

June 16, 2015

Heather Bourassa, Chair  
Sahtu Land Use Planning Board  
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Fort Good Hope, NT  
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email: [info@sahtulanduseplan.org](mailto:info@sahtulanduseplan.org)

Dear Ms. Bourassa,

**Re: Amending the Sahtu Land Use Plan following the creation of the  
Nááts'ihch'oh National Park Reserve**

Thank you for the opportunity to participate in the process to review the future of the Zone 41 high mineral potential lands that were excluded from the final Naats'ihch'oh National Park Reserve boundary because of their high mineral potential. The NWT & Nunavut Chamber of Mines (the Chamber) has taken an active interest in land use planning and the promotion of responsible mining in the Sahtu since the land claim was settled, and we are pleased to be able to provide our thoughts on this current discussion.

Oil and gas development and production have generated benefits in the Sahtu region in the past, and can be a powerful economic driver in the future. However, the current situation for that industry does not look good. We believe that the people of the Sahtu have an opportunity before them to develop new economic opportunities from a relatively forgotten part of their economy, mining. All, or even part of, the "Zone 41" lands can play a role in this opportunity, given their very high mineral potential.

The Sahtu region has a resource history rooted in mining, and the NWT's mining industry began there over 80 years ago. Eldorado, located on Great Bear Lake, was the first large scale mine, beginning production in 1932 and finally closing in 1982. It produced a number of commodities, including silver, as did a few other smaller operations in the same area in the 1930s. The Terra mine was the next large operation, producing silver from 1969-1985. Clearly the Sahtu region has good mineral potential, a more complete description of which can be found in one of the Sahtu Land Use Planning Board's own documents, *Sahtu Land Use Plan, Background Report, July 2010; Chapter 3: Economic Development & Natural Resources* (part of which is attached).

Mining is tremendously important to the NWT today, and has grown in other regions to become the largest private sector contributor to the economy. The annual value of mining production in recent years has surpassed \$2 billion dollars. Those moneys are used to pay hundreds of millions of dollars in government revenues, through a variety of taxes from corporate to income to payroll to fuel and property, as well in resource royalties. Some of those royalties have been shared with settled land claim regions, including over \$12 million with the Sahtu. More royalties will be paid to Aboriginal groups in future.

The NWT mining industry also employs approximately 1,500 northern workers, and has spent over \$10 billion with northern businesses.

From an Aboriginal participation perspective, our mines have made a huge leap in Aboriginal employment. Since the first of our 3 diamond mines went into production in 1998, we have seen Aboriginal employment at all mines grow to approximately 750 workers, half of the northern workforce. As a result, mining is now the largest private sector employer of Aboriginal northerners.

Simultaneously, NWT mines have become significant supporters of new Aboriginal businesses. Over the past 20 years, we have seen the creation of a brand new Aboriginal business sector servicing the mines, resulting in approximately \$5 billion in northern Aboriginal business over the current life of the diamond mines. More is to come.

The mines have also contributed over \$100 million to communities through such things as impact benefit agreements, scholarships, and donations.

For a fuller description of the level of benefits the diamond mines have created, we refer you to a Chamber of Mines report: *Measuring Success 2014: The Positive Impact of Diamond Mining in the Northwest Territories – 1998-2013* (attached).

Along with this socio-economic success, our mines continue to operate in an environmentally sustainable way, under very strict government regulations. The mine approvals and subsequent permitting processes are overseen by a variety of Boards created under Aboriginal land claims. Companies themselves also apply their own corporate environmental management standards like the International Standards Organization's ISO14001 certification, a standard to which our diamond mines operate.

Mining also operates to very high safety standards. Our northern mines today are amongst the safest in the country, and have been recognized with a number of national and regional safety awards.

With its past history of mining, it is no surprise that the Sahtu region contains known areas of high mineral potential. While much of it has gone unexplored in recent years, there are known mineral deposits and development projects in the Great Bear Lake area, along the border with the Yukon, and in some areas around the Naats'ihch'oh park, particularly the Zone 41 lands.

In recent years, much of the Sahtu Region's mineral potential has gone unexplored and overlooked as the focus of exploration was on oil and gas. Given that the NWT's mining production has been relatively steady for over 80 years, while oil and gas has been quite volatile, we believe there is good reason for the Sahtu to diversify their economy with mining.

We believe that there is significant mineral resource opportunity to be developed in the Sahtu region. However, to take advantage of it will require that the people of the Sahtu take appropriate steps to enhance and develop its potential. Just as the NWT Government has developed a *NWT Mineral Development Strategy* to rejuvenate and grow investment in mineral exploration and development in the entire territory, we recommend that the Sahtu create their own ***Sahtu Mineral Development Strategy***. Such a Strategy would take steps including the creation of a vision for Sahtu mineral development, assessing the geology of the Sahtu region, identifying and cataloguing all of the known high mineral potential areas, marketing those areas to investors as being open to development, making plans to train local residents, and developing local businesses' expertise to work with mineral explorers and eventually mining companies. Another important component of such a strategy would be a public awareness campaign to help Sahtu residents learn more about mining and its many opportunities. (The inclusion of a mineral potential map in the Land Use Plan could be just one action to help inform people of their options. Informing people of the Sahtu that they are now part owners of a brand new 100% Aboriginal owned exploration and mining company, DEMCo, is another!).

Key to successful development of a minerals economy in the Sahtu is ensuring that high mineral potential lands are protected. Just as the protection of lands for environmental, cultural and traditional reasons is important, so too is the protection of lands with high resource potential. These kinds of lands are also rare, and are deserving of protection for their ability to generate socio-economic benefits for current and future generations. The Zone 41 lands fit this description, and it is for this reason that we recommend that they be preserved for their development potential, and not locked away from development.

These are new days in the Northwest Territories. When devolution occurred in 2014, it signalled a change in the NWT, from a jurisdiction heavily reliant on government subsidies from Ottawa to one that is embarking on a path to increased self-reliance. This is not a new approach in the North, and Aboriginal communities were self-reliant prior to colonization. In this day and age, in these post devolution, post land claim settlement times, the NWT and regions like the Sahtu are well positioned to begin that journey back to self-reliance. The tools today are more varied, however, and now include resource development, amongst others. It is the non-renewable resource industries that have the horsepower to provide the sufficiently large returns that we will need in the north to provide for ourselves, and they will need to be encouraged. Mining can provide an important new economic opportunity for the Sahtu.

We therefore encourage the people and leaders of the Sahtu to take steps to diversify their regional economy into mining, and to put at the core of a new Mineral Development

Strategy the Zone 41 lands, and those other high potential areas, including lands around Great Bear Lake, and along the Yukon border.

We truly believe that the people of the Sahtu are in a good position to begin strengthening socio-economic opportunities for residents and beneficiaries by diversifying into mineral exploration and mining. The Zone 41 lands, with their high mineral potential, can form an important piece of the foundation for a strategy to make this happen. To this end, we recommend that the Zone 41 lands be designated for development and subsequently opened for mineral exploration and mining that would benefit the Sahtu. To enhance the opportunity, we also recommend that the Sahtu develop its own regional Sahtu Mineral Strategy that would complement and take advantage of efforts under the NWT Mineral Development Strategy.

We would be pleased to provide additional information you may require.

Yours truly,

**NWT & NUNAVUT CHAMBER OF MINES**

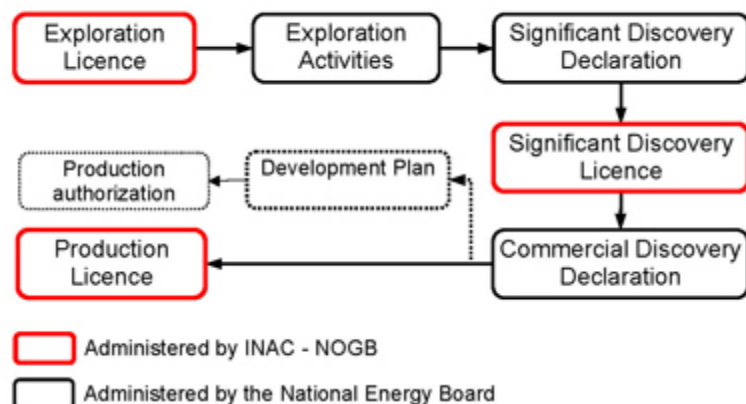
A handwritten signature in black ink, appearing to read 'Tom Hoefer', with a stylized, flowing script.

Tom Hoefer  
Executive Director

**Attachments:**

- Pages 101-109 from the *Sahtu Land Use Plan, Background Report, July 2010; Chapter 3: Economic Development & Natural Resources*
- *Measuring Success 2014: The Positive Impact of Diamond Mining in the Northwest Territories – 1998-2013*

Figure 8. Rights Management Process



### 3.1.2 Minerals and Mining

The Sahtu region covers an immense area with diverse geological attributes and an equally diverse collection of mineral prospects and deposits.

Mining and mineral exploration have taken place in the eastern part of the GBLW since at least 1930. Eldorado was the NWT's first modern mining operation. It opened in 1933 producing radium, then uranium and many years later, silver. Other mines have followed, producing mostly diamonds, gold, and uranium. Port Radium, Eldorado, Echo Bay, Contact Lake, Terra, Northrim, Norex and Smallwood Lakes are some of the other mines that existed off Great Bear Lake. Today they are no longer operational. There are currently no producing mines in the Sahtu Settlement Area (SSA).

In the last decade or so diamond production started taking place in the NWT. It has been a significant economic driver. In 2006, diamond production in the NWT ranked Canada third in world production, after Botswana and Russia.<sup>122</sup> In 2008, mines accounted for a monthly average of 2,300 directly related jobs, representing about 10% of all jobs in the territory.<sup>123</sup> The introduction of mineral exploration and mining into the economics of the NWT has resulted in enhanced infrastructure (eg. winter or all-weather roads, airstrips, power dam). In addition to direct benefits such as employment in the mining industry, the sector has resulted in spin-off benefits such as indirect employment and contributions to communities through Access and Benefit Agreements.

A number of activities are occurring in the Sahtu even though there are no current active mines:

- the North American Tungsten mine at MacMillan Pass (MacTung) on NWT/Yukon border is in feasibility stage, and
- the Selwyn project south of MacTung is in the Environmental Assessment stage with the Mackenzie Valley Environmental Impact Review Board (MVEIRB)

<sup>122</sup> Economic Review Northwest Territories. 2009 (March 2009). GNWT, Industry, Tourism and Investment (ITI).

<sup>123</sup> *ibid*

A number of other companies are doing work in the Sahtu Settlement Area:

- Sanatana Diamonds north of Great Bear Lake,
- EaglePlain Resources is doing work in the Mackenzie Mountains, and
- Alberta Star on the southeast side of Great Bear Lake.

Geological mapping of mineral potential is not as easily modelled as hydrocarbon potential. Upon consultation with the NWT Geoscience Office, the SLUPB has chosen to rely on a known metallic mineral commodity occurrence map provided by the Office. See Map 38. Known Mineralization in the SSA. It is generally held that there is significant mineral potential within the Mackenzie Mountains. Tungsten, emeralds and other minerals have been discovered within the SSA.<sup>124</sup>

A number of active mineral claims and leases exist on Great Bear Lake next to the closed mines. The chances of further findings in the area are relatively high and exploration continues. See Map 39. Mineral .

It may take years for a mine to be built and despite the number of companies that are active in the area, few prospecting permits will find something worth going to lease. According to INAC's Regulatory Road Map to Mineral Exploration and Development in the NWT, about 3% of an area covered by a prospecting permit will be staked as a mineral claim. Of active mineral claims:

- 60% lapse after 1 year;
- 80% lapse within 5 years; and
- Of those that last longer than 5 years, only 1% will go to lease.

INAC geology tracked a minimum of 2,400 exploration projects between 1971-2007. Four mines resulted from these projects (Cantung E Zone, Ekati, Diavik and Snap Lake). Approximately 30-40 projects remain in "advanced exploration", meaning that extensive surface drilling or underground exploration has occurred.

### ***Geology and Metallic Minerals***<sup>125</sup>

#### A) Bear Province Mineral Values

##### *1) Great Bear Magmatic Zone*

There are two significant past-producing mining regions in the Great Bear magmatic zone:

- Silver Bear region, including the Terra and Norex mines;
- Echo Bay region, which includes Eldorado, El Bonanza, and Contact Lake mines.

This region also hosts a number of mineral prospects or showings. Many of these including the past-producing mines, are considered part of the iron oxide copper-gold-porphyry-five-element-vein (epithermal) spectrum of deposits.

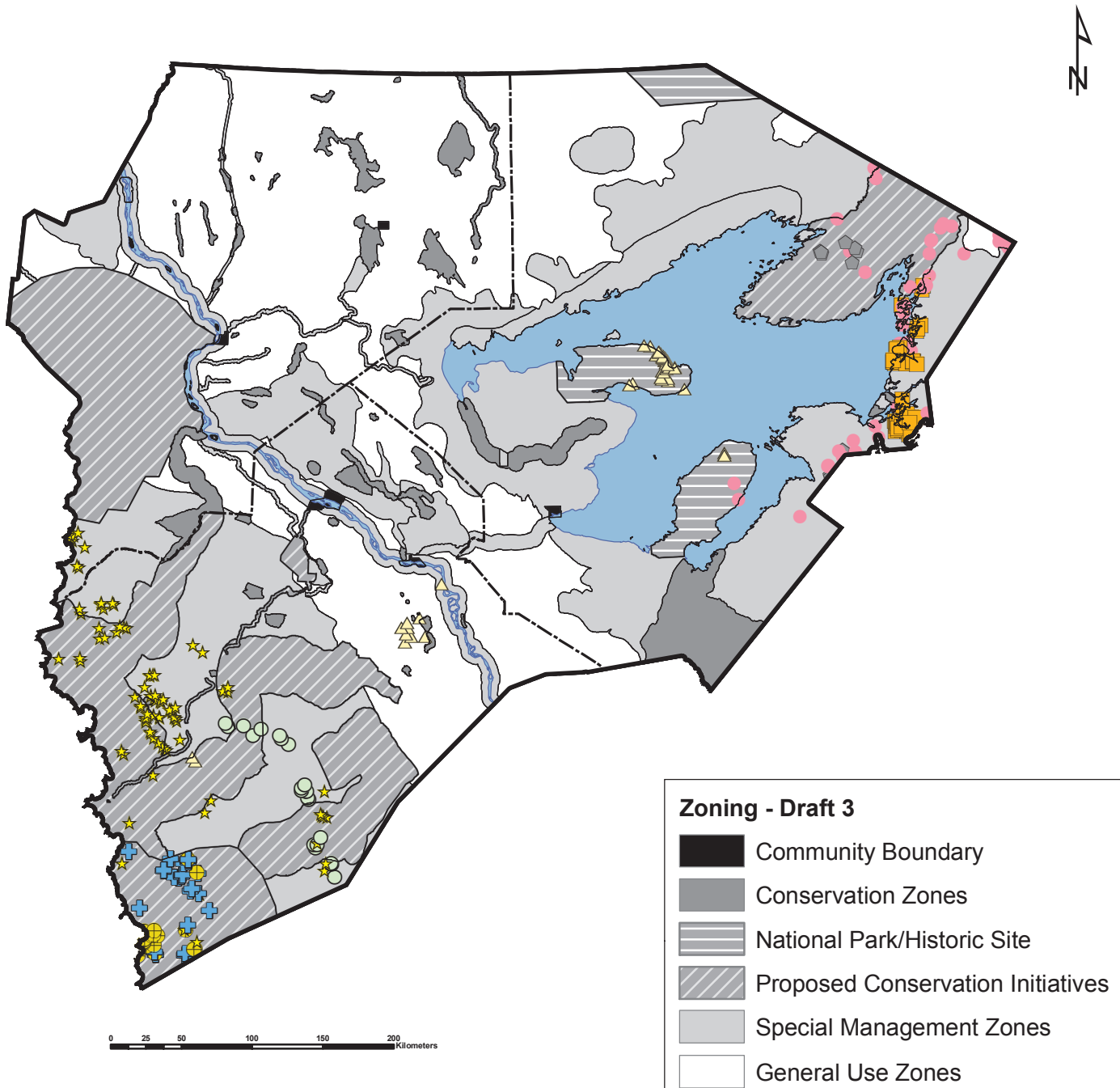
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<sup>124</sup> Sahtu Profile, ITI, GNWT: <http://www.iti.gov.nt.ca/about-iti/sahtu/profile.shtml>

<sup>125</sup> Courtesy of NWT Geoscience Office, Luke Ootes, Metallogenist, Yellowknife

# Sahtu Land Use Plan - Draft 3

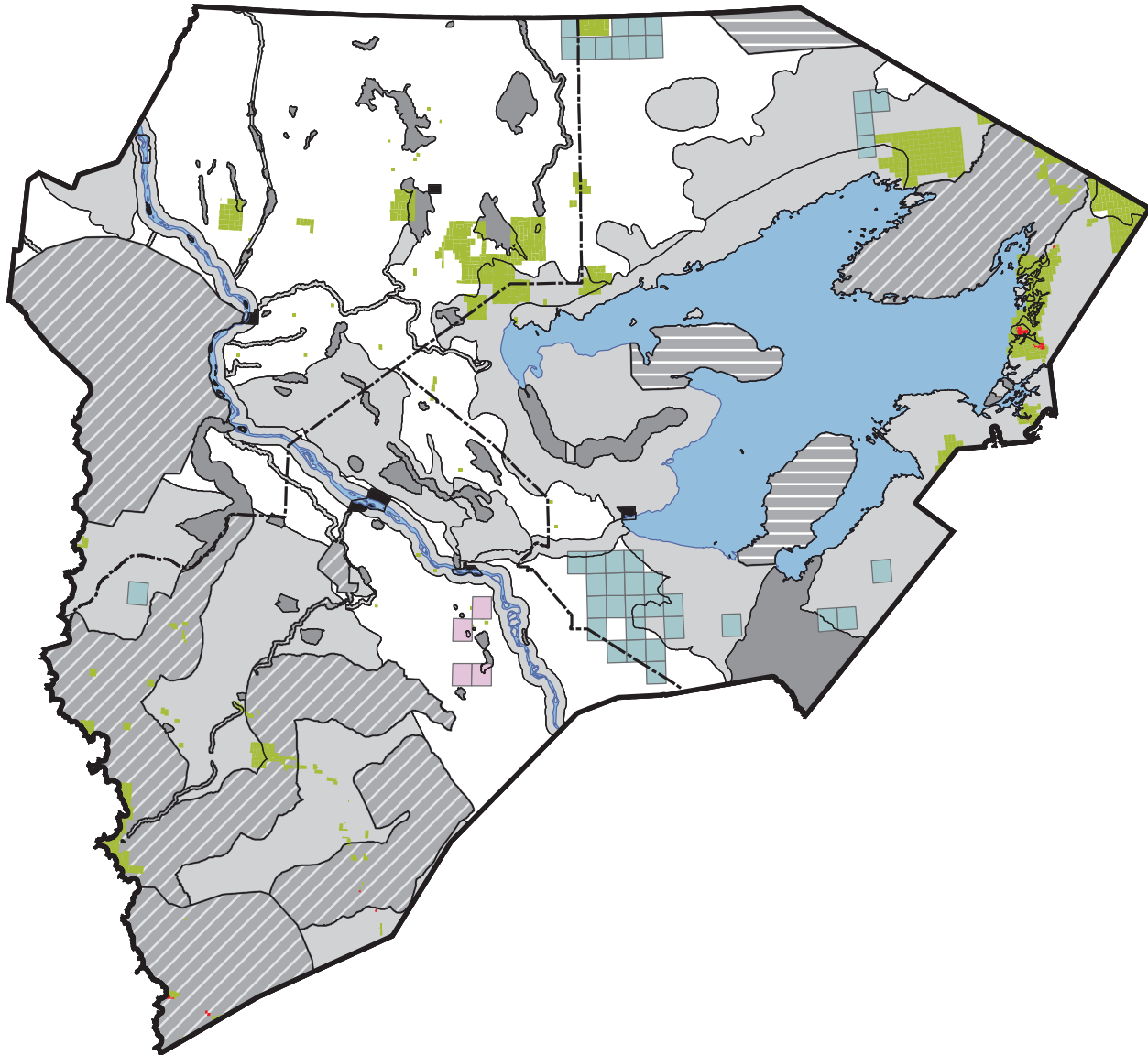
## Map 38: Known Mineralization in the SSA



- |                                |   |
|--------------------------------|---|
| △ Coal                         | + Intrusion-related                       |
| ■ IOCG and Related             | ★ Carbonate-hosted Zn-Pb (zinc-lead)      |
| ⬠ Sandstone-hosted U (uranium) | ● Red-bed/kupferschiefer-type Cu (copper) |
| ● Unclassified                 |   |
| ⊕ SEDEX                        |   |

# Sahtu Land Use Plan - Draft 3

## Map 39: Mineral Rights



0 25 50 100 150 200 Kilometers

- Mineral Claims
- Mineral Leases
- Coal Exploration Licenses (Pending)
- Prospecting Permits

### Zoning - Draft 3

- Community Boundary
- Conservation Zones
- National Park/Historic Sites
- Proposed Conservation Initiatives
- Special Management Zones
- General Use Zones

These types of deposits can contain:

- silver and uranium;
- low-grade copper (less than about 4% copper per tonne of rock);
- significant resources of gold, cobalt, bismuth, zinc, nickel, and lead; and
- accessory vanadium, radium and rare earth elements.

Past-producing mines and a number of known prospects means the geology is favourable for these types of mineralization. The area is accessible by shipping on Great Bear Lake. Extensive past-mining and numerous known mineral prospects suggest that the area is highly prospective for new finds or for advancing known mineral prospects.

## *2) Coppermine Homocline*

The Coppermine Homocline is composed mostly of ancient sedimentary rocks with lesser volcanic rocks that overly or cover the Great Bear magmatic zone.

Known uranium prospects exist in areas such as Caribou Point and the Leith Peninsula. These are of the sandstone-hosted or unconformity-related types and are comparable to the geology of the uranium-rich world-class Athabasca Basin in Saskatchewan. Historical mineral exploration for these types of uranium deposits in this region has not been significant enough to provide further information.

In 2007 detailed mineral exploration led to a new find of diamondiferous kimberlite northeast of Great Bear Lake. This is currently uneconomic to produce diamonds however diamondiferous kimberlite was not thought to occur in this region prior to this discovery. Other diamond prospects are likely to be found in the area. Other mineralization types such as at least one Redbed-hosted copper occurrence and a Platinum Group Element occurrence are known in the region.

## [B\) Interior Platform Mineral Values](#)

There are currently no known mineral prospects other than coal in the Interior Platform of the Sahtu, but companies have been actively exploring for diamonds. The lack of known mineral prospects is due to a lack of historical mineral exploration and prospecting.

If mineralization exists, one could expect a Mississippi Valley-type lead-zinc deposit such as that found at Pine Point south of Great Slave Lake using surface and subsurface exploration techniques. A number of other mineralization types could occur in this region but such discoveries have not been made in the Sahtu.

The Interior Platform covers part of the Bear Province. Similar prospects to those in the Bear Province could occur underneath this sedimentary cover. The same can be said for a number of other mineral deposit types (and commodity types), including diamondiferous kimberlite. The general consensus in the mineral industry is that new world-class mineral deposits will be found in areas such as the interior platform.

### C) Mackenzie and Selwyn Mountain Mineral Values

A significant number of mineral prospects have been identified in the Mackenzie and Selwyn Mountains. The prospects range from locally observed mineralization to world-class deposits. They can be categorized into at least four distinct mineral deposit types:

1. Redbed or sediment-hosted copper-silver, predictively hosted in strata that form a north-south belt in the central Mackenzie Mountains.

Eg: Coates Lake (Deh Cho region) is the best known example of this deposit type. The extent of the belt and known occurrences in the Sahtu indicate it could be an attractive exploration area.

2. Carbonate-hosted zinc and lead occur throughout the Mackenzie Mountains. Most of these prospects are structurally-hosted. Predicting where they may occur is generally difficult and requires detailed on-the-ground bedrock mapping and geophysical surveys.

Eg: The Gayna River deposit in the northern part of the Sahtu and the Prairie Creek deposit in the Deh Cho region, currently in the mine planning stage. Prospects of this kind are scattered throughout the Sahtu and more are continually found during periods of active exploration.

3. Shale-hosted zinc and lead occurs within the Selwyn Mountains, near the Yukon border, in the southwestern extent of the Sahtu. These types of deposits generally contain large amounts of zinc. While they are not historically mined, work is in progress in the Yukon to put the Howard's Pass Zn deposit into production.

Eg: Howard's Pass is currently the largest undeveloped zinc deposit in the world. Most work has been completed in the Yukon but geological evidence indicates that this deposit continues into the NWT with potentially significant zinc mineralization in the Sahtu.

4. Skarn-hosted tungsten (and copper, zinc) deposits and prospects are in the Selwyn Mountains, usually within the vicinity of the Yukon border.

Eg: Cantung, in the Deh Cho region is currently the western world's largest producer of tungsten. The mine is on-again, off-again depending on global market conditions for tungsten. The Mactung deposit in Yukon is the western world's largest tungsten deposit. It is currently in the mine planning phase. Parts of the deposit continue into the Sahtu.

Other deposits in the Sahtu portion of the Mackenzie Mountains include: emerald mineralization near Mountain River and the possibility of other gemstone discoveries. Much remains unknown as few areas of the mountains have been explored or prospected.

### ***Stages of Mineral Exploration and Development***

The process of mining in the Sahtu is subject to the *Northwest Territories & Nunavut Mining Regulations* (established under the *Territorial Lands Act* and administered by INAC) as well as

the *Sahtu Dene and Métis Land Claim Agreement (SDMCLCA)*. INAC identifies five distinct phases of mining as described in Table 17.<sup>126</sup>

**Table 17. Five Stages of Mineral Exploration and Development**

Stages of Mineral Exploration and Development	Description
<p><b>Stage 1: Prospecting &amp; Exploration</b></p> <p><b>Cost:</b> About \$1.75 million/project/yr</p> <p><b>Duration:</b> 3-5 yrs</p>	<p>The search for mineral deposits has the highest financial risk but is the least expensive and involves activities with minimal impacts. Activities include:</p> <ul style="list-style-type: none"> <li>▪ office work, legal and political analysis;</li> <li>▪ airborne and satellite survey and data collection;</li> <li>▪ geological and geophysical prospecting and surveys on the ground;</li> <li>▪ trenching, cutting line grids, claim staking;</li> <li>▪ detailed mapping, drilling ground surveys, initial environmental baseline work.</li> </ul> <p>Once a mineral claim or lease is obtained, more intensive and expensive exploration work will occur to identify a mineral deposit.</p>
<p><b>Stage 2: Discovery &amp; Advanced Exploration</b></p> <p><b>Cost:</b> About \$5 million /project/yr</p> <p><b>Duration:</b> 5-15 yrs</p> <p><b>Success:</b> 1 out of 200 go to Development</p>	<p>At this stage permits, leases and licences are required and a project may be referred for environmental assessment. Most projects never get past this stage. In the case where a mine does develop it may take 10-15 years or more.</p> <p>In the North operational challenges such as limited infrastructure (ie. roads, power) the cost of fuel and transportation, materials and labour may impose even greater barriers than usual.</p> <p>Activities include:</p> <ul style="list-style-type: none"> <li>▪ mapping, underground sampling, drilling, small-scale open pits or on-site processing facilities, environmental site survey;</li> <li>▪ pilot tests and engineering, cost estimates;</li> <li>▪ market studies and risk analysis;</li> <li>▪ due diligence review, evaluation of geological, engineering, environmental, economic, legal and site data.</li> </ul>
<p><b>Stage 3: Development/ Construction</b></p> <p><b>Cost:</b> Can range from \$500 million to \$1.5 billion</p>	<p>This is the most costly phase of the mining cycle. At this stage the company raises money for mine construction and development.</p> <p>A company will commit to construction once all the details of the permitting and regulatory requirements are known. The feasibility study is returned to the company stakeholders for approval. This may take several years especially if there are significant changes.</p>

<sup>126</sup> Citizen's Guide to Mining in the NWT 2006, Mineral and Petroleum Resources Directorate, Minister of Indian Affairs and Northern Development, Catalogue No. R2-321/2006E. Regulatory Road Map to Mineral Exploration and Development in the Northwest Territories, Indian and Northern Affairs Canada, Catalogue No. R2-465/2007 or online Catalogue No. R2-465/2007E-PDF

<b>Duration:</b> 3-5 yrs or more	
<b>Stage 4: Operation &amp; Production</b>	Mining companies consider a 10-year life to allow adequate time to recover exploration and construction expenses. The lifespan of a mine depends on the amount (reserves) and quality (grade) of the mineral, metal or gems and whether operation is still profitable.
<b>Cost:</b> Companies begin to make a return on their investment	Activities include: <ul style="list-style-type: none"> <li>▪ surface and/or underground mining, milling, and processing of metal, ore or diamonds;</li> <li>▪ environmental monitoring.</li> </ul>
<b>Stage 5: Reclamation</b>	All existing and new mines in the NWT must have closure and reclamation plans and are required to set aside in a trust the total estimated reclamation costs.
<b>Cost:</b> upwards of \$150 million <b>Duration:</b> 2-10 yrs or more	Activities include: <ul style="list-style-type: none"> <li>▪ Environmental restoration and monitoring.</li> </ul>

Source: Citizen's Guide to Mining in the NWT 2006, INAC, Mineral and Petroleum Resources Directorate

Stages of Mineral Exploration & Development in the Northwest Territories, INAC Catalogue No. R2-466/2007

### ***Licences and Applications***

The NWT/Nunavut Mining Regulations operate under a "free entry system." Any person with a prospecting permit can stake a claim. Prior consultation with First Nations or the public is not necessary before a proponent can explore or before Canada grants a permit or claim. The lack of consultation has at times been an issue for First Nations who object to this system.

As per S 21.4.6 (b) of the Sahtu Dene and Métis Comprehensive Land Claim Agreement, persons who have a right to prospect for minerals and to locate claims who do not require a land use permit or water licence can have access to Sahtu Lands and waters provided that they notify the designated Sahtu organization at least seven days in advance.

**Table 18. Licences and Applications for Mineral Exploration and Development**

Licences and Applications	Description
<b>Prospecting Permit</b>	<ul style="list-style-type: none"> <li>▪ Anyone with a valid prospector's licence can apply for a prospecting permit which gives them the exclusive right to explore for and stake mineral claims in a specific area for a period of 3-5 years.</li> <li>▪ During this time a minimum amount of work (with a specific dollar value) must be done.</li> </ul>
<b>Staking a Claim</b>	<ul style="list-style-type: none"> <li>▪ Individual mineral claims may not be larger than 2,582.5 acres and last a maximum of 10 years.</li> <li>▪ Work must be done on mineral claims to keep them valid. The minimum work to be done is calculated per acre.</li> </ul>
<b>Mineral Leases</b>	<ul style="list-style-type: none"> <li>▪ Holders of a mineral claim can apply for a Mineral Lease if they have done the required work - calculated at a minimum of \$10 per acre.</li> <li>▪ A legal survey by the Dominion Land Surveyor must also be completed.</li> <li>▪ Leases have to be obtained prior to "production" of mineral interests.</li> </ul>

### 3.1.3 Granular Deposits<sup>127</sup>

Natural Resources Canada has mapped the distribution and thickness of potential surface and subsurface granular aggregate resources in the NWT. Gravel, sand, crushed rocks and bedrock are all different types of granular aggregate used by proponents on the land. Granular resources are crucial to the development of infrastructure such as roads, airstrips, petroleum wells, building pads, pipelines and concrete production.

The data was collected mostly in the 1960s and early 1970s by the oil and gas industry. During seismic operations, shotholes are drilled into the ground to set charges which produces seismic data. Operators logged the material they were drilling through and gravel was a sediment layer that was well recorded. In British Columbia, shothole records were found to be an effective method to identify potential granular aggregate deposits.

The data identifies a number of potential granular aggregate deposits as "gravel", "gravel and sand", or "sand" and distinguishes deposits which occur at the surface or in the subsurface. Bedrock, particularly competent sandstone and limestone were not included in the analysis. There may be depth estimate errors and location uncertainties. Thickness and vertical depths of the potential deposits are approximations. In terms of location it is not clear whether the sites were marked by latitude and longitude or simply hand drawn on the maps.

Although they are reasonably reliable, the shothole records should be treated as potential occurrences and ought to be exploration targets before they are integrated into resource assessments and development strategies. See Map 40. Granular Deposits for locations.

The GNWT created a Granular Resource Directory (GRD) as part of a territory-wide granular strategy committed to conservation, sustainability and effective management of the resources

<sup>127</sup> Natural Resources Canada, Geological Survey of Canada, Discussion: GSC Open File 6058



# **Measuring Success 2014: NWT Diamond Mines Continue to Create Benefits**

**The Positive Impact of Diamond Mining  
in the Northwest Territories – 1998-2013**

**Compiled by the NWT & Nunavut Chamber of Mines  
November 2014**

## ***Measuring Success 2014***

### **NWT Diamond Mines Continue to Create Benefits**

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## Measuring Success 2014

### – NWT Diamond Mines Continue to Create Benefits –

This document provides information on the opportunities and benefits created by the NWT diamond mines. It is an update to the *Measuring Success 2013* report issued in January 2013, and incorporates additional data for the mines' efforts during 2013.

The information contained in this short report may not be exhaustive and the Chamber of Mines accepts full responsibility for any errors or omissions.

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### Highlights

- **Employment**
    - Initial predicted total mine employment was 1,826 workers
    - In 2013, total employment was 3,109 workers
    - Predicted northern employment in 2013 was 1,138 but actual employment was 1,430, exceeding Initial predictions by 26%
    - Of the 1,430 northern workforce in 2013, 752 or 53% was Aboriginal
    - Total employment since 1996 is just under 44,000 person years of which 50% is northern, and half of the northern is Aboriginal
  - **Training and education investment**
    - Industry has supported Mine Training Society programs with \$16.7 million in cash and in-kind investments between 2004 and 2014
    - In total, 2,796 people have been assessed for training by the Mine Training Society between 2004 and October 2014, of whom 2,149 have received training or other support
    - In 2013, the mines reported they employed 69 apprentices
    - Nearly \$464,000 was awarded by all three mines in scholarships in 2013
  - **Business spending**
    - Mines spent \$943 million in 2013. Of this, \$621 million (66%) was with northern businesses, and \$248 million (26%) was with Aboriginal business
    - Total spending to date to construct and operate the mines is \$14.8 billion
    - Northern business spending to date is \$10.6 billion (72%) of which \$4.8 billion (32%) is with Aboriginal businesses
  - **Community contributions**
    - During the period 2012-13, the three diamond mines provided approximately \$23 million through various contributions to communities
  - **Safety**
    - The diamond mines continue to set high standards for mine safety and their strong safety performance has made significant impacts on the safety culture not only within their organizations but also with many other businesses involved in their operations.
-

## ***Measuring Success 2014***

### ***– NWT Diamond Mines Continue to Create Benefits –***

#### **Introduction**

In January 2013, the NWT & Nunavut Chamber of Mines and its member companies prepared a report describing the positive impact on the Northwest Territories of the diamond mining industry.

This document, *Measuring Success 2014*, includes new data for the mines' efforts during 2013.

*Measuring Success 2014* describes the combined benefit of over two decades of diamond exploration and mining, including:

- Increased skills base and capacity in our northern residents;
- Several thousand well-paying, meaningful jobs that have contributed to federal and territorial taxes, community growth, and healthy and stable families;
- Strong safety performance at the mine sites;
- Northern and Aboriginal businesses with proven ability to provide competitive mining services;
- Support for a resurgence in cultural activities, particularly hand games, through donations and sponsorships from the mines; and,
- Research and knowledge advancements as monitoring programs developed for and supported by the mining companies continues to expand our understanding of the northern ecosystem.

These benefits and more help confirm why the diamond mines are the largest single private sector contributor to the Northwest Territories economy, and the economies of many northern communities.

#### ***Proviso***

The information contained in this short report may not be exhaustive. The Chamber of Mines accepts full responsibility for any errors or omissions.

For a more fulsome description of the mines' efforts and successes in meeting their socio-economic commitment, readers are advised to peruse each of the annual or semi-annual socio-economic reports that the mines submit to the NWT Government. These are available on their websites below.

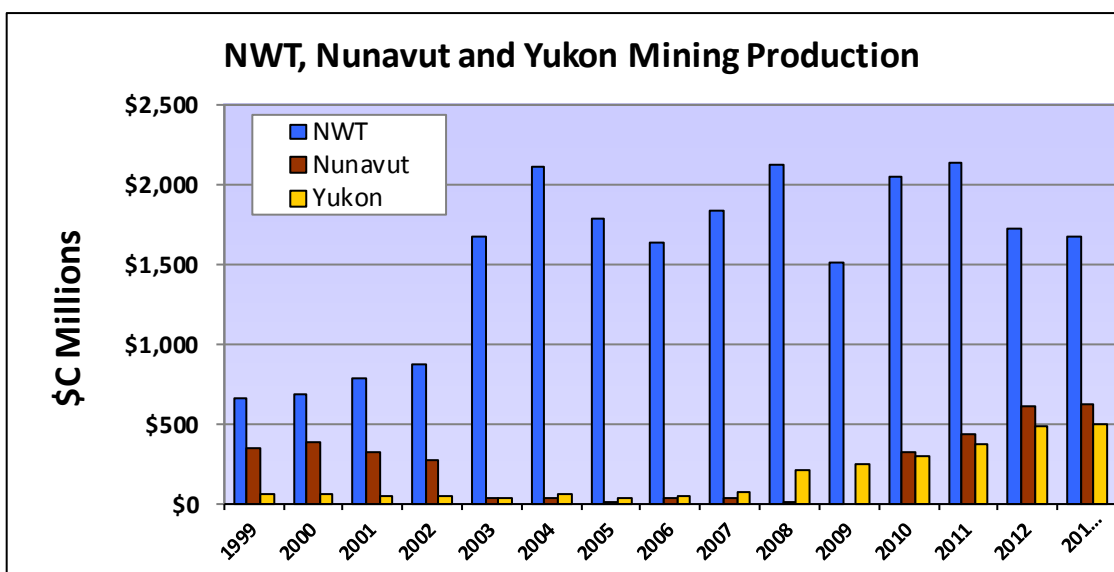
- Diavik Mine: [www.diavik.ca](http://www.diavik.ca)
- Ekati Mine: [www.ddcorp.ca](http://www.ddcorp.ca)
- Snap Lake Mine: [www.canada.debeersgroup.com/](http://www.canada.debeersgroup.com/)

Additional sources of information can be found here:

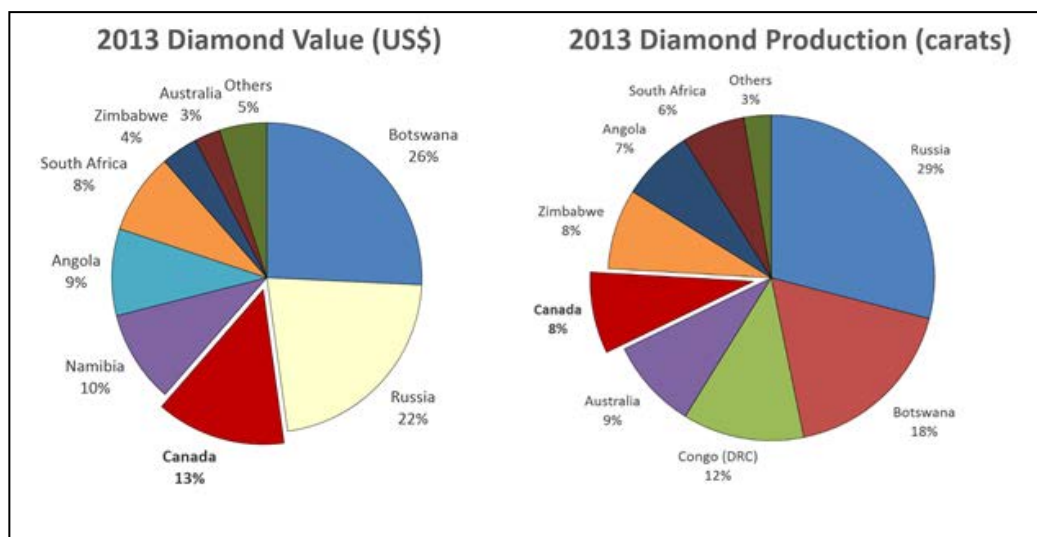
- [Measuring Success 2013](#)
- NWT & Nunavut Chamber of Mines website: [www.miningnorth.com](http://www.miningnorth.com)

## NWT Diamond Production Value Down

The amount of diamonds produced by the NWT mines has been relatively continuous over the past three years at just under 10 million carats per year. The value of NWT diamond production dropped slightly in 2013. Natural Resources Canada data (chart below) projects the value of 2013 diamond production at \$1.56 billion from sales of 9.9 million carats, compared to slightly higher \$1.63 billion from slightly less production (9.8 million carats) in 2012. These are significant drops from the \$2.1 billion in sales received from about the same weight of carats (9.95 million carats) sold in 2011 before.



Although the value of NWT production has dropped, the NWT (and Canada) continues to maintain its place as the third most valuable global diamond producer, according to Kimberley Process statistics (see chart below), a position it also held the previous year.



## But NWT Diamond Mining Benefits Continue to Be Strong

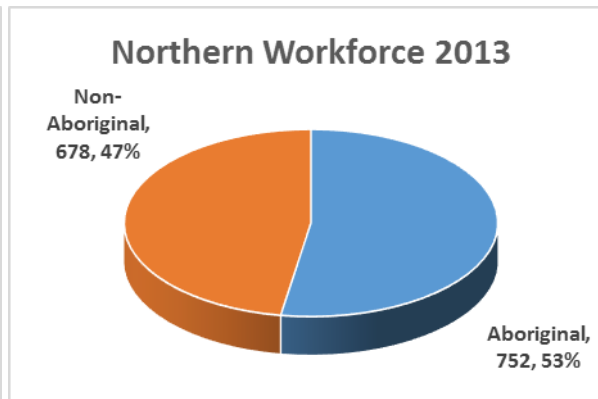
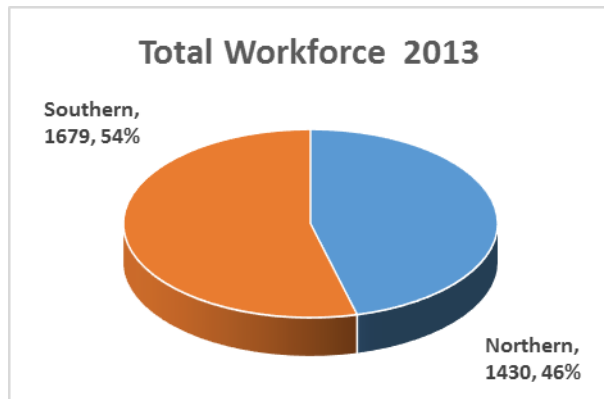
Despite the declining proceeds from diamond sales, benefits from the NWT diamond mines continue to be strong, in all areas including people, business, government, and knowledge.

### *Employment continues to exceed original commitments*

Diamond mining jobs continue to be a significant contributor to the NWT's economy. In 2013, the three mines employed 1,430 northern workers, of whom 752 (52%) were Aboriginal. The northern workforce represented 46% of the total workforce of 3,109. The total number of northerners employed at Ekati, Diavik and Snap Lake Mines in 2014 continues to exceed predictions made during the mines' environmental assessments by 292 workers (table below). Total employment since 1996 is just under 44,000 person-years of which 50% is northern, and half of the northern is Aboriginal.

2013 NWT Diamond Mine Employment – Actual vs Predictions					
Mine	Predicted Total Workforce	Actual Workforce (Dec. 2013)*	Predicted Northern Workforce	Actual Northern Workforce*	Difference (Actual Northern vs Predictions)
Ekati	926	1,336	574	671 (50%)	+ 97
Diavik	400	997	264	485 (49%)	+ 221
Snap Lake	500	776	300	274 (35%)	- 26
<b>Predicted Total</b>	<b>1,826</b>	<b>3,109</b>	<b>1,138</b>	<b>1,430 (46%)</b>	<b>+ 292</b>

\*Reported in person-years



2013 NWT Diamond Mine Employment – Northern & Aboriginal*							
Mine	Northern Aboriginal			Total Northern			Total Workforce*
	Achieved	Committed		Achieved	Committed		
Ekati	377	28%	31%	671	50%	62% / 72%	1,336
Diavik**	236	24%	40%	485	49%	66%	997
Snap Lake	139	18%	n/a	274	35%	n/a	776
<b>Total</b>	<b>752</b>	<b>24%</b>	<b>n/a</b>	<b>1,430</b>	<b>46%</b>	<b>n/a</b>	<b>3,109</b>

\*Reported in person-years

\*\*Total Aboriginal employment

## ***Committed to working safely***

Our success story includes our shared commitment to mining diamonds safely, securely and profitably, without harm to our people.

Diavik has won four regional John T. Ryan Safety Awards and one national John T. Ryan Safety Award since 2004, and in 2010 recorded 3 million hours without a lost time injury.

Snap Lake Mine achieved one million hours without a lost time injury in October of 2013 and was John T. Ryan Regional Award winner for 2009 and 2013.

Ekati diamond mine won the national John T. Ryan Award in 2007 for the best safety performance in the Select Mine Category in recognition of over 2 million hours without a lost time injury and in 2011 achieved 1.3 million hours without a lost time injury.

Our mine rescue teams compete annually in friendly competitions hosted by the Workers Safety and Compensation Commission. Our mine rescue teams also compete at the regional and teams from the Ekati and Diavik mines competed at the international level. This test of skills and abilities demonstrates our commitments to safety excellence in a public arena.

Our collective approach to working safely has made a significant impact on the safety culture within our organizations but also with many other businesses and organizations involved in our operations. We believe that these safety standards will continue to rise as a result of our presence in the North.

## ***Training investment continues***

All three mining companies remain committed to training and supporting the development of the next generation of northern mining workers.

Much has been accomplished in cooperation with various training agencies, especially the Mine Training Society (MTS) of the NWT. Of the \$33.7 million provided to MTS by various levels of government since 2004, \$32.2 million went to support training for mine operation and mine service positions. Our industry has also supported MTS programs, with \$16.7 million in cash and in-kind investments between 2004 and 2014.

That investment has resulted in 1,074 northern residents, of whom 1050 are Aboriginal residents, gaining employment. In total, 2796 people have been assessed for training by the MTS between 2004 and October 30, 2014, of whom 2149 have received training or other supports.

Through *Mining the Future*, the MTS has targeted training in a number of areas: Mineral Process Operating Technician; Camp Cook; Cook Apprenticeship; Heavy Equipment Operator; Geoscience Field Assistant; Introduction to Underground Mining; Underground Mining; and General Construction. Most recently, the MTS has undertaken a series of "Safety Boot Camps" designed with the input of industry. Focusing on Safety Leadership, as well as Fall Protection, Lock Out and Tag procedures and Confined Space Entry, the program meets or exceeds Canadian Safety Standards. In addition to specific job skills, each program will include life skills training to help participants settle into employment and be able to balance home and work life.

The training plan estimates that *Mining the Future* will assess the suitability for training of 400 Aboriginal persons, assist 250 Aboriginal applicants with removing barriers to employment (criminal records, lack of skills, low literacy), train 270 people and assist 270 participants in obtaining employment with mining and mine services companies in the NWT. The targets have been either exceeded or being

met. Under the *Mining the Future* project, the MTS has assessed 623 people for suitability, provided training or supports for 526 and has assisted 221 people attaching to the workforce.

Our industry partners have also been generous in the support of bridge financing for 2012 and 2013 to sustain the Mine Training Society programs until the Government of Canada makes its decision on the *Mining the Future* proposal and *Pan Territorial Northern Minerals Workforce Development Strategy*. These partnerships are essential for the continued training and development of Northerners.

All three diamond mines continue to support training provided through the Mine Training Society with annual cash and in-kind contributions. In addition, students from the Underground Miner Training Program and Mineral Process Operator Training Program are provided paid term training positions at the mines and many are hired into full-time positions.

In addition, all three mines invest significantly in their workforce to advance the skill base.

Apprenticeship positions continued to increase at the mines, increasing trade certifications.

At the Ekati mine, 162 people have been hired into apprenticeship positions since 1998, working for either Dominion Diamond or one of their contractor companies. In 2013, there were 35 apprentices working at the Ekati Diamond Mine: 15 for Dominion Diamond and 20 for on-site contractors. Of the 35 positions, 21 were northern Aboriginal. In 2014, Ekati revamped its apprenticeship program and increased their Apprenticeship positions for Dominion Diamond employees to 24.

At the Diavik mine, 35 apprentices have become certified journeypersons since operations began in 2003. In 2013, the Diavik mine employed 27 apprentices; all are northern and 14 are Aboriginal. In addition, 46 Diavik employees achieved Mining Industry Human Resources Canada (MiHR) underground miner certifications, and 50 employees achieved MiHR mineral processor certifications. Diavik served as a pilot site for this national underground miner certification program and continues its support of MiHR programs.

At Snap Lake mine, De Beers has provided training opportunities to 92 NWT residents through the end of 2013. In 2013, the De Beers employed 7 apprentices at its Snap Lake mine, all of whom are Aboriginal. To date, 39 trainees have completed their programs at Snap Lake, earning trades certification or journeyperson status, or moving into higher levels as underground miners. Approximately 25 process plant and underground miners have been certified under the MiHR certification program.

### ***Scholarships are supporting higher education***

The mines invest significantly to support higher education.

In 2013, the three companies provided nearly \$464,000 in scholarships under a variety of banners including Impact Benefit or Participation Agreement beneficiaries, Socio-Economic Agreement commitments, employee dependants, special post-secondary scholarship and sponsorships, and to non-IBA Agreement recipients.

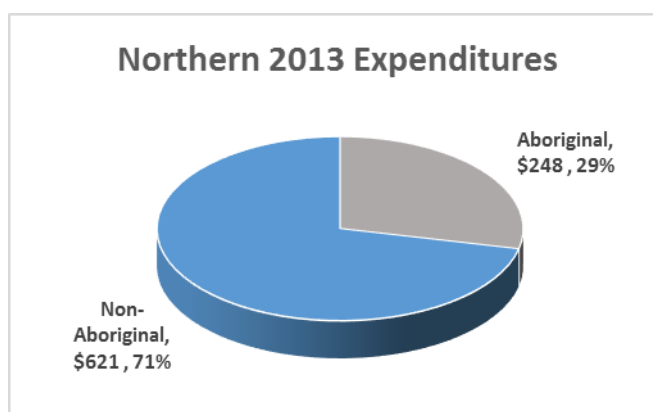
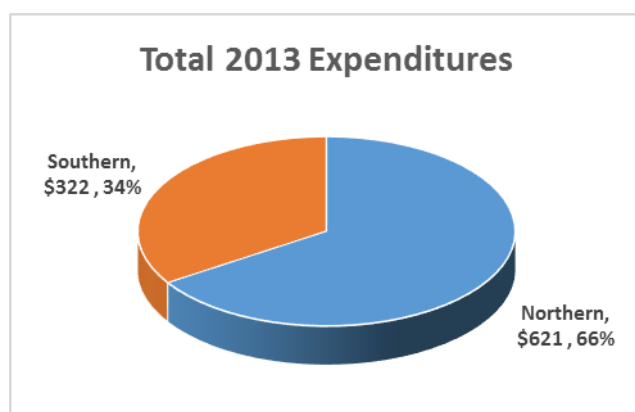
Details of 2013 scholarships include:

- Ekati awarded \$133,309 in scholarships through Dependant Scholarships, IBA Scholarships, and Socio-Economic Agreement Scholarships;
- Diavik funding for Participation Agreement and other scholarships was \$274,347;
- De Beers provided \$56,000 in scholarships through Impact Benefit Agreements, its annual NWT Post-Secondary Scholarship program, and one NWT Post-Secondary Sponsorship.

## Northern business spending is robust

Northern business spending continues to be robust. The mines spent \$943 million in 2013, of which \$621 million was with northern businesses. Of the northern business, \$248 million was spent through Aboriginal firms.

2013 NWT Diamond Mine Purchasing (\$ million)							
	Northern Aboriginal			Total Northern			Total North plus South
	Achieved		Committed	Achieved		Committed	
Ekati	\$88	22%	n/a	\$245	62%	70%	\$394
Diavik	\$116	32%	n/a	\$261	72%	70%	\$362
Snap Lake	\$44	24%	n/a	\$115	61%	70%	\$187
<b>TOTAL</b>	<b>\$ 248</b>	<b>26%</b>	<b>n/a</b>	<b>\$ 621</b>	<b>66%</b>	<b>n/a</b>	<b>\$ 943</b>



This brings the total combined spending to date to construct and operate the three diamond mines at nearly \$15 billion. Of this, over \$10.6 billion (73%) was spent with northern companies and joint ventures, including \$4.8 billion (33%) with Aboriginal companies.

1996-2013 NWT Diamond Mine Purchasing (\$ million)							
	Northern Aboriginal			Total Northern			Total North plus South
	Achieved		Committed	Achieved		Committed	
Ekati	\$1,602	25%	n/a	\$4,683	73%	70%	\$6,423
Diavik	\$2,403	38%	n/a	\$4,533	72%	70%	\$6,337
Snap Lake	\$813	39%	n/a	\$1,437	69%	70%	\$2,081
<b>TOTAL</b>	<b>\$4,818</b>	<b>33%</b>	<b>n/a</b>	<b>\$10,653</b>	<b>73%</b>	<b>n/a</b>	<b>\$14,841</b>

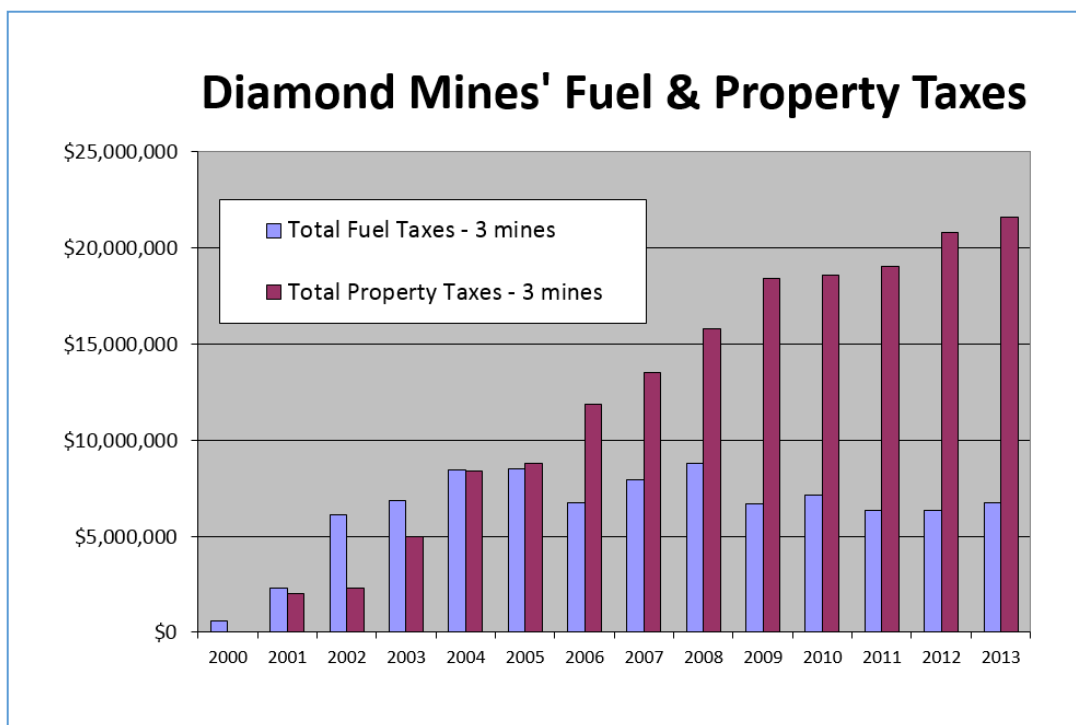
## Payments to public governments

Besides the value of income tax generated through mine workers, the GNWT also benefits from direct taxation and now with devolution, will benefit from resource royalties.

In addition, there a number of additional taxes paid, including payroll taxes, bridge tolls, property, and fuel taxes. The latter two are detailed below.

### Property & Fuel Taxes

Mines in the NWT pay taxes to the NWT Government on fuel consumed at the mine sites, and they pay property taxes assessed on the value of their mine site assets. Since 2000, the three mines have collectively paid over \$89 million in fuel taxes and over \$165 million in property taxes (chart below). The three existing diamond mines are projected to pay similar amounts to the end of their expected mine lives.

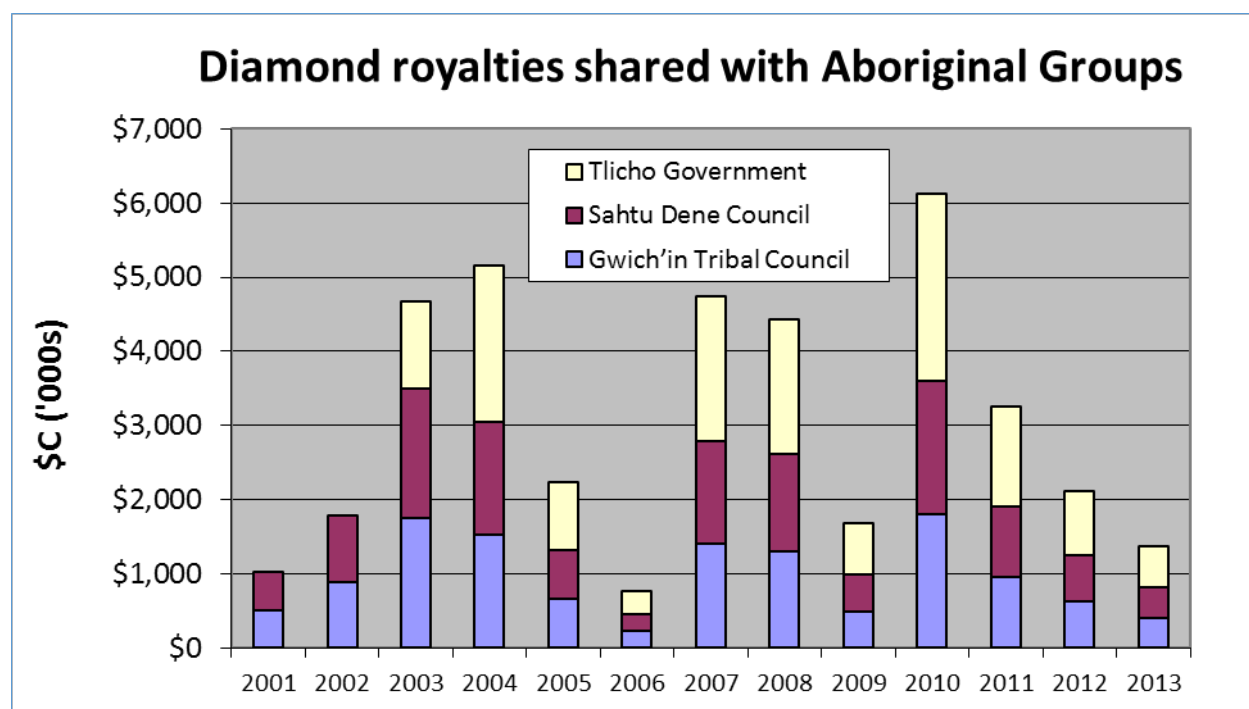


## Diamond royalties shared with Aboriginal groups

Under the terms of the Gwich'in, Sahtu and Tlicho land claim agreements, each of these groups negotiated a share of royalties generated by the non-renewable resource industries in the Northwest Territories.

To date, \$39 million of diamond royalties have been shared with the three Aboriginal groups, with the Gwich'in and Sahtu receiving over \$12 million and the Tlicho over \$14 million.

Royalty sharing with Aboriginal groups will be increasing as the NWT Government has committed to share 25% of the royalties they collect with Aboriginal signatories to the Devolution Agreement.



## ***Strong community payments and investments***

There has also been significant spending by the companies to support communities through social investment, including Participation and Impact Benefit Agreement payments, investments in community cultural programs and events, in healthy communities programs, and in scholarships.

During the period 2012-13, the three diamond mines provided approximately \$23 million to communities. A variety of community organizations benefited from support provided by the diamond mining companies, including:

• Hay River Play School • Yellowknives Dene First Nation Career Fair • SideDoor Youth Centre • Aboriginal Sport Circle Annual Charity Golf Tournament • Yellowknife Community Foundation • Community Gov't of Gameti • Aven - Seniors • Behchoko Presence Office • Tree of Peace • Wekweeti Presence Office • Community of Wha Ti • RCMP Charity Golf • Yellowknife Family Center • Yellowknives Dene First Nation • Yellowknives Dene First Nation truck donation • CNIB Golf Tournament • Lutsel K'e Dene First Nation spring carnival • Open Sky Festival • Yellowknife Community Foundation • Bosco Homes • Hay River Health and Social Services - Supportive Services • Actua science camp in Lutsel K'e • Behchoko Youth Handgames • NWT Track and Field Championships • Hay River Women Hockey • Yellowknives Dene First Nation summer program • Yellowknife Community Foundation • Snowking Winter Festival • Yellowknife Community Foundation • NWT SPCA Raffle • Stanton Territorial Hospital Foundation • Yellowknives Dene First Nation Diavik Week • North Slave Metis Alliance Annual Fish Fry • Yellowknife Community Foundation • Deninu School • Lutsel K'e Dene First Nation annual spiritual gathering • Tlicho Annual Gathering • Yellowknife Seniors Society • Financial Literacy Training Program • Kimberlite Career and Technical Institute • Northern Student Education Initiative • Lutsel K'e Dene First Nation traditional knowledge archive project • Yellowknife Marine Rescue Society • Weledeh Catholic School • Actua science camp • Diavik 150 • Mine Training Society • Hay River Lights On program • Native Women's Association of the NWT • New Chemotherapy Suite planned at Stanton Territorial Hospital • New computers for Deninu School, Fort Resolution • United Way of the NWT • NWT Heritage Fair Society • Akaitcho Territory • Traditional Activities • Alexis Arrowmaker School, Wekweeti • Army Cadets • Aurora College's Literacy Outreach Centre • Aven Manor Silent Auction (In-Kind) • BETTY House (Lynn's Place) – Yellowknife Homelessness Coalition • Bosco Homes • Breakfast for Learning, NWT • Canadian National Institute for the Blind • Champions for Children KidSport • Chief Jimmy Bruneau School, Behchoko • City of Yellowknife, Bike Rodeo • CJCD Christmas Hampers • Elizabeth Mackenzie Elementary School, Behchoko • Food Rescue • Habitat for Humanity • Jean Wetrade School, Gameti • Jimmy Hikok Elementary School, Kugluktuk • Kalemi Dene School, Ndilo • Katlodeeche First Nation – Tanning Hide (In-Kind) • Kaw Tay Whee School, Dettah • Kugluktuk High School • Lutsel K'e Dene School • Mezi Community School, Whati • NACC – Storytelling Festival • Northern Youth Abroad • Northern Youth Leadership Society • NSMA – Aboriginal Day Celebration • NWT & NU Chamber of Mines Geoscience Forum • NWT Track & Field • Skills Canada NWT • Snow King Festival • Stanton Territorial Hospital Foundation – Festival of Giving • Team Koe – Curling • Tlicho Government – Traditional Activities • Tlicho Recreation – Youth Projects • Tree of Peace – Elder's Christmas (in-Kind) • Western Arctic Moving Pictures Youth Delegate Program •

## **Research contributions**

All three mines invest in environmental and technology research that extends our knowledge reach.

### **Environment**

All three mines have extensive environmental monitoring programs and they support many scientific and traditional knowledge studies that are increasing our knowledge and understanding of a variety of species. Some examples include:

- **Caribou:** the mines continue to support work to learn more about caribou. This included cash contributions of \$75,000 each to the GNWT to help fund a variety of caribou studies, including the Bathurst Range Plan and Bathurst Caribou calving surveys. The mines also conducted their own work including traditional knowledge studies and camera monitoring on the Misery Road, and they are participating with government and other stakeholders in the Caribou and Wildlife monitoring workshops.
- **Grizzly Bear and Wolverine:** All three mining companies support regional monitoring programs for grizzly and wolverine. Many hundreds of thousand dollars are being invested to employ community monitors and consultants, to distribute hair snag posts to collect samples for DNA analysis, and to provide helicopter and other support services. Ekati leads and runs its own Grizzly Bear DNA program, and baseline programs in 2012-2013 exceeded \$500k. Ekati invested another \$60k in conducting a wolverine DNA program on its property, which is combined with the GNWT-ENR's program.
- **Wolf:** Ekati contributes \$30k annually to GNWT-ENR's wolf study and collaring work.
- **Fish and aquatic studies** – some in partnership with universities and others – are providing better understanding of the movement of inland fish in Arctic lakes and various aquatic species that provide new insight into northern aquatic ecosystems.

### **Technology**

Diavik operates the NWT's first large-scale wind farm and the world's largest wind-diesel hybrid power facility. Diavik's investment in a four 9.2 Megawatt turbine wind farm is providing new understanding of the operation of wind turbines in the harsh and remote climate of the Arctic barren lands.

The wind farm began delivering power to the mine's grid in September 2012, and in 2013, it provided 8.5 per cent of the mine's power needs. This reduced the mine's annual diesel fuel requirement by 3.8 million litres, an estimated reduction in emissions of 10,726 tonnes of CO<sub>2</sub>, and a reduction of Diavik's seasonal winter road fuel haul by approximately 100 loads.

The extreme location of the mine meant a highly innovative design was needed for the turbines, in order to maximize their output in the harsh arctic climate. To deal with winter temperatures as low as -40°C, the blades are equipped with de-icing technology, and represent a new benchmark for wind power in low temperatures.

## Future Diamond Mining Opportunities & Benefits

In the near term opportunities arising from our diamond mines look good. Longer term opportunities are less well understood at this time.

### *Near-term, opportunities are projected to grow*

A number of initiatives at the three diamond mines and at the advancing Gahcho Kué project are expected to sustain and even grow opportunities in the near term.

#### **Ekati**

Ekati has developments underway on a number of diamond deposits that they hope will keep mining robust until the projected mine closure in 2019, when the ore bodies are depleted.

- The 'pushback' to prepare the open pit for mining of the **Misery Main pipe**.
- Pre-stripping of the **Pigeon deposit** is now underway to prepare for open pit mining.
- The Lynx open pit project which will take advantage of the nearby Misery infrastructure.
- Ekati continues to advance the **Jay Deposit Project** as it represents the long term sustainability of the Ekati Diamond Mine beyond the current mine life of 2019. (For more details see *Long term opportunities*, later in this document.)

#### **Diavik**

In 2013, Diavik operated in its first full year as an all underground mine. Ore production exceeded targets, demonstrating that Diavik is now a proven underground mine. Also, in 2013, Diavik continued to examine the feasibility of open-pit mining the **A21 diamond deposit**, located just south of the existing mining operations. Three sampling programs were completed on the A21 kimberlite pipe, which included the initial drill sample, an on-ice drill sampling program, and construction of a 1.2 kilometre decline tunnel. A total of 9,635 carats of rough diamonds were recovered, allowing for accurate pricing predictions. A21 contains a resource of 4.7 million tonnes at a grade of 2.8 carats per tonne. The feasibility study is expected to be complete in 2014, after which Rio Tinto will complete a technical evaluation to determine if A21 development will proceed. Construction of a dike similar to the two constructed to mine three other ore bodies would be required. Mining of A21 is not expected to add mine life, but would help the mine to maintain its current diamond production.

#### **Snap Lake**

De Beers is planning significant capital investment in 2015 to support increased production to improve the sustainability of Snap Lake Mine. This will require the purchase of additional mining equipment, expansion of their power generation and fuel storage capacity, and enhancing water management systems.

#### **Gahcho Kué**

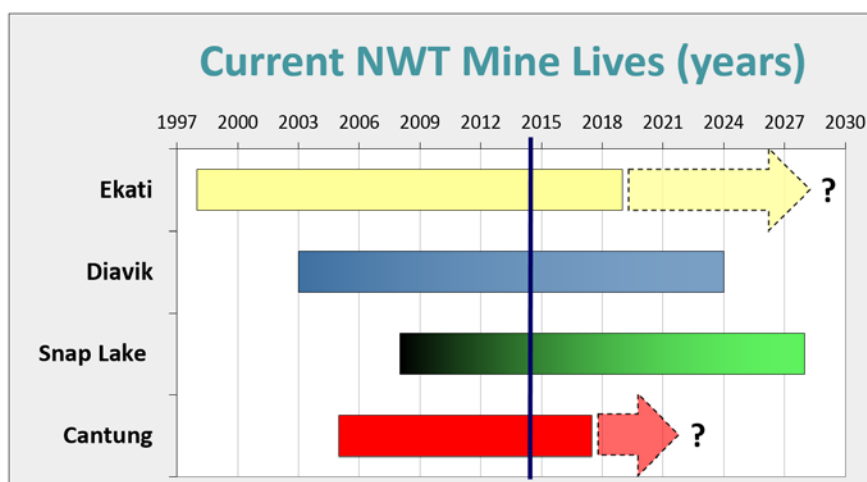
In September, the Gahcho Kué diamond mine project, owned De Beers Canada Inc. and Mountain Province Diamonds received the final licenses required for construction. Construction of the Gahcho Kué mine is expected to require approximately 700 jobs at the peak of its two years of construction. This will be followed by 12 years of mining with an operations workforce of approximately 400 jobs. In 2013, De Beers signed a Socio-Economic Agreement with the Government of the Northwest Territories, which sets NWT employment targets of 25%, or approximately 175 northern jobs during construction and 55%, or approximately 220 jobs during operations. Gahcho Kué will provide for at least 16 trades training positions, 10 apprenticeships and four education sponsorship positions during the life of mine. Already

during early work to prepare the site for a construction decision, approximately 70% of the people hired by De Beers to work at Gahcho Kué were from the NWT.

### *Long term, opportunities are less clear*

Current reserves at each of our mines, coupled with market prices, controls mine lives.

Current mine lives paint a mixed picture for the future (see chart below). Ekati is projected to run out of ore in 2019, Diavik by 2024, Snap Lake in 2028, and Cantung sometime beyond 2017. This will have effects on the NWT economy.



### **Additional diamond mining opportunities**

The addition of Gahcho Kué will add 12 years of production but will not offset the lost benefits from Ekati's projected closure in 2019. The workforce at Ekati is approximately 1,400 workers while the Gahcho Kué workforce is only 400.

Dominion Diamond continues to advance the **Jay Project**, which contains more carats of diamonds than have been mined to date at Ekati. The Jay deposit has the potential to extend Ekati's mine life by over 10 years and represents the future of the Ekati Diamond Mine beyond its current projected mine life of 2019. The timeline to have this project approved is critical as start of production needs to be timed with the completion of mining of the known ore reserves in 2019. Since purchasing the Ekati Mine, Dominion Diamond has worked with its stakeholders through public meetings and workshops to obtain important public input into their plan to extend the life of the mine. An important part of the execution for this project continues to be Ekati's engagement with community, government and regulatory stakeholders. This has helped them create a revised plan to mine the Jay kimberlite pipe with simplified construction and a significant reduction in the overall environmental disturbance of the Project.

## Non-diamond mining opportunities

While not shown in the chart, when the Prairie Creek, NICO, and Nechalacho projects become mines, they would require approximately 650 workers. Along with the 400 workers that Gahcho Kué mine would bring, this would provide additional employment opportunities to the North. However, it is important to remember that this combined workforce of just under 1,100 workers would still be insufficient to offset the closure of just the one world-class mine, Ekati, which employs over 1,300 workers. It brings into focus the importance to the NWT economy of not only attracting new opportunities, but also sustaining existing ones, as proposed by Dominion Diamond with their Jay Project.

Mining Project Name (Operator)	Commodity	Expected Jobs
NICO (Fortune Minerals)	Gold, Copper, Cobalt, Bismuth	150
Nechalacho (Avalon Rare Metals)	Rare Earth Metals	286
Prairie Creek (Canadian Zinc)	Silver, Zinc, Lead, Copper	220
Gahcho Kué (De Beers, Mtn. Province)	Diamonds	400
TOTAL JOBS		~ 1,056
EKATI Mine (closes in 2019)	Diamonds	± 1,400
TOTAL JOBS		± 1,400

## Barriers to Future Success

As described in *Measuring Success: 2013* and in this report, diamond mining has made great inroads in creating opportunities and benefits. However, it is not without its challenges. While mining companies are taking actions to help overcome many of them, not all the challenges can be addressed by private industry alone.

Industry is not responsible for social programs. While we support our employees in addressing their personal challenges, it is the government's role to provide quality education and address community-based social issues like alcohol and drug dependency.

Some of the problems existed prior to the opening of the diamond mines and continue to this day:

- Lack of available skilled northern workers due to low literacy. This creates difficulties in training and advancing a greater number of northern employees into senior positions. Literacy and lack of education is most clearly demonstrated by high school students who are unable to pass trades entrance exams, a pre-requisite for apprenticeships. Nearly 50% of Aboriginal residents of the NWT have less than a Grade 12 education;
- Students limited knowledge and technical understanding of our largest industry, so as to have them pursue careers in it;
- Health and wellness issues like addictions, money management and the family pressures that come with adapting to a new work-life balance, which affect family life.

While regulatory certainty is improving through regulatory reform and devolution, there are still regulatory changes to be implemented by Canada. In addition, unsettled land claims in some areas continue to contribute to the barrier of uncertainty.

The high cost of living creates a barrier to enticing skilled southern workers to live and work in the North, and it is contributing to outmigration of workers. Ironically, after we invest in training workers, some are lured away to work in the south where their newfound skills are in high demand.

By taking actions to address these barriers, government can help industry in attracting and retaining the people it needs to grow the north and its economy.

## What We Are Doing

Over the past several years, the Northwest Territories population has been declining as fewer people move north, and as northerners – even some long term and Aboriginal northerners – move south.

We have seen this in the mining industry. Since *Measuring Success 2013* was released, the total number of jobs has increased from 3,028 to 3,109. However, actual northern resident jobs have fallen from 1,541 to 1,430. However, mining is not the only area where we see this, and government and the business community are also having to fly workers in from the south on a rotational basis to meet their requirements.

Declining population is a serious concern as it decreases government revenues and community spending that contributes to a more robust NWT economy.

To help address skill drain, the NWT government has announced they wish to attract 2,000 people to the north over the next 5 years. They have opened discussions with the mining industry and business community to seek their assistance.

We must all do our part in addressing challenges to attracting, recruiting and retaining workers if we are to grow the economy. To this end, all three diamond mines remain committed to creating socio-economic opportunities and benefits as specified in their Socio-Economic Agreements, and continue to take steps to help grow a northern workforce:

- Participating in, or sponsor their own career fairs in many communities. In 2013, De Beers took apprentices and trainees from the Snap Lake Mine to Behchoko, Whati, Gameti, Lutsel K'e and N'dilo where students were able to meet and interact with them;
- Providing scholarships to encourage further education. Some, like De Beers education sponsorship, provide three years of financial support totalling \$35,000 plus summer employment and a job upon graduation with a degree. Combined diamond mine scholarships have exceeded \$300,000 annually;
- Flying workers to and from a variety of home communities. In addition, additional pickup points have been added by some companies. Today, the mines draw workers from Yellowknife (for Behchoko, Ndilo and Dettah), Whati, Gameti, Wekweeti, Lutsel K'e, Fort Smith, Hay River, Fort Simpson, Norman Wells, and Inuvik. We also fly workers in from Kugluktuk and Cambridge Bay in Nunavut;
- Reinvigorating northern and Aboriginal recruitment strategies, which include advertising all positions in northern newspapers and distributing postings to employment officers in several communities;
- Focused recruitment on special projects like Diavik's processed kimberlite containment dam raise project. Northern employment on this construction project was 71 per cent;
- Offering financial incentives to employees to encourage the choice of living in the north, including northern living allowances, fuel purchase plans and/or other competitive incentives;
- Providing financial relocation packages for the recruitment of southern employees who choose to relocate to the NWT;
- Supporting community social and cultural events, helping finance community development projects, and a variety of other community payments have seen a combined investment since 1998 that exceeds \$100 million;
- The mines continue to invest millions of dollars with the NWT Mine Training Society partnership, which they helped found. The society continues to develop successful workers through its numerous training initiatives, including underground miner, mineral processor, building trades

helpers, small engine repair and mineral exploration field assistants. Since 2004, the society has assessed approximately 2,800 people for training suitability, provided training or other employment related assistance for over 2300 people, and has facilitated employment for over 1050 people;

- Financing and in-kind support of approximately \$6.6 million over three years to the Mine Training Society as part of its Mining the Future proposal, which includes 32 training positions at the Snap Lake Mine and proposed Gahcho Kué Project, 12 training positions at Ekati Diamond Mine and 40 for the Diavik Diamond Mine;
- Offering a variety of Health and Wellness Programs/Initiatives, like Employee Family Assistance Programs (EFAP) to support employees and their families through counseling services, financial management training, work life balance, and substance abuse and addiction;
- Helping Aboriginal employees advance by providing training through Aurora College's Northern Leadership Training Program. In 2013, De Beers had two workers graduate, Diavik graduated 9, and Ekati graduated 6. In 2014, Diavik has 4 employees enrolled in the leadership development program in 2014, and De Beers has one enrolled.
- Dominion Diamond Corporation, strengthened its northern presence by moving its corporate office and sorting facilities from Toronto to Yellowknife. Its purchase of majority ownership of the Ekati diamond mine, combined with its existing 40% ownership of the Diavik mine, has made the 100% Canadian owned and operated company one of the largest firms in the NWT.

In 2009, all three diamond mines conducted an employee survey in partnership with the NWT Government, to better understand what diamond mine employees like and dislike about their current community of residence, factors they consider when thinking about relocation and barriers to moving to the Northwest Territories. The survey was designed to shed light on the residency issues faced by diamond mines and the GNWT.

Another survey of mine workers has now been completed and the NWT Government is currently analysing the data which can inform future actions by government, mining companies, and even communities to capture more northern opportunities and benefits.

## Conclusion

The history of the diamond industry in the Northwest Territories has been a positive one. It has come through direct actions by the mining companies, by investments from government and Aboriginal groups, and by partnerships between all three.

In less than a generation, diamond mining has seen thousands of NWT residents trained, with skills that will carry them through long and productive careers in mining or other industries. We have seen billions of dollars spent with Northern companies, enabling them to build a strong foundation to compete anywhere on the globe. We have seen companies contribute substantial amounts to support the social and cultural well-being of people living in communities close by, from literacy and training, to recreation and health facilities, to social initiatives like Bailey House and Lynn's Place.

We are encouraged by the actions of the 17<sup>th</sup> NWT Legislative Assembly to launch a variety of strategies, including the *Mineral Development Strategy* and other economic and infrastructure strategies, as well as the *NWT Anti-Poverty Strategy*. Such initiatives and, just as importantly, the partnership approach that government is embracing, will help ensure that we grow our minerals industry and that we help prepare our communities and residents to take full advantage of the opportunities that a strong and healthy minerals industry and economy can provide.

A post devolution world demands it.

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