildlife	Animals attracted to garbage and food waste	Burn garbage and food waste Fly out/remove cans and glass items
	Migratory patterns affected by presence of humans	Teach wildlife awareness to crews in camp
	Migratory patterns affected by noise from helicopters, planes, and drill rigs	Keep aircraft away from migrating animals

Facts & Figures

The Prospectors and Developers Association of Canada has produced a best practices handbook for exploration companies called “E3.” It gives many examples of how exploration companies work to minimize the environmental effects of exploration.

(Source: www.pdac.ca)





What Environmental Monitoring Is Required?

As the amount of activity is usually very small during exploration, the exploration company will do most of the environmental monitoring.

Monitoring may involve checking:

- the fuel storage area;
- that waste is properly disposed of;
- that food is not left where animals can get it; and
- that no unwanted waste remains after drilling rigs leave.

Companies must also follow the conditions of any permits or licences granted to conduct exploration. Government inspectors will likely visit the site to make sure that conditions imposed on the licences and/or permits are being met and that all regulations are being respected. For larger exploration projects, spill plans (i.e., fuel) and waste disposal plans will likely be required.

What Are the Potential Social Impacts?

Social impacts at the exploration stage are likely to be minimal and tend to be positive. Listed in the table below are some possible impacts. Learning about these impacts may help

communities understand and anticipate the effects of exploration.

Another possible impact of exploration may be unrealistic expectations about the development of a mine. Most exploration activity will not advance to mine development.

Social Impacts		
Type	Positive and Negative Effects	Community Response
Social	Shift work/rotational work Less time to spend on traditional activities Workers and their families are separated for several days or weeks Marital stress Members leaving the community (because they now have money and good-paying jobs) Members leaving their skilled jobs in the community to take mining-related jobs. The community then has to spend money to train new workers	Plan activities around work schedule Create support groups or programs to minimize the separation stress experienced by families
Economic	Increased employment levels Increased income levels Increased training and skill development opportunities Increased buying power Creates positive role models More money flowing into a community could result in more liquor and/or drugs coming into the community Widens the gap between the employed and unemployed	Use the positive working role models within the community Create addiction response programs and support groups
Cultural	Strangers in the community Increased population Strains existing services Worsens existing social problems	Offer cultural awareness training, delivered by members of the community, to ensure new people in the community understand its values and traditions



What Are the Opportunities for Community Participation?

The major community input during early exploration is usually through direct communication with the company carrying out the project. Governments encourage prospectors and exploration companies to communicate with Band Councils and to talk to Aboriginal community members before going onto the land.

This is the time for communities to ask questions, raise concerns, and learn about the exploration process. Early consultations can serve to alert communities to the many challenges and opportunities that may lie ahead and are an opportunity to ask important questions such as:

- “Do we want to get involved in mining-related businesses?”
- “What are the employment/business opportunities?”
- “What are the potential negative impacts and how do we minimize them?”

Having answers to these questions will help to prepare the community should an exploration project lead to larger investment.

The mining company and the community should arrange a follow-up meeting. This should happen after the fieldwork is complete

and the company has analyzed the results, which could take many months.

Depending on the size and the location of the exploration project, communities may also have input through a permitting board or agency that will want to obtain local views and concerns on the consequences of issuing a permit. This is another way to raise environmental or social concerns.

1.4 Community Employment and Other Economic Opportunities

This section identifies the employment and other economic opportunities available to Aboriginal communities during exploration. It also includes ideas on how Aboriginal communities can increase their readiness to participate in mining exploration activities.

What Are the Employment Opportunities?

Job opportunities during exploration projects may be limited and short term, lasting only a few weeks to a few months. These opportunities are often attractive to Aboriginal communities because they allow community members to

Facts & Figures

Early engagement can serve as a turning point for communities. The Kasabonika Lake First Nation community increased its participation through newsletters, meetings, radio, and surveys. The community also negotiated a “step-by-step” approach to the mineral exploration process.





gain useful experience and skills expertise that may be transferable to other economic sectors. The lengths of the jobs depend on whether the exploration project is successful.

any local hires to make sure they are safe and equipped to do the job.

Early discussions with the company will allow the community to find out which jobs are available. The community may want to help the company by organizing a venue for interviews and advertising available positions throughout the community. The community may also decide to conduct a skills and education inventory of its members.

What Are the Other Economic Opportunities?

Projects usually hire specialists – geologists, geophysicists, drill operators, and pilots – to carry out the exploration work. To become a specialist requires a university or college degree or on-the-job training. However, projects may also need less specialized personnel, including field assistants, camp staff, line cutters, prospectors, and samplers.

Exploration projects may require environmental baseline work. This work will also provide opportunities for local people to assist with fisheries and wildlife studies. Companies will train

Facts & Figures

The close location of Aboriginal communities to major exploration and mining projects presents a window of opportunity for both Aboriginal people and industry. Aboriginal communities are increasingly becoming recognized as key contributors to the minerals and metals sector for labour and supply, especially in remote areas.

(Source: Natural Resources Canada)

Economic opportunities for communities during early exploration are limited. Each community is unique and will be equipped differently to capture possible economic opportunities.

Types of business opportunities generated by exploration include:

- Digging and trenching with heavy equipment;
- Tree planting;
- Construction of camps/camp staff;





- Food, accommodation, and catering;
- Expediting;
- Helicopter/air support rental;
- Equipment/vehicle rental and fuel;
- Drilling contracting;
- Transportation and freight services; and
- Environmental baseline studies.

Junior exploration companies usually have only a few full-time employees and they are generally specialists such as geologists. When it comes to organizing a field program, they commonly employ an expediting company to organize activities like camp setup, transportation, and catering. If such a business is available in a community, then it will be in a good position to provide services to the company.

Exploration projects are usually on tight time schedules and limited budgets. During discussions, the exploration company will describe its plan and time frame. There is usually not enough time for communities to develop businesses to assist the exploration company; however, the community may want to ask the company to keep them informed of its exploration expectations for the next season so that it can prepare for possible economic

opportunities. The opportunities will mainly be in assisting geologists and in environmental studies.

Training Opportunities

Exploration activities offer Aboriginal communities a number of options for economic and business development, including the training of future Aboriginal prospectors. Some communities have developed their own training programs to teach people how to prospect. Because of their knowledge of the land around them, local community members are in an excellent position to become prospectors.



Facts & Figures

The James Bay Cree of northern Quebec run the Mistassini Geological Resources Centre. The Centre's goal is to increase economic development through mining. The Centre provides training, information and consulting services about prospecting, exploration and other activities. It also plays a role in making sure that mining operations on Cree territory respect traditional land use and have no adverse effects on people, animals and land.

In the North, Indian and Northern Affairs Canada (INAC) and the college system have collaborated to create training programs. Other communities have formed their own exploration companies. There is the potential for economic benefits through these activities. If the prospecting is successful and encouraging samples are found, the prospector may be able to interest exploration companies in forming a **joint venture** or to **option** a property to ensure that further work is carried out.

1.5 Community Experiences: Talisman Consulting

Canada's mineral-rich landscape will always challenge geologists to search for economic mineral deposits. Exploration activities continue to take place across Canada. Hundreds of millions of dollars are spent annually to fund the search. It is this spending that creates economic opportunities for Aboriginal communities. There are many examples where exploration companies have established very good relationships with communities and from these positive relationships, economic and employment opportunities have grown as exploration continues. The diamond discoveries in the Northwest Territories, the Raglan nickel/copper discovery in northern Quebec, the Musselwhite gold discovery in Ontario, and the Eskay Creek gold/silver discovery in northwestern British Columbia are just a few examples. However, no matter how well planned, most exploration projects will not advance to the development stage.

Chief Glenn Nolan of the Missanabie Cree First Nation has considerable experience with exploration activities and communities across Canada through his company, Talisman Consulting. His experiences are summarized below.

Community Summary

From 1981 through to 1987, Talisman Consulting conducted prospecting and geophysics activities for its junior mining clients involved in exploration. Working in and around remote communities in northern Ontario, Manitoba, Saskatchewan, British Columbia and the Northwest Territories often required accessing land on First Nations traditional territory.

Community Involvement

Because most communities were accessible only by air or winter road, such as Webequie First Nation, located about 350 kilometres north of Geraldton, Ontario, Talisman found it more efficient to phone the community leaders before visiting in order to arrange a convenient time for both parties to meet.

When speaking with the local Band Economic Development Officer or Chief, Mr. Nolan did the following:

- Asked permission to enter the traditional land;
- Summarized the nature of the work;





- Identified the expected time frame of the project; and
- Described what type of economic benefits the community could expect.

Subsequent face-to-face meetings then allowed Talisman and the community to outline the specifics of the work and exchange ideas on the best ways to proceed. Because contracts ran no more than six weeks, Mr. Nolan explained that disruption to the land (e.g., line cutting) would be minimal, and he outlined the target areas on a map. Also, to avoid future misunderstandings, Mr. Nolan ensured that he took the time to describe the exploration stage of mining to the community, explaining that only in rare cases does exploration lead to the discovery of a deposit suitable for mine development.

When Mr. Nolan worked for a major company, he often had to sign a confidentiality agreement. This agreement made sure that his client held ownership over the claims he staked. The secrecy often meant that background knowledge of the project was limited, even for Talisman. By approaching the communities in an honest way and explaining the competitive reasons behind the



confidentiality, Mr. Nolan avoided any potential conflict.

Economic and Business Opportunities

Economic benefits came to the community as part of Talisman's policy to hire local residents. The community helped by recommending qualified people. Once a labour force was established, the community experienced further economic benefits through the purchase of local food and supplies.

By being respectful and initiating contact with First Nations leaders before starting work and encouraging community involvement from then on, Talisman never experienced any delays or conflicts. The company's successful performance record helped establish smooth relations for successful exploration activities in the future.

For more information, contact the Missanabie Cree First Nation at www.missanabiecree.com.