

Education and Training Requirements of the Non-Energy Mining Sector

September, 2000

Beverly A. MacKeen, Ph.D.

Prepared for the Northern Alberta Development Council

Executive Summary

The purpose of this paper is to explore employment opportunities for Northern residents in the non-energy mining sector. The focus is on training and business strategies that Aboriginal communities could consider in order to position themselves to engage in future employment in this sector.

There are indications of the presence of non-energy minerals in Alberta, with the northern part of the province showing good potential for finding precious metals, mineral and diamonds. This industry is in its infancy in the province. Mapping, surveying and early prospecting are just beginning. These early activities can take up to seven years before a profitable find results in mine design, approval and construction.

The Northern Alberta Development Council will host a symposium in late 2000. The purpose of the symposium will be to introduce Northern residents to the emerging non-energy mining sector and to provide them with information about human resource requirements of the sector. This will allow communities to plan training and business activities related to sector requirements that should position residents to gain employment as the sector matures.

Aboriginal community leaders were contacted by telephone to assist in the preparation of discussion points with mining companies. Mining and construction companies were interviewed to determine their experiences and commitment to local hire in remote areas. Alberta Infrastructure and Alberta Resource Development provided useful background information.

A literature review produced case studies and other reports of mining projects in Northern communities in other parts of Canada. A summary of a number of these is included in this report.

Nine recommendations emerged from the findings. The majority of the recommendations involve planning for training and business development at the community level, a step that can be completed in a timely fashion given the status of industry activities. Two recommendations involving apprenticeship training and prospector training could be acted on immediately.

Table of Contents

Purpose/Background	1
Chronology of Events of a Major Mineral Project	3
Methodology	4
Interviews	5
Mining Companies	
Alberta Infrastructure	
Construction Companies	
Aboriginal Community Leaders	
Examples of Projects That Involve Aboriginals in Mining	7
Joint Ventures	
<i>Case Studies</i>	
Traditional Knowledge	
<i>Case Studies</i>	
Findings	11
Action Plan	13
Concluding Remarks	16
Appendices	
Appendix A –Location of Potential Deposits	17
Appendix B – Workforce Profiles in the Mining Industry	18
Appendix C – Purchasing Profiles in the Mining Industry	22
Appendix D – Interview Questions	26
Appendix E – List of Individuals Contacted	27
References	29

Purpose

The purpose of this paper is to explore employment opportunities for Northern residents in the non-energy mining sector. The focus is on training and business strategies that Aboriginal communities could consider in order to position themselves to engage in future employment in this sector.

Background

According to the Alberta Resource Development¹, the province has a wide range of non-energy minerals. Mining of non-energy resources is considered an emerging industry. Until now, the bulk of attention has been given to mapping and geological surveying for oil and gas purposes. Similar activities for precious metals, minerals and diamonds, while begun, are far from complete.

There are indications that the Wood Buffalo Region contains deposits of base and precious metals. The Athabasca Basin, extending from Northern Saskatchewan, is thought to contain uranium. The Northwest area of the province shows promise for deposits of iron. Iron deposits are associated with other metals and kimberlites, which are the indicators of diamonds.

Industrial metals, limestone, gypsum, dolomite, phosphate and sodium sulfate, are known to exist. Aggregate is also a huge resource in the Province. Appendix A contains a map of the location of potential deposits.

While the oil and gas industry has commanded the bulk of the attention, its existence provides a tremendous advantage for the development of non-energy mining in the province. Infrastructure built for the oil and gas industry, such as roads, supply centres, and transportation, are in place in the very areas where exploration for metals, minerals and diamonds is likely to occur.

The Northern Alberta Development Council (NADC) will host a symposium in late 2000. The major topics will be an overview of the non-energy mining sector in the province and the development of human resources to support exploration and mining in this sector. The purpose of the symposium is to provide Northern Alberta residents with information that will allow communities to position themselves and their residents to take advantage of employment and contracted services opportunities that could result from this mining activity. Appendix B contains workforce profiles in the mining industry. Appendix C lists purchased services surveyor profiles in the mining industry.

¹ *Source:* Alberta's Mineral Strategy, A Strategic Framework

Education and Training Requirements of the Non-Energy Mining Sector

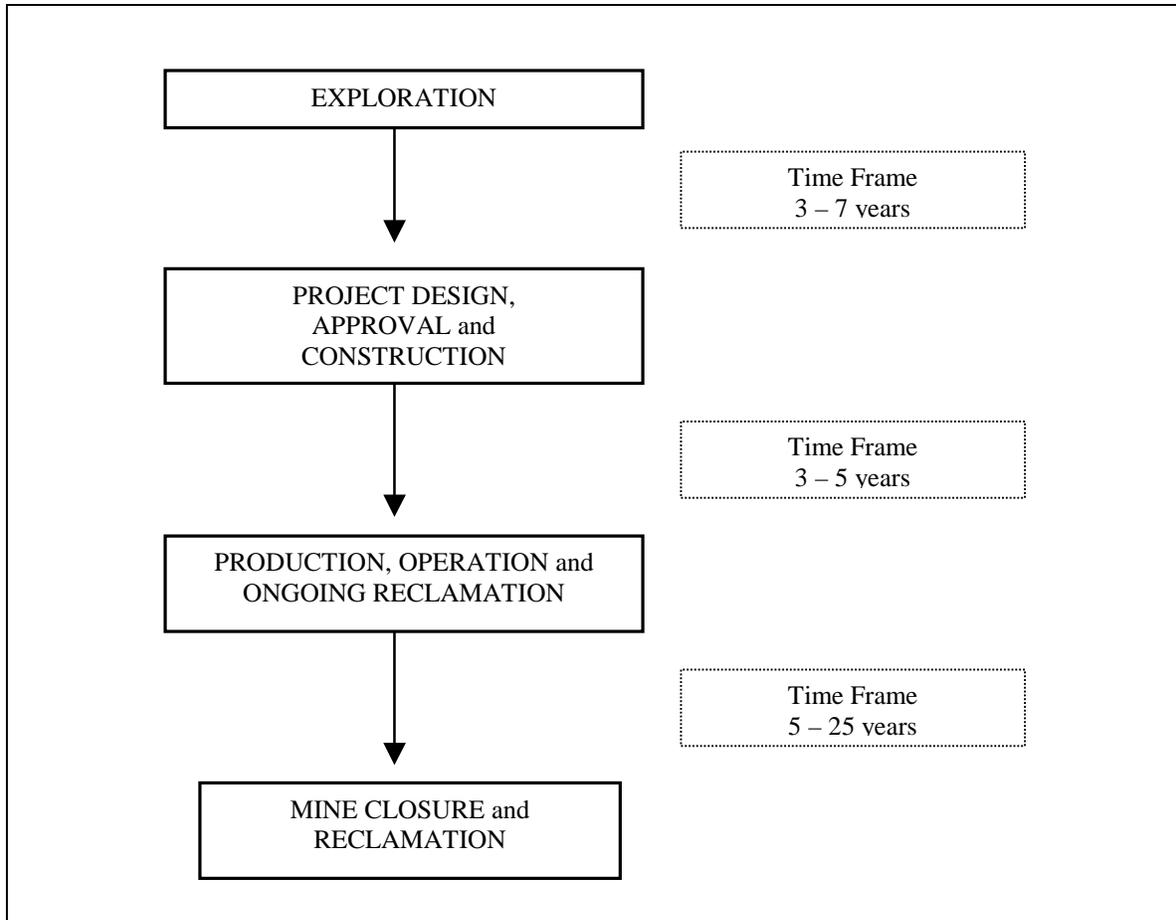
Prepared for the Northern Alberta Development Council

Employment is high in Northern Alberta because of forestry and oil and gas activities located in that part of the Province. However, there are aboriginal communities for whom unemployment and underemployment is chronic. This research report will concentrate on training and business development employment opportunities in the non-energy mining sector that could be advantageous to Aboriginal communities.

Chronology of Events of a Major Mineral Project

The following is an example of the activities in order as well as the timelines that are associated with each step.

Figure 1: Overview of a Major Mineral Project²



Indications are that the industry is at the beginning of the first phase. While there is great optimism about potential findings and exploration is ongoing, there have been no major finds. The chart is included to demonstrate the amount of time available to prepare and train for construction and operational phases of a mining project as well as timelines for the exploration phase that is beginning now.

² Source: Alberta's Mineral Strategy; A Strategic Framework

Methodology

Documents were obtained from Alberta Resource Development, Alberta Geological Survey, and the Council for the Advancement of Native Development Officers. The documents represented annual reports, case studies, resource lists, and information packages. These documents were reviewed and analyzed for relevance to employment and training opportunities and barriers in the mining industry.

While a web search was conducted, the results were insufficient for this research report.

Staff at Alberta Resource Development and Alberta Geological Survey were interviewed to identify information about the status of non-energy mining in the province. They gave generously of their time and materials. Information gathered during this phase has been incorporated into the report.

An initial list of questions was prepared for mining companies. The questions concerned their practice and experience in implementing local hire policies and developing joint ventures with Aboriginal communities. The research project and the prepared questions were discussed with representatives from Metis settlements, Treaty 8 Regional Leaders and the Metis Nation Zone offices. The questions were revised based on suggestions provided during these interviews. Appendix D presents the final list of questions used to conduct interviews.

A number of mining companies were contacted. Because this industry is in the exploration stage in Northern Alberta, corporate experiences with local hire and joint ventures were not relevant discussion points in a number of instances. Although there was limited experience, company representatives expressed support for the potential of local and joint ventures.

A list of individuals contacted during the course of this research report is provided in Appendix E.

Interviews

Mining Companies

Representatives of mining companies reported a range of experience with both joint ventures and partnerships with local communities. Because companies are in the exploration phase, they could only comment conceptually about policies concerning joint ventures and other cooperative initiatives in Alberta. Company responses ranged from “it would only make sense to work with local communities” to reports of very positive relationships with local communities in other jurisdictions. Benefits of hiring local residents were reported to be lower transportation costs and related travel time, lower camp costs and good relationships with local communities.

Several company representatives reported difficulty in locating skilled local people to hire. One person attributed this to the volume of jobs and higher pay in the oil and gas industry.

Alberta Infrastructure

The Provincial Government is a major purchaser of aggregate and construction services for road building throughout the province. While there have been several instances of joint ventures with Aboriginal communities, the standard practice is to engage an overall building contractor who will then subcontract the necessary undertakings. The highway construction through the Blood Reserve in Southern Alberta was an example of a joint venture.

The province includes a local hire on qualified individuals clause in their contracts. The government normally prefers to retain administrative responsibility for the extraction of aggregates, but they have been known to purchase crushed gravel. They would also consider contracting the stripping and baring activities if local expertise were available. .

There are more opportunities for communities who have the capability of undertaking subcontracts for selected portions of road building. Operation of heavy equipment, flagging and other construction tasks were suggested as possible local contracts.

Construction Companies

A major construction company known for its commitment to joint ventures with Aboriginal communities was interviewed. PCL - Maxam partnered with the Prince Albert Development Corporation (PADC) on the Cogema Mine project. (See next section). One of the results of the interview was the identification of additional resources in the Council for the Advancement of Native Development Officers (CANDO) Resource Library. Specific resources are listed in References.

Aboriginal Community Leaders

A preliminary briefing during telephone interviews with Aboriginal community leaders explained the nature of the research report and information about the mid-fall symposium. All those interviewed expressed interest in the project. At least one community previously had a request to conduct mining exploration on community land; the request was denied.

A number of communities have labour market specialists who are interested in the results of this research report. One community indicated that their identified priority was to address social concerns before education and economic development initiatives could be considered.

The interviews were conducted during the summer. Several tribal leaders could not be reached.

Examples of Projects That Involve Aboriginals in Mining

The Seventh Annual Report on Aboriginal Participation in the Mining Industry of Canada (1996) identified factors that contribute to increased participation in local mining operations. These are:

- employment of Aboriginal liaison coordinators
- establishment of monitoring committees
- socio-economic agreements
- training programs
- fly-in/fly-out employment schedules
- joint venture business partnerships
- cross-cultural training
- flexible work schedules.

A number of the above factors played a role in the design of the following projects.

Joint Venture Partnerships

The Ninth Annual Report on Aboriginal Participation in Mining (1998) defines a joint venture as

...a specialized business partnership between a First Nation community and a construction company to achieve mutually beneficial business and economic objectives. The joint venture partnership is established for a single project, and it is custom-designed to meet the needs of the First Nation, the client (corporation or government) and the construction contractor. It is based on sound business principles.... The joint venture approach gives the First Nation communities responsibility for an active role in the planning for their peoples' participation in the construction project. The pre-construction phase provides the joint venture partners an opportunity to conduct skill inventories, recruitment and pre-employment training, thereby creating a ready workforce for construction start. The design stage provides the constructor and client corporation or government department the opportunity to make design choices that may further enhance the opportunity for increased use of local resources.

Case Studies

Prince Albert Development Corporation and the Cogema Mine

The partners for this project were PCL-Maxam and the Prince Albert Development Corporation (PADC). PADC is the business development division of the Prince Albert Grand Council that represents 12 First Nations in Northern Saskatchewan. The project employed 134 apprentices from Northern Saskatchewan in 10 different disciplines. The

Northern Employment Services (NES) of PADC provided recruitment, orientation programs and translators for the many languages spoken in the North. Contractors provided on-the-job specific training and safe work practices.

BHP Ekati Diamond Mine

The company implemented a policy of Aboriginal involvement in the development of the mine north of Lac de Gras. The Dogrib Treaty 11, Akaitcho Treaty 8, the North Slave Metis Alliance and the Inuit of Kugluktuk were given the opportunity to participate in the employment, training and experience in contracted services.

Community Mobilization, an evolving partnership between the Northwest Territories (NWT) and Nunavut business communities, government and the Aboriginal communities, began identifying processes and priorities. Training of employable adults and youth was the first priority. Initially, 108 workers and 22 students received training. Subsequently, ten job creation/worker readiness programs were held in eight communities.

The results have been beneficial for the Aboriginal people who participated. BHP's policy gives employment preference to Aboriginal people of the NWT. This policy is also reflected in BHP's practice with contracting goods and services. The goal of 44% Aboriginal employment of all Northern residents was exceeded. Northern and Aboriginal people who start in entry level positions at the Ekati mine benefit from the company's commitment to life long learning that encourages employees to strive for advancement.

The company also is committed to local participation in the environmental planning process through collaboration regarding traditional knowledge. The communities involved collect and organize traditional ecological knowledge in a manner that allows them to contribute to the environmental management of the mine.

"Aboriginal Grads Ready for Work at Diavik Mine"³

Twenty graduates of a joint government and industry training project joined the diamond mine labour force. The skills program was held in the twin Dogrib communities of Rae and Edzo, 100 km. west of Yellowknife. As a joint venture of a Denton-Cho company and PTI of Edmonton, a temporary work camp at the mine site was built by Ekati Supply Services,

Traditional Knowledge

Traditional Knowledge is

practical common sense based on teachings and experience, and that has been passed on from generation to generation. Moreover, it is

³ *Source:* Edmonton Journal, July 8, 2000.

knowing the country, its environment (snow, ice, weather and resources) and the relationship between things. It is holistic, in the sense that it cannot be compartmentalized nor can it be separated from the people who hold it. It is also an authority system that sets out the rules governing the use of resources, a way of life that is rooted in the spiritual health, culture and language of the people.⁴

Inclusion of the traditional knowledge approach is relatively new in environmental impact assessment reports.

Case Studies

Traditional Knowledge and the NWT Diamonds Project

In December 1994, a Federal Environmental Assessment Panel required the company, BHP, to address the issue of traditional knowledge with respect to the Project. Many meetings were held with Aboriginal people to listen and learn how to proceed with the Project in a manner compatible with traditional values. A second phase involved a Traditional Knowledge Study whose main objective was to document concerns of Aboriginal people regarding the project so that BHP could address them. Subsequently, BHP committed to undertake a Phase II Traditional Knowledge Study that would incorporate the findings of the Phase I Study.

The report cites a number of difficulties both in the process and in the final Environmental Impact Assessment (EIA) study. Much could be learned from applying the Guidelines for Aboriginal Peoples and the Guidelines for Corporations in their use of Traditional Knowledge in Mining contained in the *Report on Aboriginal Participation in Mining, Eighth Annual Report*.

Prospector Training in Manitoba

As a result of a developing shortage of prospectors in Manitoba, both the Government of Manitoba and the Mining Association of Manitoba approached Keewatin Community College. They requested that the College deliver an eight-week prospector training program aimed at helping Northern residents receive the basic skills to be employed as prospectors in Northern Manitoba.

A three phase program, approximately 16 weeks long, was designed to be delivered both in College facilities in Thompson and in the field in practicum placements. The program was able to accommodate 20 participants at a cost of \$2,000 per participant.⁵

⁴ Source: Report on Aboriginal Participation in Mining, Eighth Annual Report, 1997.

⁵ Source: Report on Aboriginal Participation in Mining, Eighth Annual Report, July 1997.

Surveyor Training in Northern Alberta

First Nations Consulting (FNC) reported that they were involved in training four individuals from Peerless Lake and Trout Lake in a two month surveying course. The course included basic geology as well. It is felt that the training could prepare the participants for prospecting and other early exploration activities. The four participants found employment upon completion.

Findings

The Need to Develop an Organized Approach to the Mining Industry

The regulatory approval process in Alberta, administered by the Department of Environmental Protection, the Alberta Energy and Utilities Board and the Natural Resources Conservation Board, requires that prospective mining companies consult with all affected communities. This requirement provides some advance knowledge of possible mining activity. Advance knowledge allows communities to act on the other preparations that will position them to take advantage of ensuing opportunities.

The Need to Develop Relationships with Prospective Partners in Mining

Because the non-energy mining industry is new to Alberta, there has been little chance for the companies and Northern communities to interact. At the time of writing a great deal of beginning exploration activity appeared to be occurring. However, there was no indication of any relationships between mining companies and community leaders. The upcoming NADC sponsored symposium should provide the opportunity for planning approaches to build relationships.

The Need for Training

Most of the occupations related to mining that are reported in Appendix B require some training. Many of these occupations are in the skilled trades. Because the Apprenticeship and Industry Training Board is examining ways to increase Aboriginal participation, it would be advantageous to begin consultations with the Board as soon as possible.

Beginning the development of appropriate data bases was mentioned as a necessary preliminary step to exploration. Companies reported that there was little available information about local geography, locations of spiritual places, sitings of geological interest, and water sources. Computer training, including the building of data bases concerning the local area, could benefit a number of people.

Mining companies interviewed indicated that prospector training would be an initiative that could be very useful to them in exploration. Other early activities include sampling, airborne/ground geophysics and drilling.

The Need to Use Traditional Knowledge

The Eighth Annual Report on Aboriginal Participation in Mining contains a number of articles concerning traditional knowledge and its relationship to undertaking an environmental impact assessment. The evidence points to a requirement for inclusion of traditional knowledge in environmental impact assessments. Elements of traditional knowledge that are relevant to exploration companies and methods for compiling this information could be learned by several community members. A good deal could be learned from the first-hand experiences of the people who were involved in preparing traditional knowledge content for the above projects. Also, the Guidelines for Aboriginal Peoples contained in the *Report on Aboriginal Participation in Mining, Eighth Annual Report* provide a useful template.

The Need for Proactive, Co-operative Initiatives

It is premature to consider actual co-operative ventures. However, now is the time for communities to learn the skills needed to successfully negotiate such initiatives. CANDO has an excellent resource library and delivers training workshops on the negotiation skills. A number of their publications are listed in the Reference section.

The Need to Profile Local Skills

A number of mining companies indicated that they had experienced difficulty in locating local people who could do small projects that involved the operating construction equipment such as earth mover, back hoes, chain saws and caterpillars. They expressed the need for an available inventory of local skills and equipment that would facilitate hiring.

Action Plan

During the conduct of this research report, it became clear that the most obvious barrier to Northern community involvement in new mining activities is the absence of advance information about exploration and subsequent development.

1. Develop a system of environmental scanning that provides early notification of upcoming activity and accompanying human resource opportunities .

The non-energy mining industry is new to Northern Alberta. While there is an overview of activities in a mining project in this report, it is only an introduction. Potential community involvement and planning requires a greater understanding of the industry than is within the scope of this report. The occupations and contracted service opportunities in mining contained in Appendices B and C provide a beginning understanding of what communities could consider in the way of training and business development. The chart showing the chronology of events in a mining project provide guidance regarding the order in which skills would be required.

2. Make available to interested community leaders an information session conducted by individuals knowledgeable about all phases of the mining industry.

There appears to be little contact between Aboriginal communities and mining companies that are likely to be active in the geographic area. Developing the relationships and trust that are necessary for successful partnerships requires that the potential partners know each other.

3. Devise a system that encourages regular face to face communication between the potential partners.

Once the community leaders understand the opportunities possible through the development of the mining industry, planning should occur where the most beneficial training and business activities are likely to occur. The Chronology of Events table above can guide the sequence of activities in a plan.

4. Provide opportunities for community leaders to clearly articulate what training and contracting role(s) they envision for their community and what relationship they seek with active firms. Use the Chronology of Events of a Major Mineral Project to guide the planning.

Alberta Apprenticeship reported that workers from Aboriginal communities who work in trades related occupations have not consistently been indentured as apprentices. That is, they are working in the occupation, but have not “signed up” as apprentices. The result is lost on-the-job time counting towards certification. Many trades occupations occur in the mining industry and workers would gain a life-long advantage by acquiring a related

trade certificate. The Alberta Apprenticeship and Industry Training Board is undertaking an initiative intended to increase Aboriginal participation in the trades and could well be interested in pursuing innovative approaches to new trades certifications..

The possibility of employment in developing and maintaining data bases is real at this initial stage of industry development. Training in the data requirements (such as elements of traditional knowledge, geographical topology, elementary geophysical observations) of mining companies should be included in data base development preparation.

There are indications that individuals trained in prospecting and surveying would find employment. Skills gained in these areas are also transferable to other industries such as forestry, oil and gas and pipeline.

- 5. Ensure that workers in the trades areas are indentured apprentices.
Explore the benefits of training a small number of people in data base development.
Consider offering a prospecting/surveying program.***

Appendices B and C outline occupations and purchased services opportunities found in the mining industry. The ability to provide purchased services appears to be more “value added” both in terms of numbers of individuals employed and the longevity and transferability of the work. However, training to develop individual’s skills in the industry add considerably to the quality of life for that individual.

There are a number of barriers to provision of individual training not the least of which are distance from training programs and immediate lack of work. In the case of non-energy mining, it is difficult to know where a significant find will occur, adding to the uncertainty of where training preparation should take place. A number of the trades require completion of at least part of high school or passing an entrance exam. This is difficult for individuals who as adults have not had recent academic experience. The pilot joint ventures described in the section above outline the complexity of planning and implementation that is required.

- 6. Incorporate consideration of the volume of training and service supply activity that a community can successfully undertake during planning.***

The Intergovernmental Working Group on the Mineral Industry (IGWG) Annual Reports is an excellent resource. Several Albertans are on the sub-committee that produces the report. Its activities are respected among mining companies.

- 7. Make Contact with the Alberta representatives on the sub-committee of the Working Group on the Mineral Industry Annual Reports.***

A number of mining company representatives indicated that they had been unsuccessful in locating local people to undertake the initial exploration activities outlined above. They expressed some frustration in the lack of a source of information in small

communities concerning who might be contracted to clear sites or perform other early tasks. These mining companies appear to make use of web searches to address a number of their issues.

- 8. Develop a centralized inventory of equipment owners and operators and other skilled individuals and promote the use of the inventory. Consider developing a community web site and post this inventory on the site.***

Northern Colleges have developed the capability of delivering training programs off campus and in remote areas. Three colleges in the North also provide technical training in a number of apprenticeship programs. Thus they have a supply of skilled instructors in these areas. A number of colleges in Alberta have successfully established technical training programs in Aboriginal communities when the need was established. The colleges also have instructors who teach computer skills such as web development and data base development.

It would be advantageous for interested mining companies to consult with postsecondary institutions and Northern communities regarding their eventual skill requirements. They, for example, should validate any curriculum related to their work prior to any training delivery.

- 9. It is timely that the Northern Colleges begin a consultation process with the non-energy mining industry as they consider development and delivery of appropriate training programs.***

Concluding Remarks

There is a unique opportunity for Northern communities in the emerging non-energy mining sector. The mapping and exploration activities that are occurring now are expected to produce positive results in the future. The timing allows community leader to undertake the necessary planning to work with the industry and to implement these plans.

The planning will require input from individuals knowledgeable about the mining industry if communities are to plan to their best advantages. Experiences from the NWT, Manitoba and Saskatchewan in training, joint ventures and employment provide useful guides for communities entering into this planning.

Aboriginal communities can build on their traditional knowledge of the land, its environment and traditional culture and language. The practice of including traditional knowledge sections in environmental impact assessments appears to have become common practice. Training in presenting traditional knowledge could begin immediately and its practice is applicable in other industry activity. Communities can identify lead individuals for the process and obtain examples of environmental impact assessments that include such a section. Again, Guidelines for Aboriginal Peoples in Traditional Knowledge in Mining would provide a useful resource.

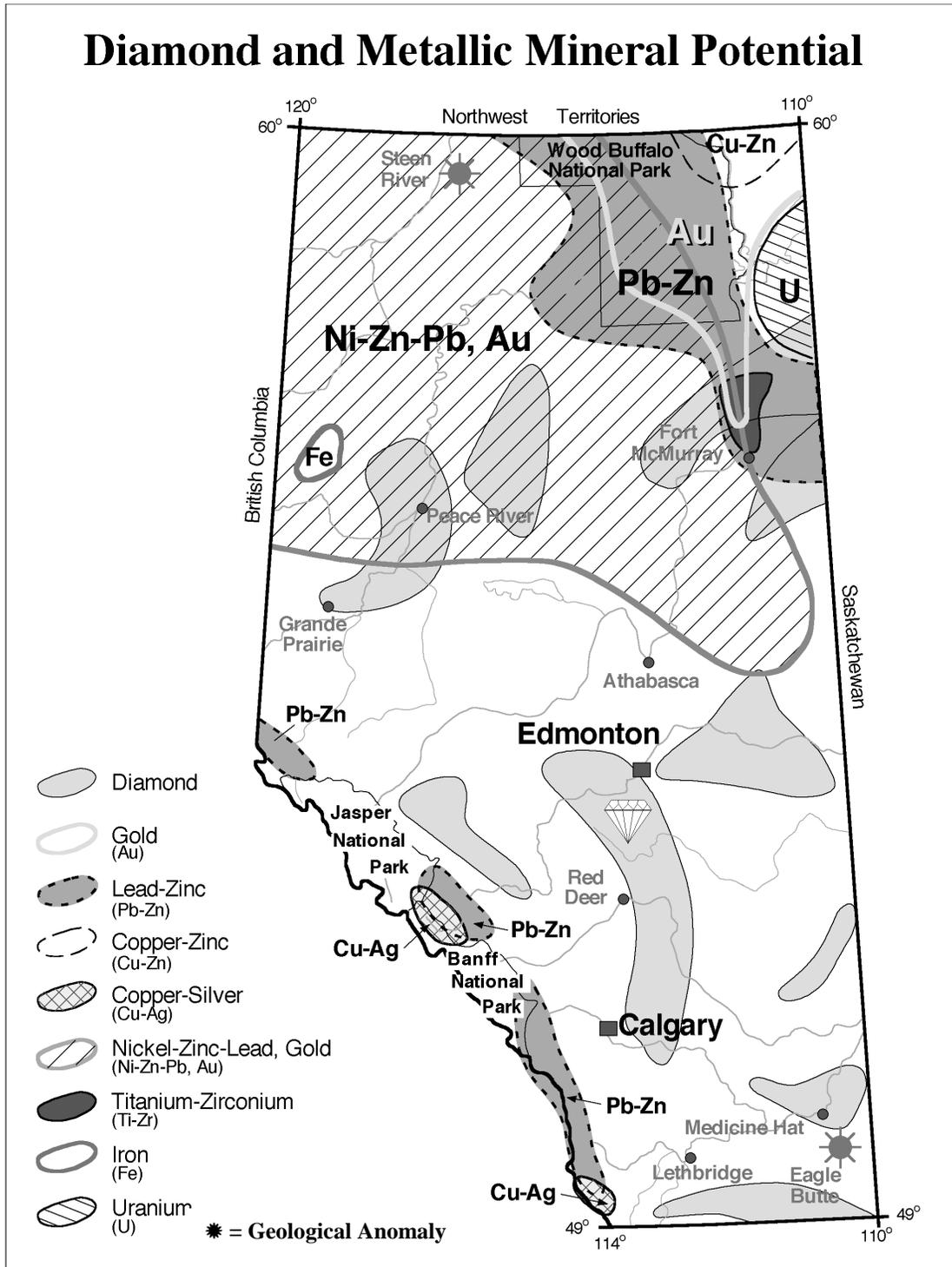
It would seem timely to explore the possibility of training some Northern residents in prospecting and other early exploration activities. Northern residents have the advantage of knowing the land and, because they already live in the region, would not require additional housing.

The number of occupations in mining that require skilled trades training is another opportunity that could provide life-long advantage to Northern residents. The barriers for Aboriginals entering the trades have historically been the need to relocate for training and the lack of apprenticeship jobs close to home. The Alberta Apprenticeship and Industry Training Board project mentioned above takes these and other barriers into consideration and the project will address ways to overcome these barriers.

A note of caution was provided by several individuals from mining companies. Employment impact on communities is directly related to the size of the project. Thus, it is not advisable to enter into training preparation on a large scale in the immediate future. Early consultation should establish the context of the possible impact in the area.

Consultation with the appropriate people, sound planning and increased knowledge about the non-energy mining sector can assist Northern communities to position themselves to play an important part in the development of mineral and metal resources.

Location of Potential Deposits*



* Source: Alberta's Mineral Strategy; A Strategic Framework

Workforce Profiles in the Mining Industry*

A

Accountant	Air controller	Assayer
Accounts payable clerk	Ancillary foreman	Apprentices
Accounts receivable clerk	Ancillary foreman (general)	
Administration manager	Ancillary operator	

B

Blaster	Blaster helper
---------	----------------

C

Cage tender	Chief chemist	Cook's helper
Camp foreman	Clerk (timesheets)	Course tailings
Camp manager/supervisor	Compressor operator	Crusher operator
Carpenter	Computer programmer	Claims staker
	Cook	

D

Derrick hand	Drafter	Drilling foreman
Dozer operator	Driller	Dry person/attendant

E

Electrician	Environmental engineer	Engineer(mining)
Electrical operator	Environmental monitor	Equipment operator
Electrical superintendent	Engineer	Expediter

* Source: Report on Aboriginal Participation in Mining, "Developing Partnerships", Ninth Annual Report, December, 1998

F

Field assistant
Finance manager
First aid attendants

Floor hand
Food preparation
Foreman (general)

Foreman (plant)
Foreman (power)
Forklift operator

G

Gas utility operator
General manager

Geological technician
Geologist

Geophysical technician
Grader operator

H

Health and safety
supervisor
Heavy duty mechanic

Heavy equipment
operator
Helper
Helper/driver

Hoistman
Hot shot driver
Human resources
manager

I

Installation technician

Instrumentation
technician

Intelligence officer
Investor relations

J

Janitor

Janitorial supervisor

K

Kitchen hand

L

Labourer/roustabout
Lab technician
Land agent

Land surveyor
Loader operator
Liaison officer

Line cutter

M

Machinist	Mechanic (heavy duty)	Millwright
Maintenance engineer (chief)	Mechanic's helper	Mine captain
Maintenance manager	Mechanical engineer	Mine foreman (general)
Maintenance statistician	Mechanical superintendent	Mine foreman (shift)
Market evaluators	Mechanical technician	Mine management
Market research	Metallurgist	Mine planner
Marketing/sales	Mill labourer	Mine superintendent
Market manager	Mill operator	Miner
Materials clerk	Mill operator (training)	

N

Nurse

O

Occupational health and safety specialist	Operations manager
--	--------------------

P

Painter	Plant planner	Purchasing agent
Personnel officer	Plant superintendent	Purchasing supervisor
Personnel supervisor	Plumber	Powerhouse operator
Personnel/tribal liaison	Process plant operator	Prospector
Pipefitter	Production manager	
Plant shift foreman	Public relations officer	

Q

Quality operator

R

Rodman/technician

S

Safety engineer	Security guard	Statistician
Safety officer	Security manager	Survey technician
Sampler	Shovel operator	Surface crew
Scooptram operator	Security supervisors	Surveyor
Secretary	Shift boss	Security officer
Security clerk	Stockpile/reclamation	Supervisor (office)
Security control	Stationary engineer	

T

Technician (mining)	Technical services	Trade (equipment helpers)
Technical services (superintendent)	Technician	Trainer
Trades superintendent	Training supervisor	Truck driver

U

Underground blaster	Underground shifter
Underground miner	Unskilled labourer

W

Warehouse person	Water truck driver	Welder
Warehouse superintendent	Water treatment plant operator	Wheel dozer operator

Many of these jobs could also form the basis of a business, if supplied under contract. For example, a mine could hire kitchen staff or it could contract a catering company to provide all kitchen services.

Purchasing Profiles in the Mining Industry*

The following are some of the goods and services that mining operations typically purchase.

A

Accommodation	Aircraft charters	Assay services
A/c d/c switches	Airstrip management	Automotive supplies
Air freight	Architectural services	Asphalt packaging unit
Air support	Assay and laboratory	
Air transportation	supplies	

B

Baking	Belts, liners and	Boilers
Banking services	fasteners	Building supplies
Bearing and seals	Blasting supplies,	Bus and taxi services
	chemicals	

C

Cartage	Construction materials	Conveyor
Cat supplies	Concentrate handling	screens/feeders
Catering	Conduits and fittings	Cooking and catering
Clothing, safety	Containers (returnable)	Contractors
Collection reagents for	Construction supplies	(maintenance)
concentrating cores	Containers	Courier services
Communications	Contractors (repairs)	Crushing and grinding
Compressors and spares	Containers	Core boxes and storage
Computer paper and	(shipping/packing	racks
ribbons	materials)	Cyclones

D

Delivery, general freight	Diesel loco and	Drill steel and bits
Diesel oil	underground	Dust collectors
	Drilling contractors	

* *Source:* Report on Aboriginal Participation in Mining, "Developing Partnerships", Ninth Annual Report, December, 1998

E

Earthmoving
Electronic appliances
Electrical supplies
Electrical wire and cable

Electricity
Engineering services
Engines (gas and diesel)
Expediting services

Explosives (fuse and other)

F

Fans and blowers
Fasteners
Fibrecrete
Filters and cloth

Firefighting, rescue and safety equipment
Fuel overflow equipment
Fuel, general

Fuel oil,, light and heavy
Fuses, fuse links
Fuel, power generation
Furniture

G

Gasoline
General contractors
Generators

Geological services
Geotechnical services
Grinding media

Grinding services
Groceries

H

Hand tools
Harsware

Hauling, fuel
Heating

Hoist ropes
Hoses, tubes and fittings

I

Iron and steel

J

Janitorial supplies

L

Laboratory work
Lubricants (oils & greases)
Lumber and timber

Ladders (wood and metal)
Lamps and holders

Laboratory chemicals and supplies
Loaders and load haul dump spares

M

Machinery and equipment	Mill spares	Mine equipment, misc.
Medevac services	Mine hoists	Mining services
Mining supplies	Mine locis and cars	Mine supplies, misc.
Mill reagents	Mucking machines	
	Motors, generators	

N

Nursing station operation

O

Office supplies	Open pit equipment
Office staff, training	spares

P

Packing and gaskets	Petroleum gases, liquefied	Pumps and vacuum pumps
Paint, painting/drywall services	Plumbing supplies	Pole line hardware
Photos and supplies	Pilot, transportation services	Promotional items
Pallets	Pipes and fittings	Pump spares

R

Reagents and supplies	Rock drills and jumbos	Repair/replacement parts for mining and ore-dressing
Recorders and charts	Roaster spares	Repair/replacement parts for trucks, tractors
Road maintenance	Rock drill bits sharpening	
Rock drill steel rods and bits	Rock drill spares	

S

Safety training	Sheaves and sprockets	Slushers and scrapers
Scooptrams (load haul dumps)	Sealift	Shelving
	Security services	Shop supplies

Speed reducers
Snow removal
Spare section
Steel equipment
Stationery
Steel and metal shapes
Steel pipe
Rentals, steel fencing

Steel ladders
Surface freight
Storage sheds
Survey stakes
Supplies – process,
operating,
maintenance and
repair

Supplies, (welding,
cement, hand tools
etc.)
Smelting/refining
treatment (processing
ores, concentrates)

T

Telephones and
communications
Thickeners, agitators
and pressers

Tools
Timbers, square
Tool lockers
Travel services

Tracks and accessories
Training. Safety
Trammer spares
Truck spares

U

Underground supplies

V

Valves and plumbing
supplies
Vegetables and fruit

Vehicles (cars, ATV's,
trucks)
Victaulic/black iron

W

Water treatment
chemicals
Weather station
operation

Wedges (wooden)
Welding supplies, gas,
oxygen

Winter road
management and
maintenance

**Interview Questions:
Northern Participation in Non-Energy Exploration and Development**

Questions for companies who are now or in the future involved in exploration and mining.

1. What is your company's commitment to local hire? What is your definition of local?
2. Have you tried a local hire policy in any Northern communities?
3. What was your experience? Successes? Difficulties?
4. What skill sets are required in your operation?
5. Do you have a minimum education level requirement?
6. What opportunities exist (now or future) for employment? For contracting opportunities?
7. Has your company a policy concerning partnerships with aboriginal organizations? E.g.: % of service contracts for local aboriginal companies; training and work placement opportunities?

Individuals Contacted

Aboriginal Communities*Metis Nation Zone Offices*

Myles Arnfinshon
Zone 1
Telephone: (780) 623 – 3039

Clifford Gladue
Zone 2
Telephone: (780) 826 – 7483

David Ward
Zone 5
Telephone: (780) 849 – 4654

Shannon Higginson
Zone 6
Telephone: (780) 624 – 4218

Joan Isaac
Labour Market Development
Supervisor
Metis Nation of Alberta Association
Telephone: (780) 455 - 2200

Treaty 8 Regional Council Leaders

Jeff Challifoux
Kee Tas Kee Now Tribal Council
Telephone: (780) 767 – 2116

Ron Henriet
North Peace Tribal Council
Telephone: (780) 926 – 3446

Ruthanne Mustus
Western Cree Tribal Council
Telephone: (780) 524 - 5978

Mining Companies and Related Organizations*Mining Companies*

Vic Walls
Border Paving
President, Alberta Sand and Gravel
Association
Telephone: (403) 343 – 1177

Tony Rich
New Claymore Resources Ltd.
Telephone: (780) 433 – 3181

Mike Hardin
Ashton Mining of Canada
Telephone: (604) 983 – 7750

Richard Boulay
Marum Resources Inc.
(403) 243 - 9500

Related Organizations

Mac Bourassa
Vice-president, Aboriginal Affairs
PCL-Maxam
Telephone: (780) 435 - 9724

Don Currie
Alberta Chamber of Resources
Managing Director
(780) 420 – 1030

Bruce Blue
Alberta Infrastructure
Telephone: (780) 415 – 1389

Steve Arnold
First Nations Consulting
(780) 481 - 8492

Government

Alberta Resource Development

Debbie Dittaro
Senior Policy Analyst
Telephone: (780) 422 – 7247

Rand Smith
Manager, Mineral Mapping
(780) 427 – 8957

Reg Olson
Section Leader, Minerals
Alberta Geological Survey
Telephone: (780) 427 - 1741

Alberta Apprenticeship

Olie Schell
Manager Strategic Operations
Telephone: (780) 427 - 5770

Human Resources Development Canada

Kenny Adams
Aboriginal Human Resource Agreements
Strategic Partnerships
Telephone: (780) 495 - 5653

References

- Alberta International and Intergovernmental Relations. *A Guide to Aboriginal Organizations in Alberta*, February, 2000.
- Alberta Natural Resource Development. *Alberta's Mineral Strategy, A Strategic Framework*. 2000. (Draft)
- Canada-Alberta Partnership on Minerals; 1992 – 1995, Alberta Geological Survey Information.
- CANDO. *Aboriginal Educational Opportunities Manual; 2000/2001*.
- Edmonton Journal. *Aboriginal Grads Ready for Work at Diavik Mine, July 8, 2000*.
- Frank, Flo. *Flying Together: A Partnership Guidebook*. CANDO, 1999.
- Solheim, Al. *The Unlimited Potential of Limited Partnerships*, CANDO, 1999.
- Sub-committee of the Intergovernmental Working Group on the Mineral Industry. *Aboriginal Participation in the Mining Industry of Canada; Seventh Annual Report*, September, 1996
- Sub-committee of the Intergovernmental Working Group on the Mineral Industry. *Aboriginal Participation in the Mining Industry of Canada; Eighth Annual Report*, July, 1997.
- Sub-committee of the Intergovernmental Working Group on the Mineral Industry. *Aboriginal Participation in the Mining Industry of Canada; Ninth Annual Report*, December, 1998.