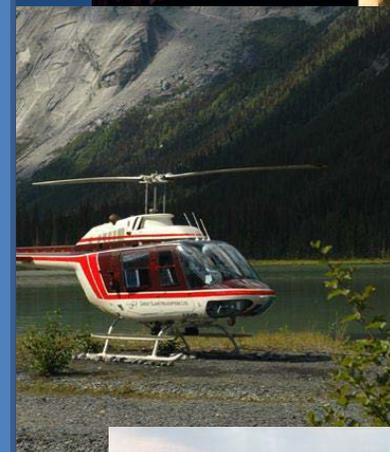
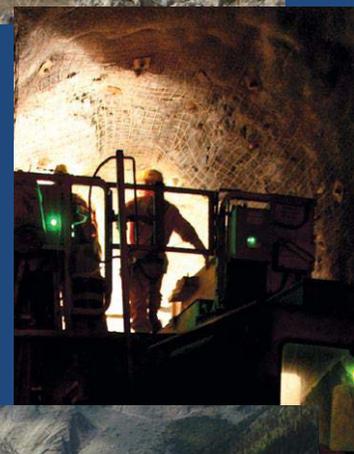


# Pathways to Mineral Development

Report of the  
Stakeholders Engagement  
Panel  
for the NWT Mineral  
Development Strategy

April 2013



April 2013

Hon. David Ramsay  
Minister of Industry, Tourism and Investment  
Government of the Northwest Territories

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We are very pleased to present to you the report of the Stakeholders Engagement Panel for the NWT Mineral Development Strategy, titled "Pathways to Mineral Development." The report has been prepared following a series of stakeholder engagement sessions conducted during February and March 2013 in Yellowknife and in the regional centres of the Northwest Territories. Teleconferences were arranged when face-to-face meetings were not possible. As well, a number of written comments were submitted and reviewed by the Panel. In preparing the report, the Panel also researched and analyzed information related to mining in the Northwest Territories and across Canada.

During the course of its 40 meetings, the Panel heard from more than 120 individuals representing 65 different organizations. We were impressed by the quality and thoughtfulness of the advice and suggestions we received on a wide array of topics related to the Mineral Development Strategy. The fact that many organizations were represented by their most senior officials was seen as a testament to the importance that stakeholders attached to this process. This report synthesizes stakeholders' opinions and offers a number of recommendations based on their input as well as the Panel's own extensive experience.

The vast majority of participants in the process supported development of the NWT's mineral resources. That being said, most stakeholders clearly expect the Mineral Development Strategy to identify initiatives and pathways for balanced mineral development that will protect the environment, respect Aboriginal cultures and lifestyles, and leave Northerners with a lasting and positive legacy.

In completing this report we would like to extend our sincere thanks and appreciation to all of those who took the time to provide comments, identify useful information for our review and to advance recommendations for the strategy. The assistance of departmental and NWT/NU Chamber of Mines staff, and the NorthWays Consulting facilitation team, at stakeholder sessions in Yellowknife and the communities was also greatly appreciated.



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Angus Robertson  
Panel Chair



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Murray Duke  
Panel Member



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Rod Brown  
Panel Member

## **Executive Summary**

Mineral exploration and development is the economic engine of the Northwest Territories, accounting for 29 percent of GDP. The mining industry is the largest private sector employer in the territory. It generates significant revenues for northern businesses, nearly half of which are Aboriginal-owned, and for governments in the form of taxes and royalties. However, reserves are declining and the four operating mines are scheduled for closure over the next 5 to 15 years. It is clear that more mineral deposits will have to be discovered and developed to ensure that northerners continue to benefit from a viable mining sector. The low level of grassroots exploration activity is a significant concern.

This Mineral Development Strategy (MDS) is a first for the Northwest Territories. It is intended to support sustainable mineral development in the NWT and address priorities established by the 17<sup>th</sup> Legislative Assembly. The MDS is being developed by the GNWT in partnership with the NWT and Nunavut Chamber of Mines. As a first step, in January 2013, the GNWT released a Discussion Paper that outlined many of the issues that the Strategy must address. The government subsequently appointed a three-person Stakeholder Engagement Panel to animate the discussion. In the course of its 40 meetings, the Panel heard from more than 120 individuals representing 65 different organizations. It also received a number of written submissions. This report synthesizes stakeholders' opinions and offers a number of recommendations based on this input as well as the Panel's own extensive experience.

The MDS is an integral part of a broader effort to build a sustainable economy by attracting investment that supports the creation of jobs and business opportunities in all sectors, while recognizing that resource-based industries will remain a central part of that economy. The MDS is being developed simultaneously with the Economic Opportunities Strategy, which will seek to connect businesses and communities to new opportunities. There will inevitably be a number of common themes in the two strategies, but given that mining is one of, if not the most, important sectors in the NWT economy, it was determined that a more in-depth examination is warranted.

The MDS Engagement Panel was impressed by the degree to which the vast majority of participants supported development of the NWT's mineral resources. That being said, most stakeholders also emphasized the need to see a balanced approach to the economic, social and environmental outcomes of mining development. It was evident that participants expected the Mineral Development Strategy to identify initiatives and pathways for balanced mineral development that will protect the environment, respect Aboriginal cultures and lifestyles, and leave northerners with a lasting positive legacy and heritage.

The extensive and thoughtful input provided to the Panel pointed towards a number of critical conclusions that helped to define the recommendations in this report.

- Given the limited life expectancy of the operating mines, and the fact that the projects currently in the advanced stages of exploration or development would employ less than half of the current mining workforce, revitalizing grassroots exploration must be a priority.
- The principal deterrents to investment in exploration and development are uncertainty surrounding the regulatory regime, gaps in infrastructure (particularly power and roads), land access restrictions, and unsettled land claims.
- The principal barrier to the NWT reaping greater benefits from mineral development is the limited pool of skilled workers. This is exacerbated by community wellness issues and the pressures inherent in the work rotation schedule. As a result of the skilled labor shortage, 50 percent of the mining workforce commutes from outside of the NWT. This results in significant lost revenue in terms of federal transfers under the Territorial Formula Financing Agreement, as well as reduced tax revenues and ongoing salary leakage to other jurisdictions.
- Northerners value their environment. Key indicators suggest that the operating mines are not having a deleterious effect on the physical environment, which can be attributed to a combination of modern mining practices and a rigorous regulatory regime.
- Devolution represents an historic opportunity for the GNWT to make immediate improvements to the management and marketing of the NWT's mineral resources, and in so doing, re-brand the NWT as an excellent place to do business. As the responsible resource manager following devolution, the GNWT will also be in a much stronger position to forge strategic partnerships with Aboriginal governments to collaboratively manage and market the mineral resources of the NWT.

In order to address the challenges and take advantage of the opportunities, the Panel has identified five broad pillars or areas of action that could ultimately define the core of the MDS. The pillars encompass the following:

**1) Creating a Competitive Edge:** Key themes include enhanced public geoscience, incentives to promote exploration, aggressive marketing of the potential of the NWT as a place to explore and mine, and investments in infrastructure.

**2) Creating a New NWT Regulatory Environment:** Although the foundational elements of the regulatory regime are largely a federal responsibility, there are a number of steps that the GNWT can take to improve client service and to increase certainty.

**3) Aboriginal Engagement and Community Capacity Building:** Enhanced community capacity and the development of “engagement roadmaps” and would contribute to more

effective consultation as well as timely permitting and environmental assessment processes.

**4) Sustainability:** Key recommendations include accelerated land use planning, review of the Protected Areas Strategy, implementation of a legally-enforceable progressive reclamation policy, increasing opportunities for NWT businesses, and establishment of a Heritage Fund to ensure a lasting legacy.

**5) Workforce Development and Public Awareness:** Priorities include securing ongoing funding for established training programs, doubling-down on efforts to increase high school graduation rates, increasing awareness of career opportunities in mining, and improving public understanding of the modern mining industry.

The Panel feels strongly that by working together, communities, governments and the mining sector can succeed through shared values and common principles to ensure sustainable and long-term benefits for all residents of the NWT.

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## Introduction

The formulation of a Mineral Development Strategy (MDS) is a priority of the 17th Legislative Assembly of the Northwest Territories, as set out in the document *Believing in People and Building on the Strengths of Northerners*.<sup>1</sup> The goal is to sustain the contribution of the mineral industry to the economy of the NWT whilst ensuring that northerners benefit from mineral development to the greatest extent possible. In the words of the Minister of Industry, Tourism and Investment in his statement to the Assembly in June 2012:

*Our vision is to realize – responsibly and sustainably – the full potential of our rich resource base and use it to ensure lasting prosperity for NWT residents and their communities.*<sup>2</sup>

The MDS is being developed by the GNWT in partnership with the NWT and Nunavut Chamber of Mines using a consultative approach. As a first step, in January 2013, the GNWT released a Discussion Paper that outlined many of the issues that the Strategy must address.<sup>3</sup> The government appointed a three-person Panel of outside experts to animate the discussion. Biographical notes about the Panel members are provided in Appendix C. The Panel's task was to listen to the views of a broad range of stakeholders and to make recommendations based on this input as well as its own extensive experience.

During February and March 2013, the Panel travelled to Yellowknife, Inuvik, Norman Wells, Fort Simpson and Hay River, where it met with small groups of invited stakeholders. Teleconferences were arranged when face-to-face meetings were not possible. In its 40 meetings, the Panel heard from more than 120 individuals representing 65 different organizations (Appendix B). These included:

- Junior and senior mining companies, and prospectors
- Companies providing services to the mineral industry
- Aboriginal governments and development corporations
- Regulatory bodies
- Educational institutions
- Non-Governmental Organizations representing environmental, social and business interests
- Municipal, territorial and federal governments.

Although the engagement process did not involve public meetings, interested parties were invited to provide comments in writing to dedicated email and postal addresses. The Panel also accommodated individuals and groups that wished to provide input in person. The Panel was impressed by the quality of the input it received. The fact that many organizations were represented by senior officials is a testament to the importance that stakeholders attach to this process.

The MDS is not being developed in isolation. It is an integral part of a broader effort to build a sustainable economy by attracting investment that supports the creation of jobs and business opportunities in all sectors, while recognizing that resource-based industries will remain a central part of that economy. The MDS is being developed simultaneously with the Economic Opportunities Strategy, which will seek to connect businesses and communities to new opportunities.<sup>4</sup> There will inevitably be a number of common themes in the two strategies, but given that mining is arguably the most important sector in the NWT economy, it warrants a more in-depth examination.

The Panel has also taken note of other planning and consultation processes. These include the Land Use and Sustainability Framework and the NWT Energy Plan. The implications of these are discussed at the appropriate points in this report.

Finally, there are two ongoing initiatives that will have enormous implications for mineral development in the Territories. The first is the devolution of management of land and resources from the federal government to the GNWT, scheduled to take effect on April 1, 2014.

Devolution will convey a number of benefits. The GNWT will initially mirror existing federal legislation, but over time it will have the opportunity to improve the legislative and regulatory framework to better reflect the needs of the Territory. There should be an immediate impact in terms of more responsive decision-making. The GNWT will control program delivery and new resource management jobs will be created throughout the NWT. After devolution, both the public and Aboriginal governments will receive a share of resource royalties.

The second initiative is the federal government's Action Plan for Northern Regulatory Reform, which is intended to address many longstanding criticisms of the regulatory regime. The ultimate scope and timeframe for implementation of these reforms is not defined at this time.

**Acknowledgements:** The Panel would not have been able to complete its task without the support and cooperation of many individuals and organizations. First and foremost are the stakeholders who provided their opinions and insights about mineral development. It was clear that they had given considerable thought to the issue in advance of the meetings. Representatives of the planning partners allowed the Panel to remain at arm's length intellectually while at the same time responding rapidly to requests for information and logistical support. We thank, in particular, Peter Vician, Tim Coleman and Ian Butters of the GNWT Department of Industry, Tourism and Investment and Tom Hoefler of the NWT and Nunavut Chamber of Mines. Finally, the Panel acknowledges the outstanding support of NorthWays Consulting. Allan Twissell, ably assisted by Liz Fowler, Lori Twissell and Sabrina Lakhani, not only organised the engagement process but also provided valuable insights from their broad experience in human resources, social sciences, and education.

## Strategy Context

### The Mining Cycle – a Primer

The mining cycle comprises four main phases: exploration, development, production, and closure. Each of these phases, in turn, involves multiple stages (Table 1). Each stage of the cycle presents different economic, environmental, and social challenges and opportunities. The Panel found that the understanding of mining varied greatly among the people it consulted. Given the importance of mining in NWT, public awareness is probably higher than in southern Canada: nevertheless, misperceptions need to be addressed, and especially those shaped by the legacy of past practices.

The mining cycle begins with exploration, the goal of which is to discover a mineable mineral deposit. Exploration progresses from the early or grassroots phase, which involves selecting an area of high mineral potential, undertaking reconnaissance surveys with the aim of identifying targets for detailed investigation and ultimately testing by diamond drilling or trenching. Drilling may reveal a mineral occurrence, but a discovery is only deemed to have taken place when exploration has demonstrated the presence of a mineral deposit of sufficient size and grade to be of economic interest. Grassroots exploration is a long term proposition: discovery, if it occurs at all, typically comes at least 7 to 10 years after the beginning of exploration.

Once a mineral deposit has been discovered and roughly delimited, exploration moves into the advanced or deposit appraisal phase. This culminates in a feasibility study and a decision whether to develop a mine. This decision will be contingent on sufficient reserves to yield an acceptable rate of return on the investment in exploration and development. Typically, reserves must be sufficient to support production for at least 10 to 20 years. The deposit appraisal and development phases can be expected to take 5 to 10 years. Exploration generally continues through the production phase, however, in the expectation that more reserves will be found, thereby extending the mine life. The mining cycle concludes with closure and environmental restoration. This phase can last 2 to 10 years, although it may be necessary to monitor the site in perpetuity.

Mineral development differs from most other economic activities in several important ways:

- **Location:** “You have to mine it where you find it.” Whereas a manufacturing or a financial services firm, for example, can locate facilities on the basis of the availability of infrastructure or workforce, or proximity to customers, the location of a mine is ultimately determined by geology.

**Table 1: The Mining Cycle**

Phase	Stage	Processes	Desired Outcome	Characteristics
Early (Grassroots) Exploration	Planning	Formulate exploration strategy: select commodity, deposit type, & areas optimizing political, economic and discovery risk	Exploration Project	<u>7 to 10 years</u>
	Reconnaissance Exploration (Prospecting)	Identify targets (geophysical, geochemical, mineralogical anomalies) over a wide area & select most promising for follow-up	Anomalies	Cost: \$20K to \$500K Minimal or no environmental impact
	Detailed Exploration <ul style="list-style-type: none"> <li>Target delineation</li> <li>Target testing</li> </ul>	Ground acquisition (claim staking or concession) Confirm location & characteristics of targets (e.g., by ground geophysical surveys)	Target(s) (anomalies worthy of drilling)	-----
		Investigate cause of anomalies by drilling or trenching	Mineral occurrence	Cost: \$50K to \$2M
	Discovery and Delimitation	Confirm existence of a mineral deposit of potential economic interest. Delimit sufficient indicated resources to justify deposit appraisal	Mineral deposit	Short-term environmental impact
Advanced Exploration Deposit Appraisal	Mineral Deposit Definition	Define deposit size & shape, internal distribution of grade & mineralogy. Acquire all data required for engineering and cost estimation.	Mining project	<u>3 to 5 years</u> Cost: \$2M to \$100M
	Project Engineering	Determine design, schedule, capital and operating costs of potential mining operation.		Moderate environmental impact
	Project Economics	Evaluate economic, financial, environmental, & socio-political dimensions of potential mining operation.		
	Feasibility Study. Production Decision	Validate geological, engineering and economic analyses. Obtain permits & financing		
Development	Mine Complex Development	Construct processing plant, infrastructure and mine on time, on budget & in accordance with regulatory requirements.	Mine and processing facility	<u>2 to 4 years</u> Cost: \$300M to \$1.5B Remediable environmental impact
Production	Mine Production	Extraction & primary processing of ore, dispose of waste (tailings), in some cases, secondary processing occurs on site (e.g., precious metals, diamonds), ship product for further processing or to market.	Profitable mineral production; social benefits	<u>10 to 50 years</u> Positive cash flow Progressive remediation
Closure and Reclamation	Closure <ul style="list-style-type: none"> <li>Decommissioning</li> <li>Final Reclamation</li> <li>Long Term Care and Maintenance</li> </ul>	Dismantle and remove facilities and buildings, clean-up contaminated areas, restore re-vegetate disturbed, monitor environmental impacts in perpetuity.	Site-restored as close as possible to pre-mining state, without ongoing risk to environment	<u>2 to 10 years</u>

- **Discovery Risk:** The probability of success is very low. It is often said that of 1000 grassroots exploration projects, only 100 result in detailed exploration, fewer than 10 will proceed to the advanced exploration phase, and only 1 will result in a new mine.
- **Geological Risk:** The probability of discovery may be low, but chances of finding a deposit of superior quality are even lower. It is unlikely that a deposit of average size and grade in a remote area would justify development.
- **Timeframe:** The duration of the exploration and development phases means that there is a long period of negative cash flows before revenues begin to accrue from production. Although grassroots exploration expenses are much less than, say, development costs, the long timeframe means that they have a disproportionate impact on return on investment when viewed in net present value terms. This is one reason that grassroots exploration is dominated by junior exploration companies.
- **Political and Economic Risk:** The long timeframe and large capital costs means that exploration and mining firms are very sensitive to uncertainties about the regulatory regime, taxation regime, commodity prices, operating costs, and so on.

## Importance of Mining to the NWT

Mineral development is the life-blood of the NWT economy. The mining industry accounts for 29 percent of GDP and is the largest private sector employer in the territory. It generates significant revenues for northern businesses, nearly half of which are Aboriginal-owned, and for governments in the form of royalties and taxes. Companies currently mining in the NWT have been socially responsible, investing in local communities and providing opportunities for education and training.

The ability of the industry to sustain its contribution to the economy is in doubt, as reserves of the four producing mines will likely be depleted over the next five to fifteen years. Under current projections, the Ekati Mine will close in 2019, Diavik in 2025, and Snap Lake in 2028. Cantung was expected to close in 2014, but mine life may be extended by a recent discovery. These closures would be mitigated somewhat if the six projects currently in advanced exploration or development go into production. This is by no means certain, however, as some of these projects must still overcome significant hurdles, especially given the current investment climate. Nevertheless, even if all six projects were to enter production over the next 3 to 5 years, as proponents hope, their cumulative impact in terms of either employment or production value would barely offset the closure of the Ekati Mine. Although mining's contribution to the GDP would increase in the short term as these

new mines come on stream, it would begin to shrink after 2017 with waning production from the Ekati Mine (Figure 1).<sup>5</sup>

It is clear that more mineral deposits will have to be developed if northerners are to continue to benefit from a viable mining sector. Where are these deposits? Some may have been discovered already, but are of not economically exploitable given current commodity prices, production costs, and political/regulatory uncertainty. For example, it has been suggested that lower energy costs could extend diamond production in the Lac de Gras area by as much as 50 years.<sup>6</sup> Other deposits that will sustain future production have yet to be discovered and it is these that offer the most exciting possibilities – the mineral deposits that once found, could be developed immediately.

The NWT has excellent potential for new mineral discoveries by virtue of its large land area, favourable geology, and the fact that it has been less intensively explored than many other jurisdictions. Notwithstanding its excellent potential, the NWT lags other Canadian jurisdictions in exploration investment. With 13.5 percent of the Canadian landmass, the territory attracted only about 2 percent of total exploration expenditures over the past 5 years (Figure 2). The contrast with Nunavut and Yukon is striking: Nunavut has attracted about 4-times as much exploration investment as the NWT and Yukon about twice (Figure 3). The situation is even bleaker when one considers that current expenditures are largely for advanced exploration and deposit appraisal, with very few grassroots projects underway.

Figure 2: NWT Share of Total Canadian Exploration Expenditures

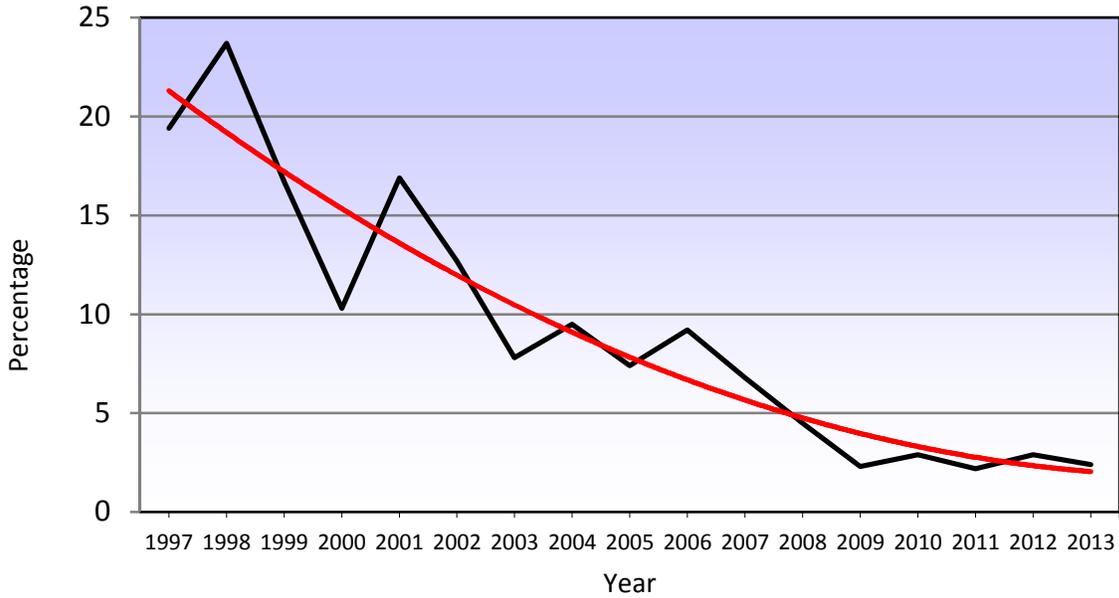
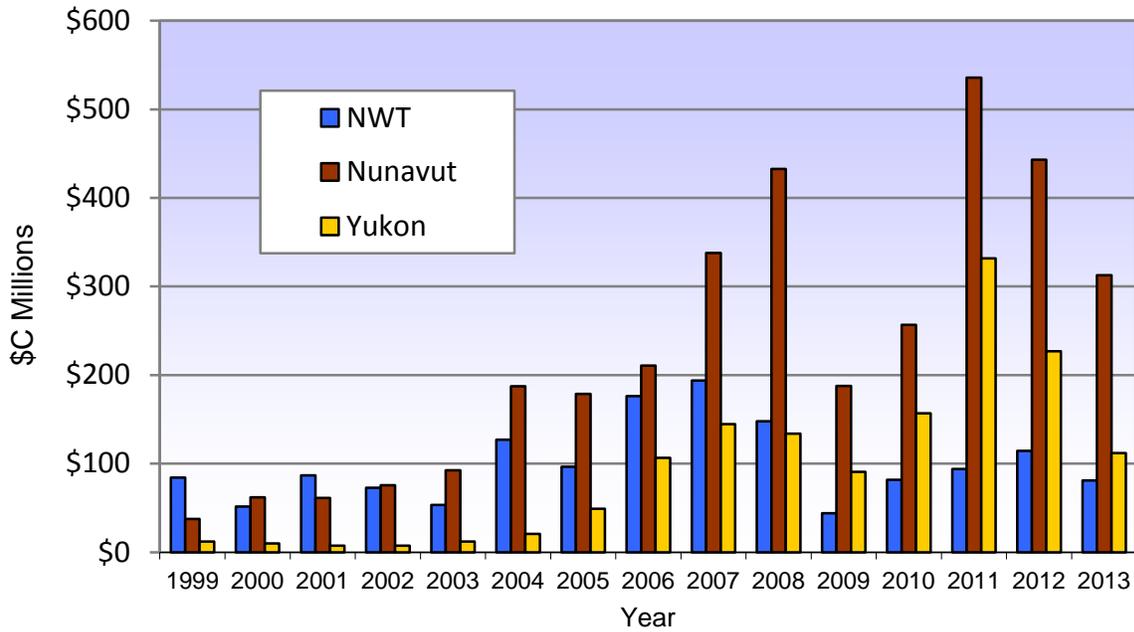


Figure 3: NWT, Nunavut and Yukon Mineral Exploration



Diagrams provided by NWT & Nunavut Chamber of Mines – data compiled by Natural Resources Canada

During 2012, claim staking in NWT amounted to only 62,128 hectares, compared to 550,000 in 2011.<sup>7</sup> The Panel believes that the current low level of grassroots exploration activity is a serious threat to the future prosperity of the NWT.

Why is grassroots exploration activity so low? One factor that afflicts all jurisdictions is the difficulty that companies are experiencing in raising venture capital – the Prospectors and Developers Association of Canada has characterized the current situation as “a capital crisis”. This does not explain the NWT’s performance in comparison to other Canadian jurisdictions. In fact, many of the root causes of this disparity are well known. Unsettled land claims, a burdensome regulatory regime, and lack of infrastructure have for many years been identified as the principal disincentives to mining investment in the NWT. These issues were highlighted most recently in a report by the Conference Board of Canada.<sup>8</sup>

The Fraser Institute’s annual Survey of Mining Companies measures industry’s perceptions of the investment climate in 96 jurisdictions. These perceptions may or may not be accurate, but they are important because they influence decisions about where to explore and invest. In the most recent survey<sup>9</sup>, NWT ranked in the bottom quartile among Canadian jurisdictions in 14 of 18 categories, and in the top quartile in none. Not all of the differences in relative rating were significant, but several stood out. The three most important deterrents, in order of decreasing negativity, were quality of infrastructure, uncertainty concerning protected areas, and regulatory duplication and inconsistencies. Almost half of respondents cited socio-economic agreements, environmental regulations, and unsettled land claims as deterrents to investment. Labor availability and regulatory uncertainty were also seen as impediments, albeit less serious. On a more positive note, NWT was judged to have improved the most in overall ranking among Canadian jurisdictions.

## **Strengths, Weaknesses, Opportunities, and Threats**

In the course of its deliberations, the Panel has identified what it believes to be the most important strengths, weaknesses, opportunities, and threats that the Mineral Development Strategy should take into account. These are listed in Table 2. Such SWOT analyses are commonly used in strategic planning for organizations, but they can also provide a good framework for public policy analysis. Strengths and weaknesses generally refer to internal characteristics of the organization whereas opportunities and threats reflect external factors, although the distinction is not always clear cut.

It is important to underline that despite the negative assessments of the investment climate, the NWT has significant strengths and opportunities for improvement.

<b>Table 2: Strengths, Weaknesses, Opportunities and Threats</b>	
<p><b>Strengths</b></p> <ul style="list-style-type: none"> <li>• Geological mineral potential</li> <li>• Competitive tax and royalty regime</li> <li>• Well-developed exploration and mining services sector</li> <li>• Entrepreneurial Aboriginal firms</li> <li>• Awareness of the importance of mining</li> <li>• Settled land claims with royalty revenue-sharing provisions</li> <li>• Established training partnerships</li> </ul>	<p><b>Weaknesses</b></p> <ul style="list-style-type: none"> <li>• Lack of infrastructure</li> <li>• Uncertainty over protected areas</li> <li>• Regulatory process (uncertainty, timelines, duplication)</li> <li>• Shortage of skilled workers</li> <li>• Availability of public geoscience</li> <li>• Cost of living/cost of doing business</li> <li>• Capacity of Aboriginal governments</li> <li>• Community wellness</li> </ul>
<p><b>Opportunities</b></p> <ul style="list-style-type: none"> <li>• Devolution</li> <li>• Potential for infrastructure development, especially power</li> <li>• Aboriginal governments seek sustainable mineral resource development</li> <li>• Yellowknife as potential northern exploration and mining hub</li> <li>• Positive long term outlook for commodities</li> </ul>	<p><b>Threats</b></p> <ul style="list-style-type: none"> <li>• Insufficient grassroots exploration</li> <li>• Unsettled land claims</li> <li>• Pace of regulatory reform action plan</li> <li>• Legacy of past bad mining practices</li> <li>• Depletion of current mines</li> <li>• State of capital markets</li> <li>• 'Fly-in/fly-over' reduces benefits that accrue to the NWT</li> </ul>

# Vision and Principles

## Towards a Vision

It is not the Panel's role to prescribe a vision for mineral development in the NWT: this must come from northerners themselves. However, having met with a broad cross section of stakeholders, the Panel is in a position to comment on the values that the vision should embody.

Virtually every stakeholder that the Panel met supported further development of NWT's mineral resources. Indeed, given the breadth of the consultation, the Panel members were surprised that they did not hear more negative opinions. This is not to suggest, however, that support was unconditional. Most stakeholders emphasized the need to protect the environment, to respect Aboriginal cultures and lifestyles, and to leave northerners with a lasting positive legacy. Many indicated that they would like the MDS to be "balanced" as regards economic, environmental and social outcomes. Although stakeholders did not often mention "sustainable development" in so many words, this is what they were implicitly advocating.

The vision to be developed in the MDS should look towards a robust and sustainable mining sector that supports a vibrant economy and strong and healthy communities throughout the NWT. As one stakeholder observed, the strategy must create "a shared sense of purpose". In fact, the Panel believes that the Minister's statement to the Legislative Assembly in June 2012 is not far off the mark:

*Our vision is to realize – responsibly and sustainably – the full potential of our rich resource base and use it to ensure lasting prosperity for NWT residents and their communities.*

## Principles

It must also be said that just as the industry perceives a number deterrents to investment in the NWT, many northerners perceive that mining companies have not always lived-up to the fundamental tenets of sustainable development in the past. Again, perceptions are not always accurate, but they must nevertheless be addressed. There is also an element of mistrust among certain constituencies, and although this was not widespread, engagement and confidence-building will be essential going-forward. Working together, communities, governments and the mining sector can succeed through shared values and common principles to ensure sustainable long-term benefits for all.

What values and principles should guide mineral development? Many jurisdictions and organizations have grappled with this question and some have generated long lists. For

example, the Metal Mining Sustainable Development Project set-out the 18 principles described in a subsequent section of this report (Table 3). Nevertheless, In the course of the engagement process, the Panel identified six principles that seem particularly relevant to the NWT.

### ***Investors Deserve Clarity, Transparency, and Certainty***

Clarity with respect to the permitting process, transparency in decision-making, and certainty about access to land for mineral exploration and development are fundamental requirements for a successful mineral industry.

### ***Respect for the Rights and Traditions of Aboriginal Peoples***

The GNWT and industry must work closely with Aboriginal governments and communities to ensure not only that implementation of the MDS is consistent with Comprehensive Land Claim Agreements and Aboriginal Rights and Title, but also that it does not militate against the pursuit of traditional lifestyles.

### ***Respect for the Environment***

For many northerners, environmental integrity is more important than economic growth. Anything less than state-of-the-art environmental practices are not acceptable.

### ***A Lasting Legacy of Positive Benefits***

The benefits of mineral development should accrue to all northerners. It should contribute to investments in the greater good that will benefit future generations.

### ***Balanced and Evidence-based Decision-making***

Decisions bearing on mineral development should be based on evidence. They should balance scientific and traditional knowledge as well as economic, social and environmental criteria – what is known in some circles as “the triple bottom line”.

### ***Cooperation and Partnerships***

To be successful in achieving the vision of a vibrant industry and lasting prosperity for the NWT, all stakeholders need to continue their efforts to work together. The consensual nature of both the public and Aboriginal governance in the NWT requires nothing less.

## **Pillars of a Mineral Development Strategy**

This foregoing analysis of strengths, weaknesses, opportunities and threats suggests five broad pillars or areas of action that could define the core of the MDS:

- Creating a Competitive Edge
- Creating a New Regulatory Environment for the NWT
- Aboriginal Engagement and Capacity Building
- Sustainability
- Workforce Development and Public Awareness.

In this section of the report, the Panel analyses each of these pillars, summarizes what it heard from stakeholders, and recommends a series actions that it believes would assist the NWT in achieving its vision of responsible and sustainable mineral development.

### **Pillar 1: Creating a Competitive Edge**

The exploration and mining industry operates in a global market. Countries, states, provinces and territories compete for industry investment to develop their mineral resources. They seek economic growth and social benefits in the form of increased employment, prosperous communities, and the government revenues that contribute to the greater good.

In determining where they will invest, junior and major companies evaluate jurisdictions not only on the basis of mineral potential, but also in terms of political and economic risk. The NWT has tremendous mineral potential, but this is not enough to guarantee that mineral development will occur. The NWT must improve its competitive position by addressing weaknesses in the investment climate.

There is no question that improving regulatory clarity and certainty would make a substantial difference and some steps in this direction are suggested below under “Pillar 2: Creating a New Regulatory Environment for the NWT”. However, stakeholders also identified several other actions that would improve the investment climate.

## 1.1 Public Geoscience Information

### Background

Geoscience information provided by governments as a public good is widely recognized to be an important determinant of the investment climate for mineral exploration. Public geoscience maps, data and reports reduce the cost and risk of exploration by allowing companies to identify areas of high mineral potential, reducing the need to spend time and money exploring less prospective ground. Geoscience information also informs government policy decisions in respect to land use planning, infrastructure development, and environmental protection. The provision of pre-competitive geoscience information in Canada is a responsibility shared by the federal, provincial, and territorial governments within the framework of the Intergovernmental Geoscience Accord. The federal Geological Survey of Canada (GSC) undertakes work that is “national or broadly regional in scope”, whereas the provincial and territorial surveys “carry out programs specific to the economic development and resource management of their own jurisdictions”.<sup>10</sup>

In NWT, the territorial role is played by the NWT Geoscience Office (NTGO), which is a partnership between the GNWT (ITI) and Aboriginal Affairs and Northern Development Canada. It is assumed that upon devolution, the federal staff and funding will be transferred to the GNWT, and the NTGO will be part of the new department of Energy, Mines and Petroleum Resources. The transition should present few problems as the NTGO has been operating in a quasi-devolved mode for many years. The mission of the NTGO is ...”to map, interpret and explain the geology of the Northwest Territories to inform decisions by governments, industry and the public concerning the responsible development of mineral and energy resources, use of the land, and protection of the environment”.<sup>11</sup>

The NTGO has a base budget of about \$3.35 million, more than 90 percent of which is consumed by salaries, benefits, overheads, and fixed costs. In recent years, field operations have been financed almost entirely with short-term funding, mainly from the federal government. This “soft money” has declined from about \$2.7 million in 2008/09 to \$540,000 in 2013/14, and none has yet been allocated for 2014/15 and beyond.

Mineral exploration requires many different types of geoscience information and relies on governments for three in particular: bedrock geology, airborne magnetic surveys, and drainage geochemical surveys. Diamond exploration also benefits from surficial geology and kimberlite indicator mineral surveys. Each of these surveys produces maps at different scales. A scale of 1:250,000 is generally considered to be the minimum acceptable for exploration, but most jurisdictions seek to have 1:50,000 coverage in areas of interest.<sup>12</sup> Government maps at a scale of 1:20,000 are available for many established mining districts in Canada. How does the NWT stack-up? The GSC is making good progress in 1:250,000 geological mapping under the GEM Program and coverage of the territory should be largely up-to-date by 2018, assuming that GEM is renewed for a second 5 year term. (Renewal of

the GEM program was expected in the March 2013 federal budget, but there has been no announcement to date.) However, the NWT lags well behind almost all other Canadian jurisdictions in respect to more detailed geological mapping, airborne magnetics and drainage geochemistry.

In addition to generating maps and data in their own right, provincial and territorial geological surveys play an important role in mineral rights administration. Exploration companies are required to submit a portion of the data gathered in the course of their activities in order to keep their claims in good standing. The geological surveys review these assessment reports to ensure that they meet technical standards and, after a period of confidentiality, make them available to the public. These industry data are an extremely important resource for future exploration.

### ***What the Panel Heard***

Although the majority of the stakeholders that the Panel met were not directly involved in mineral exploration, there was a general understanding that geoscience plays an important role as well as an awareness that the NWT lags behind other Canadian jurisdictions in the extent of geoscience map coverage. At the same time, many stakeholders were unclear about the role of the federal versus the territorial government. Several believed that geoscience mapping was a responsibility of the federal government alone and that NTGO was a federal entity.

Prospectors and exploration companies underlined the need for enhanced geoscience map coverage but emphasized that regulatory and land access issues, along with the scarcity of venture capital, are the principal factors inhibiting exploration at the present time. It was also felt that the NWT should make a greater effort at marketing its mineral potential at major exploration meetings such as the annual Exploration Round-up in Vancouver and the Prospectors and Developers Convention in Toronto. NTGO could play an important role in this.

Several Aboriginal leaders spoke to the need for better understanding of the geology and mineral potential of their land claim settlement areas and might be interested in cooperating with GNWT to address this gap.

### ***Analysis***

The *NTGO Strategic Plan 2011-2016* is still largely applicable. It anticipated devolution and recognized that additional funding would be required to allow it to function as the territory's geological survey. NTGO management has subsequently developed a notional program that would require a total budget of \$7.5 million/year.

Although the proposed funding level may seem ambitious in comparison to the current core budget, it would be only slightly higher than the 2008/09 total in constant dollars. It is also useful to consider the budgets of other provincial and territorial geological surveys. These define a wide range, with Ontario and Quebec at the upper end (\$15 to \$20 million), and Nova Scotia and New Brunswick at the lower (\$2 to \$3 million), and most others (Newfoundland, Manitoba, Saskatchewan, Alberta, British Columbia, Yukon) in the range of \$5 to \$8 million.<sup>13</sup> A budget for NTGO in the upper mid-range is easily justified given that the need for public geoscience to support exploration is arguably greater than in most other jurisdictions and that public geoscience surveys are more expensive than in the south.

It may be possible to fund the NTGO at an optimum level from a combination of internal and external sources. For example, CanNor officials are optimistic that its SINED program will be renewed in the 2014 federal budget and that it will continue to fund geoscience. While discussions should proceed with CanNor and others to secure additional funding where appropriate, it is important that NTGO not become over-reliant on 'soft money', as has been the case for several years. Core funding should be sufficient to operate a credible program.

Public geoscience information is now largely distributed over the Internet. It is important that the NTGO's maps, data and reports are as available to exploration managers in Vancouver, Sydney and Johannesburg as to those in Yellowknife. The NTGO is no longer on the cutting edge of information dissemination: a one-time investment of about \$500K in technology over one or two years would allow it to make up lost ground.

The possibility that NTGO might help address the need of Aboriginal governments for geoscience information about the mineral potential of their private lands presents an interesting policy question. Because the public government has no direct interest in these resources, would it be justified in spending public funds to better understand them? A case could be made that there is a broader public interest to be served and that such work by NTGO would be appropriate as long as there were no restrictions on the publication of the results.

### **Recommendations**

***The GNWT should position the NTGO as the principal source of public geoscience knowledge about the economy, land and resources of the Northwest Territories.*** With respect to mineral development, this will require, at a minimum, sufficient core funding for (a) a robust geoscience mapping program, (b) a state-of-the-art system to disseminate information over the Internet, and (c) adequate support for mineral rights administration.

***The GNWT should engage Aboriginal governments to determine whether the NTGO can play a role in providing geoscience knowledge pertaining to their private lands.*** Any such work would be contingent on the understanding that the results would become public.

## **1.2 Exploration Incentive Programs**

### **Background**

Mineral exploration is a high risk enterprise. As noted above, the odds that a given grassroots exploration project will result in a discovery is on the order of 1000 to 1. Most grassroots exploration is carried-out by junior companies that have no cash flow – they rely largely on venture capital to finance their exploration. Moreover, the individual prospector still plays an important role.

Given the high risk and expense relative to financial capacity, the federal government provides a Mineral Exploration Tax Credit (METC) to assist junior companies to raise venture capital.<sup>14</sup> Although these firms generally have no taxable income, the METC may be claimed by individuals holding flow-through shares in the corporation. Quebec, Ontario, Manitoba, Saskatchewan, and B.C. augment the METC with their own programs.<sup>15</sup> Yukon also had a successful METC, which it discontinued once exploration expenditures exceeded \$100 million. Several jurisdictions, including Newfoundland, Nova Scotia, New Brunswick, Ontario, Manitoba and Yukon, also offer outright grants to prospectors and junior companies.

### **What the Panel Heard**

Industry representatives viewed the lack of robust incentive programs in NWT as particularly problematic because exploration is much more expensive than in southern Canada.

The existing NWT Prospectors Grubstake program is too small to be of use and is administered in the wrong place. Prospector's assistance programs in other jurisdictions are considered to be superior – Newfoundland and Labrador was mentioned as a specific example.

Several stakeholders noted that establishing incentive programs would be an excellent marketing tactic to demonstrate that the NWT is open for mining. In this regard, it was mentioned that the Yukon had successfully utilized exploration incentives to help “kick start” mineral exploration and development following devolution in April 2003.

### **Analysis**

Most Canadian jurisdictions offer financial incentives to attract investment in mineral exploration. These incentives may take the form of tax credits, which help junior companies to raise venture capital, or grants to reduce exploration costs. The lack of similar incentives puts NWT at a competitive disadvantage.

The incentives in competing jurisdictions vary considerably. Exploration tax credits may be either refundable or not, and range from 5 to 38.5 percent. Most grant-based incentive programs are two-tiered, one for prospectors and another for junior companies. They are typically based on a percentage of eligible exploration expenses up to a maximum amount. The upper limit for prospectors ranges from \$9000 to \$15,000, whereas assistance to junior companies can be as much as \$200,000 in some jurisdictions. In some cases, larger grants are available for advanced exploration than for grassroots.

The NWT does have a Prospectors Grubstake Program.<sup>16</sup> Until a few years ago, it was administered by the NTGO and provided grants of \$2000 to \$10,000. It was subsequently moved into the Micro Business component of the regionally-administered Support for Entrepreneurs and Economic Development Program (SEED). With a maximum grant of \$5000 over 5 years (*i.e.*, \$1000/yr.), the program is unlikely to have much impact. The GNWT should revamp the program with progressively higher limits for the prospecting, target delineation and target testing stages of exploration.

The GNWT could model a mineral exploration tax credit on the Yukon program that worked successfully, in combination with other post-devolution initiatives and outreach projects, to attract a significant return of exploration investment after 2003. It provided a refundable corporate and personal income tax credit of 25 percent of eligible off-mine site exploration expenses. These included such items as prospecting, geological, geophysical and geochemical surveys, rotary and diamond drilling, trenching, digging test pits and preliminary sampling. Corporations had to have a permanent establishment in Yukon at some time during the taxation year to be eligible for the tax credit. A cap on the credit was applied to ensure appropriate budgetary controls. As exploration increased in Yukon, a per company refundable limit of \$300,000 for work undertaken in a fiscal year was imposed. Ultimately, when exploration expenditures exceeded \$100 million, the tax credit program was discontinued.

### ***Recommendations***

***The GNWT should institute a Mining Incentive Program (MIP) comprising a revamped prospector's assistance grant scheme and mineral exploration tax credits.*** The MIP could be modelled on successful programs in other jurisdiction, but funding levels should take into account the intrinsically higher costs of doing exploration in the NWT. The costs associated with Aboriginal and community consultation should be considered as eligible exploration expenses for the purposes of the MIP as well as for assessment work requirements.

## **1.3 Marketing and Investment Promotion**

### **Background**

Excellent mineral potential, a comprehensive geoscience knowledge base, efficient regulatory and tax regimes, available infrastructure and a skilled workforce are important factors in the investment decisions in the global exploration and mining industry. These advantages are of little import, however, if investment decision-makers are not aware of them. Most mining jurisdictions put considerable effort into marketing their potential and if the NWT is going to compete, it will have to do likewise.

Marketing and investment promotion can take many forms. Like most Canadian jurisdictions, NWT stages an annual exploration-oriented conference where government, academic, and industry geologists share the latest results of their work. The Yellowknife Geoscience Forum, which is co-sponsored by the GNWT and the Chamber of Mines, attracts about 800 registrants each November. The GNWT also participates in the two major exploration meetings held each year in Canada: the Prospectors and Developers Association Conference and Trade Show in Toronto and the Exploration Round-Up in Vancouver. These are both international meetings that attract many thousands of participants. Several jurisdictions include local prospectors and service companies in their delegations to these meetings. Other common approaches include sending and receiving trade delegations, promotional articles, and advertisements in trade journals, and so on.

### **What the Panel Heard**

Stakeholders representing a variety of interests think that not enough is being done to promote the NWT as a good place to invest in mining. However, they also emphasized the need to first “get our house in order” before seeking foreign or domestic investment.

Several acknowledged the positive role of the Northwest Territories and Nunavut Chamber of Mines in promoting investment.

There was some concern that GNWT had not done a great deal to attract foreign investors over the years, but most comments focussed on the domestic market. It was observed that the international investment promotion efforts of other jurisdictions had produced mixed returns.

The relatively low profile of the NWT at the Exploration Round-Up and the PDAC in Toronto was raised by a number of speakers. Several specifically suggested that the geoscience presence at Round-Up should be increased in scale and visibility. To further assist with re-branding the NWT as a mining friendly jurisdiction, several suggestions were made to establish an NWT Night at Round Up similar to Yukon Night or B.C. Night.

It was also suggested that more effort be put into “Fam (familiarization) Tours” with investors, trade magazine writers and mining journalists, particularly after devolution when the GNWT will be the resource manager.

### ***Analysis***

There seems to have been limited government investment in the marketing and promotion of the mineral potential of the NWT since the mid-1990s. The NWT was a leading jurisdiction in terms of exploration activity for many years following the discovery of diamonds in 1992. The Ekati Mine came into production in 1998, a mere six years after discovery, and the diamond mining industry has flourished. Perhaps the success of the industry engendered a level of complacency. In the meantime, however, circumstances have changed. The depletion of the diamond mines is on the horizon and myriad issues around land access and regulatory uncertainty are deterring grassroots exploration.

There is little doubt that marketing and investment promotion should be an important component of the MDS. However, the NWT has some significant hurdles to overcome in this regard, given the negative perceptions of the investment climate as exemplified by the Fraser Institute’s annual mining industry surveys. At the same time, various ongoing initiatives should address many of the principal disincentives and there is an opportunity to improve both the perception and the reality of the NWT as a place to explore and develop.

Marketing should be strategic. It should be multi-faceted yet focussed. It is not the role of government alone. The GNWT should engage industry, business associations, Aboriginal governments and development corporations in the effort. It is not the role of the Panel to prescribe the details of a marketing approach, but there would likely be several components.

At the very least, the Yellowknife Geoscience Forum should be continued and the NWT’s presence at the Exploration Round-Up and PDAC should be enhanced. A “Team NWT” approach should be considered for the latter two meetings. This would involve including representatives of industry, suppliers, and Aboriginal governments in the delegation.

Inbound and outbound trade missions could also serve to get the message out. Fam (Familiarization) Tours could be organized with investors, trade magazine writers and mining journalists. These orientation or familiarization tours should be organized in collaboration with local Aboriginal and Community governments in order to market the strengths and opportunities presented by the NWT Regions. Each Region is at a slightly different stage in its political evolution, and painting the NWT with one brush is not necessarily the most effective way to market the reality of mineral development opportunities in the NWT. However, it will also be important to identify the cohesion that underpins this diversity by virtue of the GNWT’s resource management role after devolution.

Trade missions to promote NWT mining opportunities should be undertaken to key capital market centres (Toronto, Vancouver, New York, London) on an annual basis. Under the leadership of the Minister of EMPR, the proposed NWT Mining Alliance (see below) should be a high profile participant in this process.

It would be beneficial for the GNWT to create a comprehensive industry mailing list, including companies and individuals that will receive a regular newsletter, perhaps on a quarterly basis, from the Minister of EMPR. This newsletter would inform industry of events, initiatives, policy updates and other relevant information relating to initiatives that will improve the investment climate in the NWT. Good news stories such as devolution, the Kwe Beh Working Group, the Akaitcho-NWT Chamber of Mines Working Group MOU, and the Mineral Development Strategy would all be featured in this outreach campaign to the targeted industry and investment audience. All the initiatives and events need not be large in scale but they should all be significant in advancing the overall perception of NWT as a good place to do business.

### **Recommendations**

***The GNWT should seize the opportunity afforded by devolution to begin a campaign to make it known that the investment climate in the NWT is improving and the NWT is “open for business”.*** The campaign would be multi-faceted and include annual trade missions to key capital market centres, an outreach newsletter campaign from the Minister’s office, and organization Fam/Orientation tours. There are several marketing opportunities during the year leading up to devolution taking effect on April 1, 2014. These include the Mines Ministers Conference to be held in Yellowknife in August 2013, the Yellowknife Geoscience Forum in November 2013, the Exploration Round-up in January 2014, and culminating with PDAC in March.

***The GNWT should work with the mining industry, business associations, and Aboriginal governments to develop a marketing and investment promotion plan.*** This strategic partnership could be formalized with the creation of a “NWT Mining Alliance”, under the leadership of the Minister of EMPR. This partnership would spread the workload and develop consistent messaging, branding the NWT as a good place to do business.

## **1.4 Infrastructure and Energy**

### **Background**

From the mineral industry’s perspective, the limited availability of public infrastructure, especially roads and electrical power, is one of the principal deterrents to investment in the NWT. These factors have a significant impact on both the capital and ongoing operating

costs of a mine, and are crucial in deciding whether or not a project will proceed. While a company may develop some of its own infrastructure, the extra costs may make a project uneconomic or shorten mine life. For example, as noted elsewhere in this report, diamond mining at Lac de Gras could likely be extended for many years if the cost of electrical power were reduced. The cost of electricity is also a significant contributor to the higher cost-of-living in the NWT, which ultimately increases labour costs for the mines and is a consideration in the decision of some workers to commute from outside the territory.

Limited infrastructure also impacts exploration. The presence of roads or airstrips in areas of good mineral potential would reduce costs. However, there is another dimension that is perhaps even more significant. Industry is unlikely to explore if there is little prospect that a discovery could be developed. For example, there has been little exploration for base metals in the NWT portion of the Slave geological province because, unlike gold and diamonds, which can be shipped by air, base metal concentrates must be moved by road, rail, or ship. Thus the prospect of the Bathurst Inlet Port and Road (BIPAR) has spurred base metals interest in neighbouring Nunavut.

There are numerous opportunities for infrastructure improvements that would not only promote mineral development but also benefit communities. Many of the opportunities as regards energy are set out in the discussion paper for the NWT 2013 Energy Plan, which is being developed in parallel with the MDS.<sup>17</sup> Similarly, the Department of Transport has outlined opportunities for improving the road network.<sup>18</sup>

### ***What the Panel Heard***

With respect to energy, a number of stakeholders noted that the GNWT needs to develop a more coherent vision for energy, analyse and establish investment priorities, and then implement the plan.

The cost of electrical power is a major issue, especially for mine operators and remote communities. Many stakeholders pointed to the potential to increase hydroelectric capacity and to extend the electrical grid. Connecting the existing grids in the NWT, and linking these to the southern market were also seen as important opportunities.

There was also a growing awareness of the potential of Liquefied Natural Gas (LNG) to displace diesel fuel for thermal power generation. One mine operator described a relatively inexpensive “plug and play” technology to convert from diesel to LNG that would reduce his power costs by 35 percent.

With respect to the NWT road infrastructure, numerous proposals were advanced by stakeholders ranging from constructing the Mackenzie Valley Highway, extending the all-weather highway to Norman Wells, re-establishing the Canol Road, to extending all-weather access roads into the Slave Province and possibly even into Kitikmeot where it would connect with the proposed BIPAR.

On a more strategic level, several stakeholders pointed to the need for government to assess and invest in multi-use infrastructure corridors that would benefit communities as well as industry. Others noted that resource access corridors need to be identified and protected in land use plans. Several stakeholders expressed concerns that roads can have negative impacts on wildlife and wildlife habitat.

The high cost of infrastructure was also noted and the need for investment partners, notably the federal government, was acknowledged. The key to achieving federal investment support would be to identify one major priority and present a clear business case to Canada.

Several industry and Aboriginal leaders acknowledged that it might be difficult to make a business case for a major investment based on current customer base, but that a “leap of faith” was justified by the likelihood of future development.

### ***Analysis***

Investments in infrastructure will be essential to ensure that the NWT derives the maximum benefit from its rich natural resource heritage. There is no shortage of good ideas – the problem is how to pay for them. The public and private utilities cannot justify investment in large scale power generation and distribution projects purely on a business case/life cycle analysis basis – the customer base is too small and dispersed. Roads are also hugely expensive to build and, because they are for the most part public goods, priority tends to be given to those which serve communities rather than primarily industrial interests. In any case, the GNWT is constrained by the federally mandated borrowing limit, which is currently \$800 million.

It seems clear that any major new power or road infrastructure improvements will require capital investment by the federal government, the private sector, or both. The federal government has demonstrated a willingness to invest in northern infrastructure, but given the magnitude of the needs, the GNWT should go forward with a clearly defined vision, principles, and priorities. Similarly, companies are open to partnership arrangements, either among themselves or with government. The opportunities for Public Private Partnerships (P3) should be explored.

The potential of LNG to displace diesel for thermal power generation is intriguing. One constraint is that it requires year-round road transportation, which is a factor to be considered in the business case for an all-weather road.

## **Recommendations**

**Government must develop a clear vision for the future of energy development in the NWT; concluding the NWT 2013 Energy Plan will be a critical component of this process.**

**The GNWT, in partnership with industry and Aboriginal governments, should develop a focused business case to solicit federal government funding support for infrastructure development in NWT that will realize a return on the investment.**

**Government needs to fast track the assessment of Liquefied Natural Gas (LNG) potential in the NWT as part of its energy development plan.**

**Responsibility for all energy policy and programs should be centralized in the new Department of Energy, Mines and Petroleum Resources (EMPR).**

**The GNWT should undertake a resource access corridor study that will help to coordinate planning, assist with the overall prioritization of investment decisions, and mitigate environmental effects of resource development projects.** The study should proceed on a regional basis so that areas which are most likely to host mining development in the short term are dealt with first.

## **Pillar 2: Creating a New Regulatory Environment for the NWT**

Complex regulatory processes and uncertain Aboriginal engagement and consultation responsibilities can occupy significant time and resources of industry and governments, including Aboriginal governments. Devolution will present a significant opportunity for the GNWT, working collaboratively with Aboriginal governments, to make the NWT regulatory and consultation processes more efficient, timely and transparent.

### **2.1 Regulatory Clarity and Certainty**

#### **Background**

The NWT regulatory regime was largely developed during the negotiations and settlement of modern comprehensive land claim agreements with Aboriginal groups. The regulatory framework was based on the concept of co-management of natural resources by the federal government, the GNWT and Aboriginal people. The philosophy underlying the regulatory regime was that those most associated with the land impacted by the proposed development should have significant input into the decision-making respecting the proposal. The consequence of a very strong regional implementation of this philosophy and

framework was that regulatory powers are exercised by a multiplicity of boards across the NWT.

In 2007, pursuant to the federal government's Directive on Streamlining of Regulation, the Minister of the then Department of Indian Affairs and Northern Development appointed Mr. Neil McCrank "to attempt to address issues that have been raised about the regulatory regimes across the North, but in particular that of the Northwest Territories". The resultant report, issued in May 2008, identified numerous shortcomings and made recommendations for improvement.<sup>19</sup> Many of these were incorporated in the federal government's *Action Plan to Improve the Northern Regulatory Regime*, which got underway in 2010. The federal Minister proposed additional improvements in 2012. The Action Plan involves amending the Mackenzie Valley Resource Management Act, the Territorial Lands Act, and the NWT Waters Act, as well as passing new legislation, including the Northern Jobs and Growth Act and the NWT Surface Rights Board Act.<sup>20</sup>

If fully implemented, the Action Plan would help to address many longstanding regulatory issues by:

- Setting timelines for Environmental Assessments and for public review of Water Licenses.
- Providing life of mine water licenses that would eliminate the need for Board review of license extension when there are no substantive changes to the project.
- Expanding the ability of the Minister of Aboriginal Affairs and Northern Development Canada to give binding policy direction to Boards.
- Clarifying responsibilities of the federal and territorial Crown in Aboriginal consultation.

At this point in time, however, it remains uncertain how much of the action plan will be implemented and when this might happen. It is also unclear whether the changes will have broad support among Aboriginal leaders, many of whom are satisfied with the present framework.

### ***What the Panel Heard***

Stakeholder opinions of the regulatory process were varied and exemplified the old adage about "where you stand depends very much on where you sit."

Most industry representatives perceived the process as being overly complex, cumbersome, expensive, and sometimes too easily manipulated for political purposes, rather than addressing and mitigating environmental and socio-economic concerns. Frustration was expressed with respect to lack of timelines, perceived lack of accountability by boards, and the apparent disconnect between the scale of a project and the intensity of the attendant consultation and assessment.

Many industry participants expressed concern that government seems to have off-loaded its Aboriginal consultation duties to industry without providing guidelines or resources to support this added responsibility. Most Aboriginal and environmental groups, on the other hand, do not find fault with the design of the existing regulatory framework but believe that it has not been fully and properly implemented. Aboriginal governments indicated that participant funding needed to be increased in order to allow smaller communities to participate in the regulatory processes in an effective and timely manner. Some Aboriginal leaders expressed concerns about the federal regulatory reform process plan and assert that it is being pursued in a way that is contrary to their land claim agreements.

Land and water board representatives did not believe that either the process or board capacity contribute to delays in issuing land use permits and water licenses. The board process itself generally meets prescribed timelines. Delays more often result from insufficient or ineffective community consultation or, in the case of water licenses, awaiting ministerial approval. The time required to negotiate a land access agreement where a project involves Aboriginal land can also delay the process, because such an agreement is a prerequisite for a land use permit application.

Land and water board officials also pointed to the fact that the vast majority of referrals to the Environmental Assessment process occurred in areas of unsettled land claims. Of approximately 1500 projects to undergo preliminary screening, only 65 were directed to environmental impact review, and 60 of these were in areas of unsettled land claims. They believe that completing the land claims process would have a salutary effect on the efficiency of the regulatory regime.

### ***Analysis***

It is clear that a number of interrelated issues and processes have created a large measure of regulatory complexity and uncertainty in the NWT, and that this is a significant deterrent to investment in exploration and development. It is also clear that some of the fundamental issues are largely out of the direct control of the GNWT. Notably, concluding unfinished land claims and completing the Regulatory Improvement Action Plan are in the domain of the federal government, and the GNWT can only play a supporting role. The GNWT will, however, have a significant role to play in the implementation of the Regulatory Improvement Action Plan after devolution.

There are opportunities for the GNWT to make a value-added difference to enhance regulatory clarity, and this would help to increase industry confidence in the NWT as a place to do business. One potential area of action is in working with Aboriginal governments to improve the process for Access or Exploration Agreements. An Access Agreement is a contractual arrangement between a project proponent and an Aboriginal government that sets out the terms and conditions, including financial arrangements, for access on or through Aboriginal lands. The Panel has been given to understand that protracted

negotiations to reach an agreement often hold-up the permitting process. Moreover, the process is neither transparent nor well-defined. This is an area where “scalability” is important. Ideally, there would be a standard set of terms and conditions applicable to classes of projects, rather than each project being subject to an *ad hoc* negotiation. Recommendations regarding the support the GNWT can provide to achieve more timely Access Agreements have been set out under Pillar 3: Aboriginal Engagement and Capacity Building.

With devolution on the horizon, the GNWT may also want to expand the conversation on Access Agreements and take a more visible role in engaging governments and Aboriginal leaders in a real and urgent conversation about bringing clarity to the nature, timing, and amount of consultation required in respect to various activities on the land. Following devolution, the GNWT will also be in a better position to take a strong lead, in collaboration with appropriate planning partners, to support the completion of Regional Land Use Plans to bring greater clarity to the land access question. This is further addressed under the Pillar 4: Sustainability.

### **Recommendations**

***The GNWT should work with the federal and Aboriginal government where possible to support the expeditious conclusion of land claims.***

***The GNWT needs to support the timely completion and lead the effective implementation of Canada’s Regulatory Reform Action Plan.***

## **2.2 Improving Client Service and Responsive Decision-Making**

### **Background**

The devolution of the responsibility for managing lands, waters and mineral resources from the federal government to the GNWT will be one of the most important steps in the political development of the NWT. Devolution is set to take place in April 2014 and a period of transition and learning is expected as the GNWT assumes its new resource management responsibilities. During this transition, the GNWT will be able to focus immediately on improving client service through administrative and organizational changes that should result in more responsive decision-making. This can be implemented either on or soon after the effective date of devolution, without legislative amendments.

### **What the Panel Heard**

Industry stakeholders expressed a need for assistance in navigating complicated regulatory and consultation pathways.

It was widely acknowledged that additional capacity would allow Aboriginal governments to deal more effectively with the consultation process. Similarly, some stakeholders noted that additional technical expertise would allow the regulatory boards to review permit and license applications more expeditiously.

Some stakeholders mentioned that an improved attitude amongst some members of the bureaucracy to assist rather than resist mining initiatives would also be beneficial.

Officials in smaller centres favour greater regionalization of mining staff following devolution as a means of assisting communities to become more proactively engaged in mineral development. For example, one observed that some community members were interested in prospecting, but the fact that claims must be registered in Yellowknife is a deterrent.

Several stakeholders urged that the GNWT not proceed too rapidly with new legislation or regulations following devolution, but instead to “test drive” and assess its options as the new mineral resources “landlord” before making major changes.

One group advocated replacing the “free-entry system” with something like the concession approach used in petroleum exploration. Prospectors and junior companies, on the other hand, believe that the free entry system is essential to their ability to compete.

There were mixed views about “map-staking” but most of those who expressed an opinion were in favour. It was acknowledged that many jurisdictions were moving in this direction.

### **Analysis**

There are numerous administrative and organizational initiatives that the GNWT can prepare to launch following devolution that will make the NWT a more attractive place to invest. Foremost among these initiatives would be a Pathfinder Support Service to provide hands-on assistance to industry to navigate the regulatory process, assist with Aboriginal consultation initiatives, and establish clear and concise regulatory and consultation pathway documents for industry to follow. While CanNor may offer a similar service, it is neither client specific nor as intensive as it needs to be. Further, in a post devolution world, it will be absolutely essential that the GNWT and the Department of Energy, Mines and Petroleum Resources offer this service to clients. A comparable program was launched following devolution in Yukon, and was met with very favorable reviews by industry.

To properly implement this proposal, a permanent senior level position needs to be created in EMPR to lead this work. This position should report directly to the Assistant Deputy Minister responsible for mining in EMPR. A policy support position should also be created

and additional contract dollars identified to ensure sufficient capacity for the process to succeed. Funding should be provided to hire expert facilitators to work with industry and Aboriginal groups on pathway documents and consultation protocols. The efforts of emerging Aboriginal initiatives such as the Kwe Beh Working Group (Tlicho Government) should be supported by this initiative. Further, support/oversight for development of Impact and Benefit Agreements could be provided if so requested by the relevant parties.

The GNWT should establish a Deputy Ministers Major Projects Oversight Committee, chaired by the Deputy of EMPR, to review and monitor the progress of major projects as they move through the assessment, consultation and permitting processes. The Committee would include all Deputy Ministers with permitting and assessment responsibilities, including Environment and Natural Resources (ENR), Executive and the new Department of Lands. Other departments, such as Highways, should also be included.

Contractors could also be hired by EMPR and “loaned” on a dedicated basis to mining companies going through the regulatory process. These contractors would report progress, and identify regulatory or other issues on a regular basis to the Major Projects Oversight Committee.

The GNWT should establish an Industry Advisory Board, comprising representatives of junior and major mining companies, Aboriginal businesses, prospectors, and the Chamber of Mines, to provide policy and strategic advice to the Minister, EMPR. The Board would be appointed by the Minister and make recommendations on measures, including government actions, to increase mineral exploration and mine development in the NWT. From time to time, the Board would also make recommendations on specific matters referred to it by the Minister, and undertake other initiatives, such as conference and public workshops on mineral development matters as requested by the Minister. An annual report will be developed by the Committee and provided to the Minister for tabling in the Legislature. Similar processes have proven to be very effective in the State of Alaska and Yukon.

To complement the Pathfinder Support Service, GNWT should initiate a “one-window” model to provide clients one-stop access to information and services that helps to coordinate a range of requirements, including Aboriginal consultation, into a single, efficient process that expedites decision making. The “Front Counter BC” model should be assessed for applicability in NWT. Front Counter B.C. provides individual prospectors and small to medium-sized natural resource businesses with a wide range of authorizations and permits on behalf of various client agencies.

Services include:

- supporting clients to apply for the authorizations their projects need
- interpreting land information, maps and management plans
- helping to initiate the consultation process with First Nations, and
- following-up on tracking the status of applications filed.

The GNWT should also assess opportunities to advance map staking following devolution. Most jurisdictions are going in this direction. Many benefits can be achieved including shortening time frames and freeing up money to “go into the ground”. This may also be integrated with Aboriginal notification processes, which could trigger consultation.

The free entry system is important to the exploration industry. Unlike the concession system commonly used to award petroleum rights, free entry promotes the involvement of prospectors and small companies in exploration. It also encourages innovation. For example, it seems unlikely that the discovery of diamonds at Lac de Gras would have happened when it did without the free entry system.

Devolution is scheduled to take effect on April 01, 2014. To help ensure a smooth transition, mirror versions of the existing federal legislation and regulations will be enacted by the GNWT. The GNWT recognizes the importance of the existing system of mineral tenure in providing certainty to the mineral industry. As the GNWT takes over responsibility for mining and other resource management sectors, there will be a time for transition and learning. During this transition, likely a two-year period, the GNWT should focus its attention and resources on administrative and organizational improvements that can be put into play without introducing legislative amendments. After this critical transition period, GNWT should be experienced and well positioned to initiate the development of a new leading edge Mineral Resources Act. The process to develop the new Act should provide for significant input by stakeholders, industry and Aboriginal governments.

### **Recommendations**

***The GNWT should capitalize on the opportunities provided by devolution by providing a comprehensive Pathfinder Support Service to help industry to navigate the regulatory and consultation process.*** This client service will focus on providing clear and concise regulatory and consultation pathway documents and processes for industry to follow. The efforts of emerging Aboriginal engagement groups such as the Kwe Beh Working Group will be supported by this initiative.

***The GNWT should establish an Industry Advisory Board, comprising representatives of junior and major mining companies, Aboriginal businesses, prospectors, and the Chamber of Mines, to provide policy and strategic advice to the Minister, EMPR.***

***To complement the Pathfinder Support Service, the GNWT should initiate a “one-window” service model to provide clients with one-stop access to information and services that expedites decision making related to mining projects.***

***The GNWT should assess opportunities to advance computer map staking following devolution.***

***In the two to three year immediate transition period following devolution, the GNWT should focus its attention and resources on administrative and organizational improvements that can be put into play without introducing legislative amendments. After this critical transition period, the GNWT should be experienced and well positioned to initiate the development of a new leading edge Mineral Resource Act.***

## **Pillar 3: Aboriginal Engagement and Capacity Building**

The need to engage Aboriginal governments and local communities in decisions about the use of their land and resources is a core principle of sustainable development. Aboriginal peoples view early engagement as a form of respect as well as recognition of their rights, culture and traditions. For much of the history of mining in the NWT, Aboriginal governments and communities were largely excluded from decisions concerning mineral development and received few of the benefits. This engendered negative attitudes and mistrust. Times have changed. The mining industry has, by and large, embraced the concept of corporate social responsibility, which also recognizes the necessity of consultation. It is in the best interests of all concerned that Aboriginal governments and communities are fully engaged in the mineral development process.

Although Aboriginal people constitute about one-half of the population of the NWT, most communities are small, with only a few hundred residents. It is not surprising that communities are often hard-pressed to engage expeditiously on exploration and development proposals, let alone the myriad other issues confronting them. Building community capacity to deal with these questions is an important goal.

### ***3.1 Aboriginal Engagement***

#### ***Background***

Clearly, Aboriginal and community engagement is fundamental to mineral development in the NWT. Without early, comprehensive and coordinated consultation and engagement by industry and government, mineral exploration and development will not move forward in a timely manner. Clarity regarding the roles, responsibilities and expectations of industry, government and Aboriginal groups are fundamental components to improving the engagement process.

The Panel did not delve into the related and important issue of government's Duty to Consult.

### ***What the Panel Heard***

Mineral industry stakeholders understand that Aboriginal Governments and communities must be engaged at the earliest stages of mineral exploration and development activities. However, many expressed frustration about the lack of clarity on the meaning of “engagement”, when the engagement process should start, who to engage with, how the engagement process operates, and what the end results should be.

Some industry representatives were concerned by what they perceive as the government “downloading” the Crown’s duty to consult.

For their part, Aboriginal leaders acknowledged that the process and expectations for engagement vary considerably across the NWT, reflecting the evolution of governance in each community. A “one size fits all” approach to engagement is not currently a realistic option.

One Aboriginal representative emphasized that “it is not the job of the GNWT to fix [the engagement process]...it should be left to the Aboriginal governments”. However, the GNWT should challenge Aboriginal governments to find a solution and put funding behind the effort.

Aboriginal leaders also observed that many of their people do not have a good understanding of the full range of exploration and mining activities, and that better public awareness would facilitate engagement.

There were a few reports of certain companies either doing work without engaging the community or engaging in a rude and disrespectful manner. Although not widespread, bad practices by a few can have a disproportionate impact on the many.

### ***Analysis***

Aboriginal and community engagement is fundamental to mineral development in the NWT. Without early and adequate engagement, exploration and development activities are unlikely to move forward in a smooth and timely manner. Similarly, ineffective engagement may cause communities to forego some of the benefits of development.

It was apparent that many in industry see Aboriginal engagement as inextricably linked to the regulatory process. As a result, the regulatory process was often viewed as the cause of delays that perhaps might have been avoided through more effective engagement upfront.

While the mining industry accepts its responsibility to engage, it points to the lack of clear and consistent guidelines across the NWT as a significant impediment to effective engagement. Although the Panel believes that establishing such guidelines would do much to promote sustainable mineral development, it recognizes that this goal will likely have to be pursued in stages.

As an important first step, Aboriginal Governments should develop “engagement roadmaps”. These roadmaps should define what is expected of resource companies and identify when, how, and with whom engagement should occur. This process will likely involve a series of workshops with leadership, stakeholders and residents to fully understand the implications of engagement and to set clear engagement guidelines. While Aboriginal governments need to take the lead in developing their own roadmaps, EMPR could play a useful role by providing financial and technical support. The Panel was impressed by the approach developed by the Tlicho Government through the Kwe Beh Working Group.

The second step, developing a consistent approach to engagement, is a greater challenge. Given the number and diversity of Aboriginal governments and communities, the “one size fits all” approach is unlikely, at least in the short term. Each of the Aboriginal groups has specific engagement requirements based on their Land Claims, traditions and needs, and each must develop their own engagement roadmap. That being said, there would be considerable benefits to a more unified approach.

To this end, Aboriginal governments should consider establishing an *NWT Aboriginal Mining Council*. As one Aboriginal representative said, we need to create a “unified north”. A goal of such a Council would be to achieve a degree of consensus on issues relating to mineral exploration and development, and to encourage consistent policies and processes. The Council could also lobby the Territorial and Federal Governments for changes to legislation and policies impacting mineral development.

It is essential that communities have a clear understanding of the stages of mineral development. The level of engagement required, and the negotiation of access and/or benefit agreements, must be proportionate to the size of the project and realistic expectations for returns on investment. Over-inflated expectations of small exploration projects will only serve to further drive away investment dollars and development opportunities. Industry must be made aware of the critical need to engage with communities to ensure that projects are understood and meet community-based goals.

Communities should also determine their strengths, weaknesses, and core needs through a community-driven needs assessment and strategic planning process. This will allow communities to develop sound and realistic expectations and clearly communicate those expectations to exploration and development companies.

### **Recommendations**

***Aboriginal governments should develop Engagement Roadmaps that clearly establish their expectations for engagement and the process by which it should occur.*** Although this work would be led by Aboriginal governments, GNWT could play an

important supporting role in providing financial and technical resources, and facilitating inter-governmental communication.

**Aboriginal governments should consider establishing an NWT Aboriginal Mining Council.** Such a group would promote consensus and allow Aboriginal people to speak with a stronger voice on important exploration and mining issues.

## **3.2 Building Community Capacity**

### **Background**

Communities require significant capacity in a wide range of areas in order to be effectively engaged in, and form partnerships with, the mineral industry. Aside from business and workforce capacity (which are dealt with in subsequent sections of this report), communities require governance, administrative, technical and environmental capacity to be able to deal with exploration and development issues in an effective and timely manner.

### **What the Panel Heard**

Many Aboriginal leaders indicated that their communities lack the capacity to effectively deal with mineral development activities in a timely manner. Additional financial support is needed for this function.

The ability to conduct independent environmental monitoring would increase community members' confidence in the process.

Representatives of public governments, the regulatory boards, and industry generally agreed that community capacity needs to be strengthened.

Industry representatives would like to see consistent and on-going administrative structures that maintain functions and agreements regardless of changes in leadership.

### **Analysis**

Many communities are faced with the need to be involved in engagement and negotiation processes without the required experience or expertise. Involvement in the environmental review process is similarly constrained. These were often “side of desk” functions that were assigned to individuals with other responsibilities. Communities were often frustrated with the lack of resources to respond to demands. For their part, exploration and mining companies were frustrated with the lack of consistency and guidelines on who to engage and how the engagement process should proceed.

Communities require greater capacity at all levels. Building community capacity will lead to better, and more impactful, involvement in the mineral industry. Capacity building is a long-term, often generational, process. There needs to be a sustained commitment by all partners to support community capacity building. The end results will be healthier communities that are more self-sufficient and that play a more meaningful role in mineral development.

Communities impacted by mineral development would benefit from needs assessments, preferably in advance of exploration and development. Community plans would not only identify goals and priorities for individual communities, they will allow exploration and development companies to establish effective partnerships aimed at addressing identified community needs. This will help to make socio-economic and access and benefits agreements more effective, community-driven, strategic and measurable against identified goals.

The School of Community Government has been established to provide community governance and administrative training. The Mine Training Society has been highly effective in funding and developing mineral based programs; and Aurora College, often in partnership with the MTS, has been successfully delivering programs for communities. These agencies working in collaboration with GNWT, Aboriginal governments, CanNor, and industry, should develop targeted capacity building programs to address identified needs at the community and regional level.

### **Recommendations**

***Aboriginal communities should assess their capacity to deal with the engagement and environmental review requirements associated with mineral development. The GNWT, in collaboration with CanNor, should assist in the development of community capacity-building plans, by providing technical and financial support.***

## Pillar 4: Sustainability

It is the policy of the GNWT to apply “the concept of sustainable development to all its decisions and actions related to natural and heritage resources in the Northwest Territories”.<sup>21</sup> It defines sustainable development as follows:

*...development of natural resources in a manner that ensures economic, social and cultural needs are met while maintaining ecosystem integrity and biological diversity and without compromising the ability of future generations to meet their needs.*

What does sustainability mean in the context of mineral development? Some commentators, including one stakeholder group heard by the Panel, argue that mining is inherently unsustainable for two reasons. First, given the finite nature of non-renewable resources, physical depletion is inevitable. Second, they argue that the social and environmental impacts are too great, especially since the costs are often externalized. The more prevalent view is that global resource depletion will not be an issue in the foreseeable future<sup>22</sup>, and that negative environmental and social impacts can be mitigated by effective public and corporate governance. In fact, considerable effort has gone into defining the principles and characteristics of sustainable mining, both internationally and in Canada. Among the earliest and most comprehensive set of principles was developed by the Metals Mining Sustainable Development Project and reproduced here in Table 3.<sup>23</sup>

Principles are relatively easy to define: implementing them is sometimes more difficult. Several practices promoting sustainable development are already well-established in the NWT. In the economic sphere, the requirement that mining operations provide financial security to ensure proper reclamation following mine closure is an example of internalizing environmental costs. In the social sphere, Impact and Benefits Agreements and Socio-economic Agreements seek to assure a fair distribution of benefits, as does the sharing of royalties with Aboriginal governments. In the environmental sphere, a comprehensive regulatory regime, about which much has already been said above, ensures that mining operates within ecological limits. When it comes to governance, the approach of both public and Aboriginal governments in the NWT exemplify the principle of subsidiarity, which recognizes that decisions should be taken as close as possible to and with the people and communities most directly affected.

**Table 3: Sustainable Development Principles  
(Metal Mining Sustainable Development Project, 2002)**

### **Economic Sphere**

- Maximize human well-being.
- Ensure efficient use of all resources, natural and otherwise, by maximizing rents.
- Seek to identify and internalize environmental and social costs.
- Maintain and enhance the conditions for viable enterprise.

### **Social Sphere**

- Ensure a fair distribution of the costs and benefits of development for all those alive today.
- Respect and reinforce the fundamental rights of human beings, including civil and political liberties, cultural autonomy, social and economic freedoms, and personal security.
- Seek to sustain improvements over time; ensure that depletion of natural resources will not deprive future generations through replacement with other forms of capital.

### **Environmental Sphere**

- Promote responsible stewardship of natural resources and the environment, including remediation of past damage.
- Minimize waste and environmental damage along the whole of the supply chain.
- Exercise prudence where impacts are unknown or uncertain.
- Operate within ecological limits and protect critical natural capital.

### **Governance Sphere**

- Support representative democracy, including participatory decision-making.
- Encourage free enterprise within a system of clear and fair rules and incentives.
- Avoid excessive concentration of power through appropriate checks and balances.
- Ensure transparency through providing all stakeholders with access to relevant and accurate information.
- Ensure accountability for decisions and actions, which are based on comprehensive and reliable analysis.
- Encourage cooperation in order to build trust and shared goals and values.
- Ensure that decisions are made at the appropriate level, adhering to the principle of subsidiarity where possible.

## 4.1 Land Use Planning

### Background

The GNWT is developing a Land Use and Sustainability Framework that will outline its role and its approach to land use and land management. It will give the public government's perspective on the public interest with respect to lands, waters and resources. Although the Framework is not yet complete, it seems likely that it will define an important role for land use plans in future decision-making.

The NWT is 1.35 million km<sup>2</sup> in area – the third largest Canadian jurisdiction – of which 86 percent is Crown land and 14 percent is Aboriginal. The federal government will retain jurisdiction over 7 percent of the total land area after devolution and the proportion of Crown land will decrease as the remaining land claims are settled. According to the Crown Land Mandate, it is the intention of the GNWT to retain at least 45 percent of each region as Crown land.

The Mackenzie Valley Resource Management Act mandates regional land use plans everywhere in the NWT except the Inuvialuit Settlement Region. Instead of a regional plan, the Inuvialuit have six community conservation plans, which are not legally binding. Regional land use plans are also a legal requirement of the Gwich'in and Sahtu land claim settlements. The Gwich'in plan was approved in 2003 and is in operation whereas the Sahtu plan is in final draft. The Tlicho are well-advanced in developing a plan, but it applies only to their lands. For their part, the Dehcho are developing an interim Land Use Plan under their Interim Measures Agreement. The Akaitcho Interim Measures Agreement does not include a land use planning provision, but this might well be an element of an eventual land claim settlement.

Implementation of the NWT Protected Area Strategy is also, in effect, a land use planning process. Established in 1999, the PAS is a community-driven process that seeks to protect areas of special ecological, historical or cultural significance. There are several categories of protected status embodying a range of restrictions on industrial activity. In National Parks, for example, the prohibition of development is virtually absolute, whereas the subsurface resources in migratory bird sanctuaries are not protected and extraction may be permitted in special circumstances. Some areas, such as National Parks, are established in perpetuity, whereas others, including Conservation Zones set out in Land Use Plans are subject to periodic review. As of September 2012, there were 26 protected areas of various types in the NWT, amounting to 9.8 percent of territorial lands and waters.<sup>24</sup> There are currently nine active proposals in the PAS process, which, together with the proposed Thaydene Nene National Park, would protect an additional 7.2 percent of the landmass.

There is no target for the total area to be precluded from resource development in the NWT. Some significant portion of the 45 percent Crown land mandate will likely be protected.

Aboriginal governments have signaled their intent to make about half of their lands available for development. For example, under the approved Gwich'in Land Use Plan, 57 percent of the area is zoned for general use and eligible for resource development. In the draft plan for the Sahtu region, 31 percent of the land is designated for general use and an additional 42 percent would be special management zones, which could be open to development subject to certain conditions.

### ***What the Panel Heard***

Although not all stakeholders commented on land use planning, those that did believed that land use plans were an important tool in promoting sustainable development. Those that were aware of the Land Use and Sustainability Framework supported its completion and implementation.

The industry believes that completed land use plans reduce uncertainty and improve the timeliness of the permitting process. It would like to minimize permanent withdrawal of lands with high mineral potential and ensure that plans provide for access corridors for future development across parks and protected areas. The industry would like to be involved in the planning process.

Generally speaking, from the Aboriginal perspective, cultural significance or importance to traditional lifestyles take precedence over development potential in land use designation. The incorporation of Traditional Knowledge is very important in the planning process. Some Aboriginal leaders indicated that planning on their own lands was inhibited somewhat by lack of information about mineral potential.

Industry leaders are also concerned that gaps in geoscience knowledge may have led to inclusion of some high mineral potential lands in Protected Areas.

### ***Analysis***

There is a broad consensus that land use planning is important and there is an interest on the part of all concerned to be involved in the process. Recommendation No.1 in *The Road to Improvement* ("McCrank Report") was that a priority be given to completing Land Use Plans in all areas: this was echoed in the 2010 NWT Environmental Audit. The benefits that would accrue to all stakeholders are clear. The planning process as exercised in the NWT embodies many sustainable development principles but this means that it is inherently slow-moving. The Gwich'in Regional Land Use Plan, the only one approved to date, was six years in development. Preliminary consultations for the Sahtu regional plan got underway in 1999. It is to be hoped that devolution will allow the process to proceed more quickly when GNWT becomes the principal public government participant.

Industry has long identified uncertainty about protected areas as a significant deterrent to investment in the NWT. As noted above, it was the second most negative attribute in the most recent Fraser Institute survey of mining companies. As a community-driven process, the Protected Areas Strategy is essentially open-ended – there is no ultimate target for the number and extent of protected areas. It is the uncertainty created by the “open-endedness” that is perhaps industry’s greatest concern.

The goal of the Protected Areas Strategy is to protect representative areas within each of the territory’s ecoregions, and significant progress is being made. Protected areas have been *established or proposed* in 36 of NWT’s 42 ecoregions, and cover at least 25 percent of the land in 16 of these. While the PAS does not have a specific target for the areal extent of protected areas, in 2004, the UN Convention on Biological Diversity (CBD) recommended that at least 10 percent of each ecoregion be effectively conserved. This is a moving target, however: in 2010 the CBD proposed that 17 percent of terrestrial and inland water areas be protected by 2020. Coincidentally, the area of established and proposed protected areas in the NWT is 17 percent. It is not the role of this Panel to propose a specific target for the areal extent of protected areas in the NWT, but it does believe that defining their ultimate extent would mitigate the current uncertainty resulting from the PAS process.

### **Recommendations**

***Given the importance attached to the completion of Land Use Plans, the GNWT should take advantage of its increased responsibilities following devolution to expedite the planning process.*** This could include planning for those areas where it has jurisdiction (e.g., on Crown lands in the Tlicho settlement area) and providing technical or financial support to Aboriginal governments to advance their own planning initiatives.

***The GNWT should review the Protected Areas Strategy with a view to defining the ultimate extent of the network.*** The open-ended character of the current process leads to significant uncertainty.

## **4.2 Environmental Protection**

### **Background**

It goes without saying that environmental stewardship is a cornerstone of sustainable development and particularly so in the NWT where so many people follow traditional lifestyles and rely on hunting, fishing and trapping for their sustenance. At the same time, mining activities, especially in the development, production, and closure phases can have a significant environmental impact. Environmental protection must therefore be a critical element of the Mineral Development Strategy. This report dealt above at some length with the issues of environmental regulation. The intent of this section is to report on

stakeholder's views on environmental protection issues other than the pros and cons of the regulatory regime.

The Mackenzie Valley Resource Management Act requires an environmental audit by an independent body every 5 years. There have been two such audits so far – in 2005 and again in 2010. The following conclusion of 2010 audit is informative:

*Overall, environmental quality in the NWT was found to be favourable for most components. In some cases lack of adequate baseline data made evaluation difficult. Where data were sufficient, several instances of unfavourable conditions and deteriorating trends were identified, in particular: caribou populations; impacts of climate change; and, the need for action in some aspects of community wellness and social and economic issues.*

These conclusions were drawn from the NWT State of the Environment Report 2009, which tends to suggest that the impact of current mining activities on the physical environment is minimal. The SOE was updated in 2012, with similar conclusions. The mining sector accounts for about a third of hazardous materials spills, most of which are wastewater (as opposed, for example, to oil, fuel and toxic chemicals). The number of spills has trended downwards since the mid-2000's. There was no evidence for increased levels of mercury and cadmium in country foods. The report also concluded that the decline in caribou populations largely reflects natural fluctuations but also cautioned that the impact of human activity is not well understood.

### ***What the Panel Heard***

Some stakeholders observed that public governments had not acted upon the Environmental Audits of 2005 and 2010 and, in particular, had not addressed gaps in the foundational elements of the system of land and water management.

The legacy of poor practices in past mining activities looms large in people's consciousness: the Giant Mine in Yellowknife was mentioned most often, but there are about 20 orphan contaminated mining sites in NWT. Many stakeholders emphasized the need for current and future mines to have closure plans backed-up with adequate financial security bonds. The need for environmental and reclamation programs to exemplify best practices and be a fundamental part of the mine planning process was a consistent theme. The Panel heard conflicting assessments of the adequacy of reclamation requirements (from among the worst in North America to among the best).

There was a concern about the adequacy of monitoring of ongoing mining activities. Aboriginal leaders, in particular, emphasized the need for rigorous watershed-wide, water quality monitoring. Many also expressed concerns about the decline in barren land caribou populations.

The environmental impact of grassroots exploration is perceived by some stakeholders to be greater than is actually the case. Moreover, cumulative impact is a concern. As one Aboriginal leader explained, “we understand that one exploration project has limited environmental impact, but what about 50 happening at once?”

One environmental group cited initiatives of the Mining Association of Canada (*Towards Sustainable Mining*) and the Prospectors and Developers Association of Canada (*e3plus*) as best practices that should be generally adopted. Another indicated that some of the environmental measures implemented in the Yukon following devolution seemed to be effective.

### **Analysis**

Although stakeholders are very aware of the negative environmental legacy of the Giant Mine, Port Radium, and other old mining operations, most appreciate that that modern mining is a very different proposition. Substantial financial security deposits and progressive reclamation, whereby remediation proceeds during the producing life of the mine, are now the norm (SOE, 2012).

The environmental performance bar is set very high, but most people believe that the industry can clear it. Concerns with the implementation of the Cumulative Impacts Monitoring Program raised by the Environmental Audit are shared by many stakeholders.

The impact of climate change was not raised by stakeholders, presumably because mining activities in the NWT are not a significant contributor to atmospheric CO<sub>2</sub>. However, climate change will likely impact mineral development. It is already increasing permafrost warming and melting, which has implications for transportation and infrastructure: for example, it could shorten the ice road transportation season.

### **Recommendations**

***As a priority, the GNWT should ensure that a legally-enforceable progressive mine reclamation and security policy, with associated regulations, is in place at or soon after the devolution effective date.***

***Following devolution, the GNWT must ensure inspections and monitoring of mineral development and mine operations are undertaken in a timely and fully transparent manner.*** Where appropriate, monitoring of mine operations, including water quality inspections, should be undertaken in collaboration with appropriate Aboriginal government inspectors.

## 4.3 Sustainable Communities

### **Background**

Most NWT residents live in one of the Territory's 33 official communities or, if not, rely on them for services. These communities are variously designated as cities, towns, villages, or hamlets, charter communities or First Nations designated authorities, based on differences in governance, legal status, and taxing authority.<sup>25</sup> The Panel has noticed that the term "community" is used in some contexts to refer specifically to Aboriginal communities: however, it is used here in the most general sense.

Intra- and intergenerational equity are fundamental tenets of sustainability. The benefits of development should be shared by people living today and leave a positive legacy for future residents. Governments, both public and Aboriginal, have a responsibility to ensure that all their people benefit to the extent possible from the development of their resources. In addition to taxes and royalties levied on the mining industry, governments in the NWT use two other mechanisms to capture benefits for their citizens. Socio-economic Agreements (SEA) negotiated between the GNWT and mining companies establish commitments in respect to human resource development, employment practices, business development, social well-being, and so on. For their part, Aboriginal governments enter into Impacts and Benefits Agreements (IBA) with these same companies.

The concept of Corporate Social Responsibility (CSR) is gaining wide acceptance in the mining industry. It is defined as

*a company's voluntary actions to either reduce the negative impacts of mining (economic, social, and environmental) or to improve the living conditions of the local communities where they operate. By definition, voluntary actions are those that go beyond legal obligations and binding contracts.*<sup>26</sup>

CSR is increasingly seen as an important element of a company's social license to operate – in other words, the informal, ongoing approval of the firm's operations within the local community and among other stakeholders. Based on a cursory review of their annual reports, it would appear that the three diamond mines spend in excess of \$10 million annually on such voluntary actions.

### **What the Panel Heard**

Municipalities are concerned that they bear the burden of mineral development in respect to roads, housing, schools, and social services without, in their opinion, adequate compensation from either the territorial government or the mining companies. There is a perception in some quarters that SEAs have not been effective in ensuring that adequate benefits accrue to municipalities and communities.

There is general interest in seeing more opportunities for local businesses. Infrastructure is a concern, especially for municipalities other than Yellowknife. Expensive power and lack of road access put some communities at a distinct disadvantage.

Yellowknife has the potential to expand its role in servicing exploration and mining, not only in NWT but also in eastern Yukon and western Nunavut. Road access from Yellowknife into the Kitikmeot region of Nunavut would be a major boost to the local economy. City officials also observed that housing and industrial development was constrained by the unsettled land claim and amount of GNWT-owned land in the city.

The fact that almost half the mining workforce commutes from outside the NWT is matter of general concern and militates against communities and the Territory as a whole reaping the maximum benefit from mineral development. The cost of living – especially housing, power, property taxes - is seen as a significant disincentive for people who might otherwise choose to live in the NWT.<sup>27</sup>

The “two-in, two-out” work rotation routine was raised in almost every session. While some like the approach, the majority emphasized the negative aspects. The routine was seen as being hard on families and detrimental to the social fabric of the community. Several stakeholders mentioned that child daycare is a particular challenge. The Mine Training Society includes coaching on how to deal with the rotation schedule in its curriculum. One company reported that rotation was the principal irritant raised in an employee survey.

Several Aboriginal leaders observed that their communities started out as being fully self-sufficient, taking care of their own economic, social, political and familial needs. There was a clear desire to return to a state of self-sufficiency while understanding that communities must operate within the modern economic paradigm.

Smaller communities tend not to perceive the tangible benefits of mineral development. Those that are not already a point-of-hire for the mines would like to be. However, some community leaders are concerned that mineral development exacerbates social problems including substance abuse. Others are concerned that community members employed by the mines will be drawn to the city by better housing and schools.

It was noted that the current social housing subsidy criterion is a disincentive for some people to seek employment.

A few Aboriginal leaders stated that they would like the GNWT to play a role in the IBA process – especially in monitoring and possibly enforcing implementation.

Industry believes that its contributions to communities are substantial but perhaps not as widely known as they might be. The diamond mining companies tabled a recent report that summarizes the positive impact of their industry in the NWT from its beginning in 1998 to 2012.<sup>28</sup>

## **Analysis**

Although some stakeholders question the efficacy of Socio-economic Agreements, the Panel believes that these are among the best instruments that GNWT has to promote widespread benefits from mineral development. Moreover, as GNWT officials point out, SEAs are improving with each new agreement. The parties to an SEA are required to report annually on performance against goals, and most company reports are available on their websites. However, the GNWT should make the company reports as well as its own accessible to the public in a single location. This would lead to a better appreciation of the positive impacts of mining.

There may be more that government and industry can do to mitigate problems associated with the “two-in, two-out” work rotation including, for example, increasing the availability and affordability of childcare. However, the Panel is not in a position to offer specific recommendations. Similarly, the additional pressures placed on community infrastructure and services by mineral development are an issue that should be addressed as part of a broader discussion of municipal finances.

Another implication of the “two-in, two-out” work rotation is that it facilitates workers commuting from outside, rather than residing in the NWT (the “fly-in, fly-over” syndrome). This results in a significant loss to the Territory in terms federal transfers, tax revenues, and business for local firms. The mining companies would prefer to hire people from within the NWT not only because they want to be good corporate citizens, but also because their costs would be lower. The underlying problem is the shortage of skilled labour, which is discussed further below under workforce development.

## **Recommendations**

***The GNWT should continue to improve the Socio-economic Agreement process, one of the most useful instruments to enhance the benefits that residents receive from mineral development.*** In order to increase accountability and also increase awareness of the positive benefits of mining, the GNWT should make both company and GNWT annual SEA reports available on a single website.

***The GNWT should implement an integrated annual awards program that emphasizes recognition for industry environmental and sustainability best practices, including an award recognizing an individual or a corporation’s contributions to the economic and social development of a community or region in NWT.***

## **4.4 Business Capacity and Opportunities**

### **Background**

The mineral industry provides myriad business opportunities in such areas as exploration and camp services, site services, transportation, logistics, equipment operation and maintenance, and construction. For example, of the \$12.8 billion spent to build and operate the three diamond mines from 1996 to 2011, \$9.2 billion (72%) went to northern businesses, including \$4.2 billion (33%) spent with Aboriginal companies.<sup>29</sup> These totals do not include spending by the numerous other companies active in northern exploration over that period. In March 2013, the Det'on Cho Corporation, the development arm of the Yellowknives Dene First Nation, presented Prosperity Awards to both Diavik Diamond Mines and De Beers in recognition of their role in the growth of this very successful Aboriginal enterprise.<sup>30</sup> The ability to take advantage of, and expand on, these opportunities is critical to ensuring that northern communities and individuals benefit from mineral development to the greatest extent possible.

### **What the Panel Heard**

Numerous northern companies have proven track records of business success. The Panel heard how some Aboriginal Development Corporations have grown from small scale operations to multi-million dollar corporations with a highly diversified portfolio as a result of business agreements with the mineral industry. Many of these corporations are now providing goods and services on a national level.

Some stakeholders stated that companies based in communities outside of areas covered by Impact and Benefits Agreements have not received much business from the mining sector. There is also a perception in some communities that firms in Yellowknife benefit disproportionately.

Opinions differ about the reasons why some companies have been successful and others have not. Some believe that the mining companies have not actively sought suppliers outside the areas included in their IBAs. Others think that the less successful companies have not effectively promoted their products and services to the mineral industry.

The downturn in the mineral industry, and particularly in the exploration sector, has had a tremendous impact on local businesses including prospectors, exploration companies, expeditors and transportation companies. Over the past two decades these businesses have funnelled billions of dollars into the NWT economy. Many of these companies are now operating outside of the NWT. As a result, they are employing individuals and purchasing goods and materials from other jurisdictions, which represent significant dollars that are not being spent in the NWT.

Stakeholders also stated that the opportunities for mining-related secondary industries have not been fully explored. Several pointed to the example of northwestern Quebec where mining has spurred the creation of a mining equipment manufacturing sector, which now enjoys an international market.

### ***Analysis***

The economic spin-offs of the mineral industry are significant, as demonstrated by the success stories of many small NWT-based companies that have expanded into multi-million dollar operations employing hundreds of people. However, a robust domestic exploration and mining sector is critical to the future of these northern businesses. Otherwise there would be little to keep them in the NWT. It is hoped that the MDS will help reverse the recent downward trend.

It is not surprising that businesses in areas with IBAs with mining companies would benefit more than those outside. However, the Panel met several entrepreneurs in Hay River who have done very well, in part through aggressive marketing of their capabilities. In any case, future development of mines in different regions should lead to a more equitable distribution. For example, the proposed Prairie Creek Mine should generate significant opportunities for Fort Simpson and other communities in the Dehcho region.

The GNWT is already endeavouring to promote northern procurement in the Socio-economic Agreements signed with mining companies. The government could also work with local businesses to identify new opportunities and facilitate marketing efforts. For example, it could introduce northern business owners to mineral industry representatives to discuss potential contract opportunities, and provide support to help firms to attend important industry trade shows such as the Exploration Round-Up in Vancouver and the Prospectors and Developers Convention in Toronto. This could be part of an enhanced “Team NWT” presence at these events.

The GNWT has invested heavily in developing a diamond cutting and polishing industry in Yellowknife, the long term viability of which is uncertain. This experience should not detract from efforts to promote the development of secondary industries that could be sustained beyond the life of the current mines. Earlier this year, the Chamber of Mines partnered with CDETNO (Conseil de développement économique de Territoires de Nord-Ouest) to organize a trade mission to the Abitibi region of Québec, where participants saw how the business community in that region has been successful in building a vibrant secondary industry. There may be opportunities to emulate some best practices in the NWT.

The GNWT could work with mining companies to encourage their suppliers of specialized services (underground mining companies, engineering firms and cementation companies as examples) to establish northern offices and hire more local workers.

## **Recommendations**

**The GNWT should establish a Northern Minerals Business Office within EMPR to help local businesses develop opportunities and expand their horizons.** This office could create an inventory of industry needs and of northern businesses that can meet them. It could also encourage mining industry service firms to establish a presence in the NWT, and facilitate an enhanced NWT business presence at important mining industry trade shows. The office could also serve as the focal point of efforts on the part of civil society (Chamber of Mines, Chambers of Commerce, CDETNO, etc.), as well as municipal and Aboriginal governments to attract and promote local businesses.

## **4.5 Heritage Fund**

### **Background**

Sovereign wealth funds are becoming recognized as a useful means to ensure that the public benefits from the extraction of non-renewable resources are sustained over the long term. They contribute to the sustainable development goal of intergenerational equity. More than 40 national or sub-national governments have established such funds, of which only two are in Canada: Alberta and Quebec (also, the British Columbia government has proposed establishing a Prosperity Fund). Their experiences were reviewed recently by the Canadian International Council (2012)<sup>31</sup>, which recommended that

*Governments must demonstrate that they are responsible stewards of public money. All levels of government in Canada with revenues from non-renewable resources should stop treating them as income to be spent and start treating them as capital to be saved or invested. Each province or territory receiving revenues from non-renewable resources should establish (if they do not have one already) provincial [sic] wealth funds.*

In 2010, the GNWT Department of Finance initiated a public consultation about using resource revenues to establish a heritage fund.<sup>32</sup> The discussion paper posed a number of questions about the purpose of such a fund, possible sources of revenue, governance, and so on. Unfortunately, it elicited only eight submissions, five of which were in favour of a fund and three opposed.<sup>33</sup>

### **What the Panel Heard**

The creation of a heritage fund was not part of the MDS Discussion Paper and was raised spontaneously by only a few stakeholders. However, those who did address the topic were supportive.

Industry representatives suggested that a heritage fund would help make visible the link between mining activity, royalties, and long term prosperity.

There was a range of views about how such a fund should be used, but the most popular was to support infrastructure development. There was also a suggestion that such a fund could be used to reduce power costs.

Some municipal leaders suggested that a heritage fund could be used to off-set impacts from mining development or support community capacity building. There was also a suggestion that a heritage fund should be “regionalized”.

### **Analysis**

Notwithstanding the poor response to the GNWT public consultation on the heritage fund in 2010 and limited comment heard in the current process, the Panel believes that this is an important topic that warrants consideration in the MDS. A well-designed heritage fund could contribute to both growth of the mining sector and to optimizing societal benefits. It would also reinforce industry’s social license to operate by providing a visible link between mining activity and long term prosperity.

There are a number of parameters that require careful analysis, some of which were outlined in the GNWT discussion paper, including the source of revenues (royalties, permitting fees, etc.), the percentage of these revenues allocated to the fund, the purpose of the fund (savings for a “rainy day”, to balance government revenues during cyclical downturns, infrastructure, etc.), the disposition of income generated in the fund, and so on. The answers to these questions are beyond the Panel’s mandate. However, it is noted that most economists and other commentators agree that wealth funds and the income generated therefrom should not be used to finance ongoing government programs.

### **Recommendations**

***The GNWT should continue to develop the concept of a Heritage Fund with a view to having it in place by the time that royalties begin to accrue as a result of devolution.***

## **Pillar 5: Workforce Development and Public Awareness**

The most significant net benefit of the mineral industry over the past two decades has been the creation of thousands of highly paid jobs. The mineral industry is the largest private sector employer in the NWT, and the largest overall employer of Aboriginal persons in Canada. The four operating mines directly employ more than 3,000 fulltime-equivalents. About half of the mine workforce is made up of NWT residents, the balance commute from southern Canada. Many fewer, probably less than 100 NWT residents, are employed by junior exploration companies and as prospectors. In addition to this *direct* employment, there is *indirect* employment in firms supplying goods and services to the mining and exploration companies, and *induced* employment generated when the employees spend their pay cheques. Economists generally apply a multiplier of 2x to 3x to direct employment figures to estimate the total number of jobs resulting from mining. Therefore, it is likely that NWT minerals industry is responsible for 6000 to 9000 jobs annually, at least half of which are in the north.

The number of mining jobs could grow significantly in the short term if current advanced projects enter production when their proponents hope. However, under current projections employment would return to current levels when the Ekati Mine closes in 2019. Longer term employment growth will depend primarily on new discoveries from grassroots exploration.

### **5.1 Northern Workforce**

#### ***Background***

Regardless of the rate of growth of employment, the fact remains that only about half of the current mine workforce resides in the NWT. This significantly reduces the benefits accruing to the Territories in the form of federal transfers, tax revenues, induced employment, local business revenues, and so on. In addition to the economic impact, many northerners are foregoing proven benefits in terms of health and well-being because they lack the qualifications for well-paid jobs in the mining industry. These benefits are generational as children of employed persons are much more likely to develop the skills necessary to enter the wage economy. Developing the northern workforce is critical to ensuring that benefits from the minerals industry remain in the north in both the short and the long-term.

#### ***What the Panel Heard***

All concerned would like to see more northerners in the mining workforce. The industry concedes that it has been unable to meet the percentage targets of Aboriginal and northern workers set-out in Socio-economic Agreements. On the other hand, they point out that

because their total workforce is larger than anticipated, they have exceeded the targets in terms of absolute numbers.

Several factors have limited the number of northerners employed in the mines. The most important is the availability of skilled workers. Problems with substance abuse and unpardoned criminal records were also mentioned by both industry and community leaders.

Mine operators indicated that they could not operate without the workers that commute from outside the NWT. Several stakeholders believe a large increase in the proportion of northern workers is not possible from within the current population of the NWT. In other words, a large increase would require more workers to relocate the NWT.

Industry and municipal representatives emphasized the difficulties in encouraging workers from elsewhere in Canada to reside in the NWT. The “two-in, two-out” rotational work schedule, and the fact that Edmonton is a designated point-of-hire, makes it relatively easy for employees to commute from the south. This coupled with the high cost of living in the NWT means that there is little economic incentive to reside there. It appears that some people who were born and raised in the north, have subsequently moved to southern Canada for economic and other reasons.

Women comprise approximately 25 percent of the mineral industry workforce. The lack of supports, especially affordable childcare, is deterring women from entering and/or remaining in the workforce.

The limited hiring of northerners from beyond the IBA areas was mentioned on several occasions. Some stakeholders in these regions believe that the operating mines had not made a concerted effort to recruit their residents. Moreover, even where regional centers were designated points-of-hire, residents of outlying communities remained disadvantaged due to the cost of travel.

A few stakeholders observed that growth in the total population of the NWT was not necessarily a good thing.

## ***Analysis***

There is general agreement that increasing the participation of northerners in the mining workforce should be a priority. The principal barrier to employing more northerners is the limited pool of skilled workers, which can be addressed in part through educational and training initiatives.

Some potential employees are deterred by the additional stress placed on families by the rotational work schedule and limited availability of affordable childcare. There are also individuals who are unable to access employment opportunities due to issues of substance

abuse or a criminal record. It is important that the GNWT ensure that adequate social programs are in place to address these issues.

Generally speaking, the communities specified in IBAs and SEAs are not able to supply all the workers required by the mines. In order to ensure that more residents have the opportunity to participate, the GNWT should assess the potential availability of workers in all NWT communities. Employing residents from northern communities will have a significant impact on the well-being of these communities. Moving individuals from dependence to employment will not only increase revenues, it will significantly decrease dependence payments including income, housing and other subsidies. Efforts must also be made to ensure that all residents are aware of available jobs and the skills required for success in the mining industry. This assessment would also assist in planning training initiatives. The mining industry should expand recruitment efforts beyond communities in their IBA areas.

The role of the non-resident workforce in the NWT mining industry raises an interesting question about how much effort should go into encouraging workers recruited in the south to reside in the NWT, rather than commuting from their home province. On the one-hand, as noted above, non-resident workers have a negative impact in terms of foregone transfer payments, tax revenues, and induced employment. On the other, there is a legitimate question about how much population growth is warranted in the NWT.

The Panel considered recommending that GNWT consider incentives to encourage recruits from outside to relocate to the NWT. These might include such things as tax rebates and an increase in the northern living allowance. However, it is not clear that such measures would be effective, and given limited resources, the GNWT should put its emphasis on reducing the barriers to current residents' participation in the mining workforce.

***The GNWT should take the lead role to identify the current and future minerals labour force needs and the available northern workforce in all NWT communities.*** This could build on the 2011 labour market assessment undertaken by the Regional Training Partnership in the South Slave, North Slave and Dehcho regions.

***Mining companies should expand their recruitment efforts to other NWT communities should their needs not be met from those specified in their IBAs and SEAs.***

## **5.2 Education**

### **Background**

The minerals industry has changed dramatically over the past few decades. Unlike the “pick and shovel” operations of the distant past, modern mining is a highly technical enterprise. Approximately 80 percent of all mining jobs are now classified as skilled or semi-skilled requiring at least a high school diploma and, in most cases, either trade accreditation or

college graduation. Only 5 percent of employees are categorized as general labour, whereas 15 percent are university graduates.

The high school dropout rate in the NWT is about 30 percent - about 3.5 times the Canadian average. The problem is particularly severe for Aboriginal students. Addressing this situation will be critical to increasing northern participation in the mining workforce.

### ***What the Panel Heard***

Industry representatives identified the high proportion of workers without a high school education as a significant barrier to hiring more northerners. At even a more basic level, literacy is an issue – as one person observed, it is important to be able to distinguish among the words “Diamond”, “Diavik”, “Dynamite” and “Danger”.

Many believe that the curriculum in northern schools includes insufficient science-based programming, and the lack of geoscience courses is a particular concern. Many stakeholders reported that schools lack the facilities and equipment needed for science programs. It was reported that although an Earth sciences program was recently developed, it is not part of the matriculation program.

The mining companies had at one time provided adult education on site; but ceased doing so once the workforce stabilized. Adult education continues to be an important function of Aurora College.

One Aboriginal leader referred to the difficulty in retaining teachers in community schools.

It was also observed that students need to be given a better understanding of career opportunities in the mining industry. It was suggested that visits to the operating mines be arranged for promising secondary school students, perhaps as a part of a job shadowing program.

### ***Analysis***

It goes almost without saying that education is the cornerstone of increased northern participation in the workforce. The principal problem is the elevated high school drop-out rate, particularly among Aboriginal students. The GNWT should continue its efforts to promote student participation and graduation. New and innovative methods for ensuring attendance with a focus on parental, family and community guidance should be investigated and implemented. However, families and community leaders also have an important role to play.

The GNWT should include more geoscience in the curriculum, beginning at the elementary level and continuing through to high school, to ensure that students are exposed to this field

from an early age. It may wish to take advantage of the Mining Matters program for curriculum support (described below under Increasing Public Awareness).

The Tundra Science Camp for students from Grades 10 to 12 generally includes a geoscience component. Consideration should be given to broadening this initiative to provide greater exposure to geoscience and mining-related environmental studies. Similarly, the GNWT should restore funding to the NTGO Community Mapping Program. The mining companies should consider providing opportunities to high school students to visit the operating mines for mini-internships or job-shadowing experiences.

Finally, it is important that the GNWT and other partners provide Minerals Career Awareness Programs that allow students to make informed choices about careers in this area. NWT students have limited exposure to the wide range of career opportunities in the minerals industry. These programs should include providing information kits for schools; ensuring educators and school counsellors are informed on minerals career opportunities; and delivering student mine visit and dedicated career exposure programs.

### **Recommendations**

***The GNWT should continue its efforts to increase participation and graduation rates in secondary schools, particularly in Aboriginal communities.***

***The GNWT Department of Education, Culture and Employment should ensure that Earth Science and Geology are well represented in its academic curriculum.***

***Governments and industry should collaborate to ensure that students are aware of career opportunities in mineral exploration and mining.***

## **5.3 Training and Transferable Skills**

### **Background**

Increasing the high school graduation rate, or the equivalent through adult education, is an important first step towards increasing the opportunities for northerners to benefit from well-paid employment in the mining industry as well as in other sectors of the economy. The next requirement is to ensure that they are equipped with the necessary specialized skills. The NWT is fortunate to have excellent training programs provided by the Mine Training Society (MTS) and Aurora College. The Mine Training Society is a unique partnership of the industry, public and Aboriginal governments that has trained more than 1100 individuals and placed more than 800 in jobs since 2004. Aurora College is the community college of the NWT, with campuses in Fort Smith, Inuvik, and Yellowknife, and learning centres in 23 communities. It has a diverse array of programs ranging from trades and technology to

degree programs in education and nursing. The two institutions collaborate on specific courses and programs.

### ***What the Panel Heard***

There is a broad consensus among stakeholders about the importance of continuing and expanding training programs as a means to ensure maximum northern employment in the minerals industry.

The MTS was seen by many as a best practice. Many of its programs are developed and delivered by Aurora College, which has served to increase the recognition of the latter as a vital northern educational institution.

The one criticism the Panel heard of the MTS was the perception that it did not provide the same level of training opportunities to regions and communities outside of the IBA areas. However, it was noted that the Inuvialuit Regional Council has recently signed a partnership agreement with the MTS. Also, programs are now being delivered in the Dehcho Region.

Several stakeholders were concerned about the uncertainty of ongoing federal government funding for the MTS. There was also a concern that funding specifically designated for Aboriginal trainees limits the training opportunities for other northerners.

Several industry and Aboriginal representatives would like to see additional programs developed including, in particular, a Community Prospector Training Program.

There was also strong support for the concept of developing training standards and a “skills passport” that would allow employees to move between mines by demonstrating training and capacity in common skills areas.

### ***Analysis***

The current approach involving the MTS and Aurora College is a proven success and should continue to be the principal means to equip northerners with the specialized skills required by the mining industry and its suppliers. The Regional Training Partnership (RTP) comprising the Tlicho Government, Akaitcho Territorial Government, Dehcho First Nations, NWT Métis Nation, GNWT Department of Education, Culture and Employment, Aurora College, and the MTS appears to be an effective model for bringing diverse communities together to define and address their training needs.<sup>34</sup> Consideration should be given to using a similar model to increase training opportunities in other regions.

With the end of the federal government’s Aboriginal Skills and Employment Partnership (ASEP) in 2012, funding of training initiatives remains a concern. The territories are pinning their hopes on the proposed Pan-Territorial Northern Mineral Workforce Development Strategy, which is seeking \$200 million over five years, comprising \$100 million from the

federal government, \$70 million from industry, \$20 million from the three territorial governments, \$10 million from Aboriginal governments. Delivering training programs takes significant financial, human and capital resources; however, the return on investment through increased employment in the communities far exceeds training program costs.

One reason for the success of the MTS has been that it is demand-driven: enrollment in its training programs is geared to the labour needs identified by industry. More generally, there is a need for training that would help workers adapt to the wage economy and the particular demands of the mining work environment. These may include programs such as basic money management, dealing with the effects of rotational scheduling, single parenting, and so on. Adult Educators should also be re-introduced at the mine-sites as a way for employees to increase their education levels in a safe and non-judgemental environment.

Finally, the Panel agrees with Aboriginal leaders and others who called for re-introduction of the Prospector Training Program as a means to engage youth in the mineral industry. This could be in parallel with the Geoscience Field Assistants program being implemented by Aurora College.

### **Recommendations**

***Industry, public and Aboriginal governments must continue to press the federal government to fund the Pan-Territorial Northern Mineral Workforce Development Strategy and, of course, follow through on their own commitments to the plan.***

***Training opportunities should be made more available across the NWT by increasing the participation of Aboriginal governments in the Mine Training Society.***

***The GNWT should re-introduce the Prospector Training Program.*** This could be delivered by Aurora College.

***The GNWT and industry should work toward developing common training and skills standards between operating mines in the NWT so that workers could move more easily between mines.***

## **5.4 Increasing Public Awareness**

### **Background**

Public opinion surveys have shown that Canadians are generally aware of the importance of mining to the economy. Most are supportive of the industry, only a small minority being inexorably opposed to mining. Environmental impact and safety are often identified as the principal areas of concern. Interestingly, the general public does not seem to be very aware of career opportunities in mining. For example, in a recent poll in Saskatchewan, 60

percent of respondents could not name or describe a mining job, and only 22 percent had ever considered a career in the industry.

### ***What the Panel Heard***

Industry representatives spoke to the need to make the public more aware not only of the importance of mining in the economy, but also about the benefits that it brings to individuals and to communities. They need to know about the environmental practices of modern mining and that it is now among the safest industrial sectors.

The industry also believes that the public tend not to distinguish between exploration and development – particularly the differences in environmental impact, the level of risk, and the “depths of the pockets” of the firms involved.

The environmental legacies of the Giant, Colomac, and Port Radium Mines loom large in public consciousness, especially of those not involved in the industry.

Aboriginal leaders observed that many people in their communities do not have a good understanding of the mining industry and that better awareness would help them participate in the engagement and environmental assessment processes.

### ***Analysis***

Northerners are probably more knowledgeable about the mining industry than the majority of their fellow citizens living in southern Canada. Nevertheless, it is apparent that the level of understanding is uneven and that perceptions are coloured to some extent by the negative legacy of bad practices in the past. The public also needs a better understanding of the different phases of the mining cycle, their inherent risk, and their environmental impact.

Knowledge leads to better decision-making. Increasing the public’s understanding of mining would be in the interests of all concerned: not only the industry but also public and Aboriginal governments, regulatory bodies, and civil society. There have been public awareness initiatives in the past, but the Panel believes that a more concerted and sustained effort would be appropriate. Ideally such a campaign would be a joint initiative of the GNWT, Aboriginal governments, and industry. It should be coordinated with the career opportunities awareness initiatives described under Education.

There are already a variety of mining awareness initiatives in Canada, both nationally and in specific provinces and territories. For example, the British Columbia legislature has declared April 24-26, 2013 as “Mining Week”, marked by events in communities across the province. The federal government has recently updated its *Exploration and Mining Guide for Aboriginal Communities*<sup>35</sup> that provides a thorough plain language overview of the

mining cycle. One of the most noteworthy national initiatives is Mining Matters, a charitable organization which estimates that its programs have reached almost a half-million teachers, students and members of the general public since its inception in 1994.<sup>36</sup> The point here is there is a considerable amount of experience and material upon which to build a new campaign.

It is unlikely that a “one-size fits all” approach to public awareness would be appropriate. A good first step would be to assess the gaps in public awareness across the NWT and to determine what approaches have worked well elsewhere.

### ***Recommendations***

***The GNWT together with industry and Aboriginal governments should develop a sustained public awareness campaign.*** Although the GNWT would not necessarily lead the campaign, it could start the process by convening a working group of the interested parties.

## **Conclusion**

Mineral exploration and development is the life-blood of the NWT economy. The mining industry is the largest private sector employer in the territory and accounts for 29 percent of GDP. It generates significant revenues for northern businesses, nearly half of which are Aboriginal-owned, and for governments in the form of taxes and royalties. However, the reserves of the four operating mines are declining and these face closure over the next 5 to 15 years. It is clear that more mineral deposits will have to be developed to ensure that northerners continue to benefit from a viable mining sector.

The Mineral Development Strategy is intended to support sustainable mineral development in the NWT and address priorities established by the 17<sup>th</sup> Legislative Assembly. The MDS is being developed by the GNWT in partnership with the NWT and Nunavut Chamber of Mines. As a first step, in January 2013, the GNWT released a Discussion Paper that outlined many of the issues that the Strategy must address. The government also appointed a three-person Panel of outside experts to animate the discussion. The Panel's task was to listen to the views of stakeholders and to make recommendations based on this input as well as its own extensive experience.

The Mineral Development Strategy stakeholder engagement process was launched January 28<sup>th</sup>, 2013 at the BC Mineral Exploration Round Up in Vancouver, BC, and concluded with a session with the Kwe Beh Working Group (Tlicho government) on April 2<sup>nd</sup>, 2013. Additional written input was also provided by individuals and public interest groups. All told, the panel heard from 126 individuals representing 65 different organizations.

The Panel was impressed by the degree to which the overwhelming majority of participants in the process supported development of the NWT's mineral resources. That being said, most stakeholders also emphasized the need to see a balanced approach to the economic, social and environmental outcomes of mining development. Participants in the process clearly expect the Mineral Development Strategy to identify initiatives and pathways for balanced mineral development that will protect the environment, respect Aboriginal cultures and lifestyles, and leave northerners with a lasting positive legacy and heritage.

The extensive and thoughtful input provided to the Panel pointed towards a number of critical conclusions that support the recommendations in this Report. Clearly, the principal deterrents to mineral investment derive from four broad issues:

- Uncertainty surrounding the regulatory regime;
- Gaps in infrastructure, especially power and roads;
- Restricted access to land for exploration and development, and
- Unsettled land claims.

Solutions to some of these deterrents to investment do not fall within the direct control of the GNWT. Notably, unfinished land claims and implementing the Regulatory Improvement Action Plan are largely the mandate of the federal government. The key to success in the roll-out of the MDS is for the GNWT to focus on where it has the authority and wherewithal to make a difference: the panel has recommended a number of such actions in this report.

In combination with other opportunities that GNWT can address more directly, such as creating strong marketing campaigns, improving client service and enhancing northern workforce development, it should be possible to increase investor confidence in the NWT.

In spite of some successful training initiatives by industry and government, the Panel quickly concluded that workforce availability remains a major impediment to NWT receiving maximum benefits from development. The fact that about 50 percent of the mining workforce reside outside of the NWT means significant lost revenue in terms of federal transfers under the Territorial Formula Financing Agreement, as well as reduced tax revenues and ongoing salary leakage to other jurisdictions.

There is great optimism in some quarters, perhaps unrealistically so, about the timeframe for several advanced mineral projects coming into production in the NWT. However, the Panel was struck by the urgent need to jumpstart the virtually dormant grassroots exploration sector in the NWT. The Panel believes that the low level of grassroots exploration activity is a serious threat to the future prosperity of the NWT.

The Panel also believes that devolution presents a timely opportunity for the GNWT to make a number of immediate improvements to the management and marketing of the NWT's mineral resources and, in so doing, to re-brand the NWT as an excellent place to do business. As the responsible resource manager following devolution, the GNWT will also be in a much stronger position to forge strategic partnerships with Aboriginal governments to collaboratively manage and market the mineral resources of the NWT.

Based on its assessment of stakeholder input and its own experience, the Panel is making 38 recommendations that it feels will promote balanced, sustainable mineral development in the NWT. These are organized under the five following five pillars or areas of action that could ultimately define the core of the MDS:

**1) Creating a Competitive Edge:** Key themes include enhanced public geoscience, incentives to promote exploration, aggressive marketing of the potential of the NWT as a place to explore and investment, and investments in infrastructure.

**2) Creating a New Regulatory Environment for the NWT:** Although the foundational elements of the regulatory regime are largely a federal responsibility, there are a number of steps that the GNWT can take to improve client service and to increase certainty.

**3) Aboriginal Engagement and Community Capacity Building:** The development of engagement roadmaps and enhanced community capacity would contribute to more effective engagement and timely permitting and environmental assessment processes.

**4) Sustainability:** Key recommendations include accelerated land use planning, review of the Protected Areas Strategy, implementation of a legally-enforceable progressive reclamation policy, increasing opportunities for NWT businesses, and establishment of a Heritage Fund to ensure a lasting legacy.

**5) Workforce Development and Public Awareness:** Priorities include securing ongoing funding for established training programs, doubling-down on efforts to increase high school graduation rates, increasing awareness of career opportunities in mining, and improving public understanding of the modern mining industry.

The Panel feels strongly that by working together, communities, governments and the mining sector can succeed through shared values and common principles to ensure sustainable and long-term benefits for all residents of the NWT.

## Appendix A: Summary of Recommendations

### ***Creating a Competitive Edge***

1. The GNWT should position the NTGO as the principal source of public geoscience knowledge about the economy, land and resources of the Northwest Territories. With respect to mineral development, this will require, at a minimum, sufficient core funding for (a) a robust geoscience mapping program, (b) a state-of-the-art system to disseminate information over the Internet, and (c) adequate support for mineral rights administration.
2. The GNWT should engage Aboriginal governments to determine whether NTGO can play a role in providing geoscience knowledge pertaining to their private lands. Any such work would be contingent on the understanding that the results would become public.
3. The GNWT should institute a Mining Incentive Program (MIP) comprising a revamped prospector's assistance grant scheme and mineral exploration tax credits. The MIP could be modelled on successful programs in other jurisdiction, but funding levels should take into account the intrinsically higher costs of doing exploration in the NWT. The costs associated with Aboriginal and community consultation should be considered as eligible exploration expenses for the purposes of the MIP as well as for work requirements for assessment purposes.
4. The GNWT should seize the opportunity afforded by devolution to begin a campaign to make it known that the investment climate in NWT is improving and the NWT will be "open for business". The campaign would be multi-faceted and include annual trade missions to key capital market centres, an outreach newsletter campaign from the Minister's office, and organization Fam/Orientation tours. There are several marketing opportunities during the year leading up to devolution taking effect on April 1, 2014. These include the Mines Ministers Conference to be held in Yellowknife in August 2013, the Yellowknife Geoscience Forum in November 2013, the Exploration Round-up in January 2014, and culminating with PDAC in March.
5. The GNWT should work with the mining industry, business associations, and Aboriginal governments to develop a marketing and investment promotion plan. This strategic partnership could be formalized with the creation of a "NWT Mining Alliance", under the leadership of the Minister of EMPR. This partnership would spread the workload and develop towards consistent messaging, branding the NWT as a good place to do business.
6. Government must develop a clear vision for the future of energy development in the NWT; concluding the NWT 2013 Energy Plan will be a critical component of this process.

7. The GNWT, in partnership with industry and Aboriginal governments, should develop a focused business case to solicit federal government funding support for infrastructure development in NWT that will realize a return on the investment.
8. Government needs to fast track the assessment of Liquefied Natural Gas (LNG) potential in the NWT as part of its energy development plan.
9. Responsibility for all energy policy and programs should be centralized in the new Department of Energy, Mines and Petroleum Resources.
10. The GNWT should undertake a resource access corridor study that will help to coordinate planning, assist with the overall prioritization of investment decisions, and mitigate environmental effects of resource development projects. The study should proceed on a regional basis so that areas which are most likely to host mining development in the short term are dealt with first.

### ***Creating a New Regulatory Environment for the NWT***

11. The GNWT should to work with the federal and Aboriginal government where possible to support the expeditious conclusion of land claims.
12. The GNWT needs to support the timely completion and lead the effective implementation of Canada's Regulatory Reform Action Plan.
13. The GNWT should capitalize on the opportunities provided by devolution by providing a comprehensive Pathfinder Support Service to help industry to navigate the regulatory and consultation process. This client service will focus on providing clear and concise regulatory and consultation pathway documents for industry to follow. The efforts of emerging Aboriginal engagement groups such as the Kwe Beh Working Group will be supported by this initiative.
14. The GNWT should establish an Industry Advisory Board, comprising representatives of junior and major mining companies, Aboriginal businesses, prospectors, and the Chamber of Mines, to provide policy and strategic advice to the Minister, EMPR.
15. To complement the Pathfinder Support Service, the GNWT should initiate a "one-window" service model to provide clients with one-stop access to information and services that expedites decision making related to mining projects.
16. The GNWT should assess opportunities to advance computer map staking following devolution.
17. In the two to three year immediate transition period following devolution, the GNWT should focus its attention and resources on administrative and organizational improvements that can be put into play without introducing legislative amendments. After this critical

transition period, the GNWT should be experienced and well positioned to initiate the development of a new leading edge Mineral Resource Act.

### ***Aboriginal Engagement and Capacity Building***

18. Aboriginal governments should develop Engagement Roadmaps that clearly establish their expectations for engagement and the process by which it should occur. Although this work would be led by Aboriginal governments, the GNWT could play an important supporting role in providing financial and technical resources, and facilitating inter-governmental communication.

19. Aboriginal governments should consider establishing an NWT Aboriginal Mining Council. Such a group would promote consensus and allow Aboriginal people to speak with a stronger voice on important exploration and mining issues.

20. Aboriginal communities should assess their capacity to deal with the engagement and environmental review requirements associated with mineral development. The GNWT, in collaboration with CanNor, should assist in the development of community capacity-building plans, by providing technical and financial support.

### ***Sustainability***

21. Given the importance attached to the completion of Land Use Plans, the GNWT should take advantage of its increased responsibilities following devolution to expedite the planning process. This could include planning for those areas where it has jurisdiction (e.g., on Crown lands in the Tlicho settlement area) and providing technical or financial support to Aboriginal governments to advance their own planning initiatives.

22. The GNWT should review the Protected Areas Strategy with a view to defining the ultimate extent of the network. The open-ended character of the current process leads to significant uncertainty.

23. As a priority, the GNWT should ensure that a legally-enforceable progressive mine reclamation and security policy, with associated regulations, is in place at or soon after the devolution effective date.

24. Following devolution, the GNWT must ensure inspections and monitoring of mineral development and mine operations are undertaken in a timely and fully transparent manner.

25. The GNWT should continue to improve the Socio-economic Agreement process, one of the most useful instruments to enhance the benefits that residents receive from mineral development. In order to increase accountability and also increase awareness of the positive benefits of mining, the GNWT should make both company and GNWT annual SEA reports available on a single website.

26. The GNWT should implement an integrated annual awards program that emphasizes recognition for industry environmental and sustainability best practices, including an award recognizing an individual or a corporation's contributions to the economic and social development of a community or region in NWT.

27. The GNWT should establish a Northern Minerals Business Office within EMPR to help local businesses develop opportunities and expand their horizons. This office could create an inventory of industry needs and of northern businesses that can meet them. It could also encourage established mining industry service firms to establish a presence in the NWT, and facilitate an enhanced NWT business presence at important mining industry trade shows. The office could also serve as the focal point of efforts on the part of civil society (Chamber of Mines, Chambers of Commerce, CDETNO, etc.), as well as municipal and Aboriginal governments to attract and promote local businesses.

28. The GNWT should continue to develop the concept of a Heritage Fund with a view to having it in place by the time that royalties begin to accrue as a result of devolution.

### ***Workforce Development and Public Awareness***

29. The GNWT should take the lead role to identify the current and future minerals labour force needs and the available northern workforce in all NWT communities. This could build on the 2011 labour market assessment undertaken by the Regional Training Partnership in the South Slave, North Slave and Dehcho regions.

30. Mining companies should expand their recruitment efforts to other NWT communities should their needs not be met from those specified in their IBAs and SEAs.

31. The GNWT should continue its efforts to increase participation and graduation rates in secondary schools, particularly in Aboriginal communities.

32. The GNWT Department of Education, Culture and Employment should ensure that Earth Science and Geology are well represented in its academic curriculum.

33. Governments and industry should collaborate to ensure that students are aware of career opportunities in mineral exploration and mining.

34. Industry, public and Aboriginal governments must continue to press the federal government to fund the Pan-Territorial Northern Mineral Workforce Development Strategy and, of course, follow through on their own commitments to the plan.

35. Training opportunities should be made more available across the NWT by increasing the participation of Aboriginal governments in the Mine Training Society.

36. The GNWT should re-introduce the Prospector Training Program. This could be delivered by Aurora College.

37. The GNWT and industry should work toward developing common training and skills standards between operating mines in the NWT so that workers could move more easily between mines.

38. The GNWT together with industry and Aboriginal governments should develop a sustained public awareness campaign. Although the GNWT would not necessarily lead the campaign, it could start the process by convening a working group of the interested parties.

## Appendix B: Participating Stakeholders

### **Mining, Exploration and Service Industries**

Glen Koropchuk, Chief Operating Officer, De Beers Canada Inc.

Cathie Bolstad, Director, External and Corporate Affairs, De Beers Canada Inc. and  
President, NWT and Nunavut Chamber of Commerce

Robert Gannicott, Chief Executive Officer, Harry Winston Diamond Corporation

Brendan Bell, Representative, Harry Winston Diamond Corporation

Richard Morland, Head of Health, Safety, Environment and Communities, BHP Billiton  
Canada Ltd.

Rick Schryer, Director of Regulatory and Environmental Affairs

Kelly Cumming, Northern Relations Manager, Avalon Rare Metals

Seth Bohnet, Senior Advisor, Communities and External Relations, Rio Tinto/Diavik  
Diamond Mines Inc.

Stephanie Autut, Manager, Environmental Affairs, Seabridge Gold Inc.

Gary Vivian, President, Aurora Geosciences

Grant Pearson, Vice President, Business Development, Nuna Logistics

Paul McRae, Senior Mining Advisor, Nuna Logistics

Michael Kenny, General Manager, Matrix Aviation and Helicopters

Wilbert Antoine, Manager Northern Development, Canadian Zinc Corporation

Jack Rowe, President, Rowe's Construction

Kathy McBryan, Buffalo Airlines

Sally Eyre, Copper North

Brooke Clements, President, Peregrine Diamonds Ltd.

Darcy Hirsekorn, Cameco Corporation

Dave Webb, New Discovery Mines

John Key, Chief Executive Officer, Tamerlane

Ross Burns, Tamerlane

Brent Jones, Tamerlane

Leni Keough, Olivut Resources

Wilf Lloyd, Selwyn Resources

Mark Robillard, Mining Division Manager, Kingland Ford

Mike Vaydick, Prospectors' Representative

Lou Covello, Prospectors' Representative

Dave Nickerson, Prospectors' Representative

Dave Smith, Prospectors' Representative

Robert Carroll, Prospectors' Representative

Stephen Leahy, North American Tungsten

### **Aboriginal Governments/Organizations**

Nellie Cournoyea, Chair, Inuvialuit Regional Corporation  
Lucy Kuptana, Director of Operations, Inuvialuit Regional Corporation  
Laura Worsley-Brown, Director of Corporate Relations, Inuvialuit Regional Corporation  
Ethel Blondin-Andrew, President, Sahtu Secretariat Inc.  
Leon Andrew, Tulita Land Corporation  
Herb Norwegian, Grand Chief, Dehcho First Nations  
Alan Bouvier, Liidlii Kue First Nation  
Steven Jose, Chief, Liidlii Kue First Nation  
Jim Antoine, Councillor, Liidlii Kue First Nation  
Roy Fabian, Chief, K'atl'odeeche First Nation  
Ken Norn, Chief Executive Officer, K'atl'odeeche First Nation  
Victoria St. Jean, Resource Manager, K'atl'odeeche First Nation  
Wally Schumann, Hay River President, NWT Metis Nation  
Edward Sangris, Chief, Yellowknives Dene First Nation  
Roy Erasmus Sr., Acting Chief, Yellowknives Dene First Nation  
Shannon Gault, Director, Lands and Environment, Yellowknives Dene First Nation  
Stephanie Poole, Counsellor, Lutsel K'e Dene First Nation  
Alfonz Nitsiza, Chief, Kwe Beh Working Group, Tlicho Government  
Charlie Football, Chief, Kwe Beh Working Group, Tlicho Government  
William Mantla, Member, Kwe Beh Working Group, Tlicho Government  
John B. Zoe, Member, Kwe Beh Working Group, Tlicho Government  
Noel Bishop, Member, Kwe Beh Working Group, Tlicho Government  
Henry Zoe, Member, Kwe Beh Working Group, Tlicho Government  
Marjorie Matheson-Maund, Member, Kwe Beh Working Group, Tlicho Government  
Ginger Gibson, Advisor, Kwe Beh Working Group, Tlicho Government

### **Development Corporations**

Dennis Romanson, Chief Operating Officer, Tlicho Investment Corporation  
Roy Erasmus Jr., Chief Executive Officer, Det'on Cho Corporation  
Rick Miller, Chief Operating Officer, Det'on Cho Corporation  
Wayne Gordon, Chair, Inuvialuit Development Corporation  
Denny Rogers, General Manager, Inuvialuit Development Corporation

### **Municipalities**

Mark Heyck, Mayor, City of Yellowknife  
Dennis Kefalas, Acting City Administrator, City of Yellowknife  
Nalini Naidoo, Director, Communication and Economic Development, City of Yellowknife  
Jeff Humble, Director, Planning and Development, City of Yellowknife  
Sean Whelly, Mayor, Village of Fort Simpson  
Sebastian Goyer, Senior Administrative Officer, Village of Fort Simpson  
Andrew Cassidy, Mayor, Town of Hay River

Brad Brake, Mayor, Town of Fort Smith  
Brad Heath, NWT Association of Communities

### **Regulatory/Land and Water Boards**

Zabey Nevitt, Executive Director, Mackenzie Valley Land and Water Board  
Mark Cliffe-Phillips, Executive Director, ***Wek'eezhii Land and Water Board***  
Mike Harlow, NWT Water Board  
Darrel Christie, Environmental Impact Screening Board  
Eli Nasogaluak, Environmental Impact Review Board  
Larry Wallace, President, Sahtu Land and Water Board  
Vern Christensen, Executive Director, Mackenzie Valley Environmental Impact Review Board

### **Chambers of Commerce**

Kathy Gray, Vice President, NWT Chamber of Commerce  
Mike Bradshaw, Executive Director, NWT Chamber of Commerce  
Leslie Valpy, Executive Director, Yellowknife Chamber of Commerce  
Bright Lubansa, Vice-President, Inuvik Chamber of Commerce  
Chris Buist, President, Norman Wells Chamber of Commerce

### **Education/Training Organizations**

Hilary Jones, Executive Director, Mine Training Society  
Doug Robertson, Director, Aurora College (Inuvik Campus)  
Joel McAlister, Instructor, Aurora College (Inuvik Campus)

### **Non-Government Organizations**

Nancy Vail, Alternatives North  
Tasha Stephenson, Alternatives North  
Deie McLaughlin, Alternatives North  
Lora Mountain, Ducks Unlimited  
Jason Charwood, Ducks Unlimited  
Kris Brekke, Canadian Parks and Wilderness Society - NWT  
Anne-Christine, Executive Director, CDETNO  
Bob Doherty, President, NWT Construction Association  
Justin Hazenberg, Member, NWT Construction Association  
Michelle Guy, Member, NWT Construction Association  
Dan O'neil, Member, NWT Construction Association  
Phil Moon Sun, Executive Director, NWT Construction Association

### **Standing Committee on Economic Development and Infrastructure**

Robert Hawkins, Chair, Standing Committee on EDI  
Robert Bouchard, Member, Standing Committee on EDI

Norman Yakeleya, Alternate Member, Standing Committee on EDI  
Michael Nadli, Member, Standing Committee on EDI  
Robert Bromley, Member, Standing Committee on EDI  
Kevin Menicoche, Member, Standing Committee on EDI  
Fredrick Blake Jr., Deputy Chair, Standing Committee on EDI

**Other MLA participation**

Daryl Dolynny, MLA Range Lake  
Alfred Moses, MLA, Inuvik Boot Lake

**Government Representatives**

Tom Williams, Deputy Minister, MACA, GNWT  
David Stewart, President, NWT Housing Corporation  
Dana Heide, Associate Deputy Minister, ECE  
Daniel Auger, Assistant Deputy Minister, Transportation, GNWT  
Kelly Kaylo, Assistant Deputy Minister, ITI, GNWT  
David Nightingale, Director Energy Planning, ITI, GNWT  
Shannon Haszard, Strategic Planning Analyst, Executive, GNWT  
Catherine Boyd, Strategic Planning Analyst, Executive, GNWT  
Shaleen Woodward, Executive Director – Devolution, Executive, GNWT  
Andrew Stewart, Manager, NT Energy  
Mitch Bloom, Vice President, CanNor, Government of Canada  
Malcolm Robb, A/Director, Contaminants and Remediation Directorate, AANDC,  
Government of Canada

**Written Submissions**

Peter H. Thompson, Ph.D., P.Geol, Peter H. Thompson Geological Consulting Ltd.  
Alan Young, Executive Director, Canadian Boreal Initiative  
Alternatives North  
Lane Dewar, Prospector  
David Blades, Director, Silver Bear Mines Inc.

## Appendix C: Biographical Notes

### **Panel Members**

#### **Angus Robertson (Chair)**

Angus Robertson served as the Deputy Minister of Energy, Mines and Resources for the Yukon Government, and President of the Yukon Development Corporation, from 2002 until his retirement in 2012. From 1997 to 2000, he held a variety of senior positions with the Yukon Government, including Chief Devolution Negotiator and Chief Land Claims Negotiator. From 2000 to 2002, Mr. Robertson served as Deputy Minister of Economic Development. Between 1992 and 1997, Mr. Robertson worked for the Government of British Columbia, first with the Ministry of Forests and later as the Assistant Deputy Minister of Treaty Negotiations, Ministry of Aboriginal Affairs. From 1980 to 1992, Mr. Robertson held several positions with the Federal Government in Yukon, Ottawa and NWT, including serving as the Regional Director, Renewable Resources and the Environment, NWT Region, Indian and Northern Affairs Canada, from 1989 to 1992. Mr. Robertson holds a B.A. and M.A. from the University of British Columbia.

#### **Murray Duke**

Murray Duke's involvement in mineral development began 47 years ago with seasonal employment with the New Jersey Zinc Exploration Company. After university, he joined the Geological Survey of Canada as an economic geologist, specializing in nickel, platinum, and chromium deposits. He was appointed Director of Mineral Resources in 1988 and then Director-General of Minerals and Regional Geoscience in 1995. During his GSC career, he also served on the Editorial Board of the journal *Economic Geology*, and President of the Mineralogical Association of Canada, which awarded him its Leonard G. Berry Medal in 1996. Since retirement from the GSC in 2006, Dr. Duke has consulted on issues of geoscience management and public policy related to mineral exploration and development.

#### **Rod Brown**

Born and raised in Yellowknife, Rod Brown graduated from the University of Alberta with a B. Sc. in Geology and has been involved in the northern mining services sector for over 20 years. Mr. Brown was a founding member and former co-owner of Discovery Mining Services, which grew from a single employee operation to a Northern exploration support provider with a total workforce of over 50 personnel. Since the sale of the Discovery Mining Services to Discovery Air Ltd., Mr. Brown has remained as a senior officer with the company. He has worked across the north and throughout Canada providing on-site

planning, logistical and support services. Through his extensive experience, Mr. Brown has gained an in-depth understanding of the northern mineral development and mining industry and brings vital, practical knowledge and experience to the Panel. Mr. Brown also has extensive experience working with Aboriginal organizations, industry and other key stakeholders and has first-hand knowledge of the opportunities and challenges of mineral development in the north.

### ***NorthWays Consulting***

Facilitation and Consultation Services for the Panel were provided by NorthWays Consulting of Yellowknife. Allan Twissell, Principal and Lead Consultant, established NorthWays Consulting in 1996. Since that time the company has completed over 100 projects providing advice and consultative services in a wide range of areas including strategic planning; human resources and training and development; social program development; and program evaluation. NorthWays Consulting has worked closely with a diverse range of organizations including the mining industry; Aboriginal, Community, Federal and Territorial governments; civil society organizations; and boards and agencies including education councils and health and social services authorities. NorthWays Consulting is strongly committed to improving the lives of northern individuals, families and communities.

## Appendix D: References and Notes

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