Nááts'ihch'oh Park Proposal

Mineral Industry Submission and Recommended Boundary

Prepared by the:

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April 30, 2010

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Summary:

The NWT & Nunavut Chamber of Mines (the Chamber) strongly supports the development of Park boundaries based on the exclusion of resource-rich areas with significant mineral potential so that northerners and all Canadians can take full advantage of future economic opportunities.

The proposed Nááts'ihch'oh Park is located in the Mackenzie Mountains Cordillera, a region with very high mineral resource potential. Of the boundary options proposed by Parks Canada, the Chamber would support a variation on Boundary Option Three, as it ensures that future generations of northerners can benefit from the potential development of those areas of high mineral potential.

The Chamber also suggests incorporating a road corridor, outside the Park boundary, so that access can be provided to the Cordilleran area from the NWT to ensure that the Sahtu First Nations and the remainder of the NWT can participate in and benefit from any future mineral developments.

The Chamber of Mines is concerned with the extent of existing and proposed land conservation in the Northwest Territories, especially in the Cordilleran areas of the Dehcho and Sahtu where some of the highest economic mineral potential rests. The Chamber advocates responsible and cooperative land use planning and does not oppose well thought out Park establishment or expansion or protected areas. However, conservation is only one aspect of land use planning and exploration and development of known or potential mineral resources in an area such as Nááts'ihch'oh should be facilitated to ensure the economic benefits to current and future generations.

Background:

Parks Canada is proposing a second expansion to Nahanni National Reserve Park, within the Sahtu Settlement area, known as Nááts'ihch'oh. The land withdrawal for this proposed new park is about 6,500km². If established, the Nááts'ihch'oh Park would expand the protection of the South Nahanni River watershed further to expansion of the original Nahanni National Park in June 2009.

Parks Canada entered into a round of public consultations on the Nááts'ihch'oh in early 2010, including a meeting with the NWT & Nunavut Chamber of Mines and other industry representatives in Yellowknife, on March 22, 2010.

The mining industry in the Northwest Territories and the Yukon is a major contributor to the economy of the North. The total contribution to the economy of the North is estimated at ~$1 billion/year including mineral exploration, development, and production operations. In 2008, the mineral industry contributed $1 billion to the GDP of the NWT (45%), while it contributed $70 million to the GDP of the Yukon (5%). The minerals industry is estimated to provide roughly 5,000 jobs in the Territories, many of which are held by northerners.

The NWT economy is highly dependent on resource exploration and development. In 1998, mineral exploration in the NWT (then including Nunavut) was estimated at ~ $257 million, (in 2008 constant dollars) accounting for 23% of the national total. In 2009 mineral exploration investment in the NWT had fallen $29 million, or 1.7% of the national total. The ability of the mineral industry to attract investment, and the willingness of the mineral companies to invest in the Northwest Territories, is dependent on an efficient and timely regulatory process including open land access to areas of mineral potential.

Mineral Resource Assessment:

In 2007 the Geological Survey of Canada completed a Mineral and Energy Resource Assessment ("MERA") of the Greater Nahanni Ecosystem. The MERA process was established to ensure that an inventory of the non-renewable natural resource potential of areas in the Yukon and Northwest Territories be compiled prior to their formal establishment as new national parks and to ensure that the economic and strategic significance of mineral and energy resource potential is duly considered in the national park establishment process. The MERA Assessment covers a large area, over 39,000 km^2 of the South Nahanni River watershed, also referred to as the Greater Nahanni Ecosystem. The land known as Nááts'ihch'oh is situated in the northwest end of the MERA 2 study area within the Sahtu Settlement area and comprises about 6,500km^2.

The Mineral and Energy Resource Assessment has been thoroughly and competently done by personnel of the GSC. The MERA study documents many areas of high and moderately-high mineral potential within the proposed Nááts'ihch'oh park area. Based on the work by the GSC there are clearly a number of areas with significant potential for discovery of mineral deposits in the Nááts'ihch'oh area. Very high potential exists for SEDEX[1], carbonate-fault related, intrusion, and disseminated gold. Several mineral deposits have been identified within the area, including the Lened, Mactung and Howard's Pass deposits. Howard's Pass, in particular, is a large lead/zinc SEDEX-type deposit, or series of deposits, with known strike trajectories into the geological strata of the proposed Nááts'ihch'oh park area.

A brief review of the MERA study is attached to this submission as **Appendix "B"**.

The Chamber includes in this submission a revised map with suggested Park boundaries that exclude the areas of high and moderately high potential as mentioned above. The Chamber suggests that all these areas with identified high mineral potential be excluded from any new park expansion until they have been evaluated by on-site exploration efforts. Once on-site evaluations have been completed by interested parties, or any

[1] Sedimentary-exhalative, stratiform shales, typically hosting lead/zinc/silver mineralization

potential mines reaching the end of their mine life are closed, these areas could eventually be released to Parks Canada for inclusion into future parks expansions.

Based on the MERA results for the proposed Nááts'ihch'oh Park area, there remains significant economic potential within the area. With appropriate investment through mineral exploration, there could be several new lead/zinc or tungsten mines similar to the Prairie Creek, Howard's Pass, and Mactung deposits developed in the years ahead. This will not be possible if the high-potential areas are removed from exploration or isolated by the establishment of the Park.

It is recognized that the mineral-rich resource area of Nááts'ihch'oh is located at the divide of the NWT and Yukon. Access exists from the Yukon side where infrastructure has been developed. For these reasons, and because of regulatory complexity (protected areas strategy contributing), the proposed Howard's Pass and Mactung mines will have a larger impact on the economy of the Yukon rather than the NWT. However, impact benefit agreements may be negotiated with the Sahtu Settlement Region of the NWT because of trans-boundary traditional rights. Thus, Sahtu communities may still accrue economic benefits to mineral development along the Yukon - NWT border.

The proposed Nááts'ihch'oh Park area could very well host a number of deposits of similar scale to Howard's Pass, and if developed, they would be economic power houses for the people of the NWT and Yukon. This economic potential would be forever lost with the creation of Nááts'ihch'oh Park if the areas with higher mineral potential are included within the Park.

There are areas of moderate mineral potential and one area with high mineral potential that would remain in the Park under Boundary Option #3, but the Chamber feels that the territory of high mineral potential excluded into the northern section of Nááts'ihch'oh Park and the belt of high potential along the strike of Howard's Pass under Option #3 is an acceptable compromise. (**see Appendix "C" Map 2**) However, the Chamber offers a cautionary note that there is always the possibility that new or unusual types of deposits have not been recognized and to remove any land with mineral potential from mineral exploration reduces potential economic opportunity.

Howard's Pass Road Access:

Selwyn Resources Ltd. plans to access its Howard's Pass lead/zinc deposit via a historical tote road which connects to the Cantung access road through the proposed Nááts'ihch'oh Park. The Chamber understands that in the event that the road corridor becomes incorporated into the Nááts'ihch'oh Park, agreements will be negotiated between Selwyn and Parks Canada to allow re-construction of this road to all-weather access.

The Chamber appreciates that Parks Canada has recognized the importance of this transportation corridor, which may also double its value as infrastructure for Park use. However, the Chamber is concerned that in the future, if additional mineral deposits are advanced towards a mining scenario (eg: Lened), and for whatever reason road access provisions are not flexible, access may be cut off or made difficult, potentially negating any benefits from such development.

The Chamber would also recommend clarification on whether any transportation corridor would be a private road for mine access to Howard's Pass and Park use only, (which we understand is the case on the proposed Prairie Creek Mine access road within the Nahanni Park). The ability for other mineral exploration interests in the area to use the Howard's Pass transportation corridor is an important consideration, assuming that the areas of high mineral potential are excluded from the Park while portions of the road may be within the Park.

Nááts'ihch'oh and the Protected Area Strategy:

The Chamber recognizes that Nááts'ihch'oh proposed Park is a standalone protected area within the Sahtu, however in concert with other initiatives it would contribute to cutting off the NWT and all communities along the Mackenzie River from the areas of high mineral potential all along the Yukon-NWT border. Under the current Protected Area Strategy plan, Nááts'ihch'oh and a CWS initiative known as Shúhtagot'ine Néné (Tulita Mountains) will completely buffer a 50 to 150 km corridor between the Sahtu and Yukon from development. This buffer would also preclude infrastructure development, such as

roads and hydro. The Canol road, the only proven infrastructure corridor through the Mackenzie Mountains, has already been reserved as a future protected area. Sahtu communities risk being completely shut out from development opportunities in those high mineral potential areas with the creation of these combined protected areas. When taken in their totality, the proposed areas slated for protection will close off access to the Yukon from the Sahtu region. (**see Appendix "C" Map 3**)

As an example, with the development of the Mactung tungsten mine and a rehabilitated Canol road, tungsten concentrates could theoretically be trucked down to the Mackenzie River for shipping. In addition, if the Howard's Pass deposit can be accessed from the NWT through the Sahtu by connecting it to the Canol Road corridor, there would be substantial economic benefits accrued to the NWT. Although the feasibility of both projects may require access through established infrastructure routes from the Yukon, there is a long-term risk of NWT isolation from important economic developments in the mineral districts in the high Mackenzie Mountains.

Nááts'ihch'oh Boundary Options:

The Chamber supports a boundary option for the proposed Nááts'ihch'oh Park that excludes high mineral potential areas, while simultaneously guaranteeing road access and providing for future infrastructure corridors.

Parks Canada's proposed 'Boundary Option #3' excludes the majority of mineral potential and the Chamber is generally in support of a variation of Option 3. However, all three boundary options cut off NWT access to Howard's Pass and the belt of favorable geology extending there from. In order to allow for the possibility of future infrastructure needs in the proposed Nááts'ihch'oh Park, including access to the Howard's Pass area from the Sahtu, the Chamber proposes a corridor through the Park for potential road access eventually connecting to the Canol Road. This road corridor would be a long-term, visionary project, with benefits to both development and future Park infrastructure.

The Chamber would consider supporting a park boundary that does not preclude access from the east (Sahtu) to the rich mineral potential near the NWT/Yukon border, taking into account the other areas slated for protection under the Protected Areas Strategy.

See **Appendix "C" Map 1** for a map that shows the Chamber of Mines recommended boundary for Nááts'ihch'oh Park taking into consideration the need for an infrastructure corridor through the Park. **Appendix "C" Map 2** shows the same recommended boundary overlaying the overall mineral potential,

Socio-Economic Impacts:

The Chamber of Mines believes that a rigorous **socio-economic impact assessment** would better demonstrate to communities, Government and the Canadian public the economic opportunities potentially lost with the creation of the Nááts'ihch'oh Park. The Chamber is concerned that the necessary useful information has not been adequately disseminated in ways the public can understand and appreciate the economic consequences of establishing the Nááts'ihch'oh Park.

In 2007, Parks Canada published a summary of the economic benefits of mineral development in the Nahanni Watershed. In its October 2007 presentation, Parks Canada provided the following hypothetical situations: [2]

Scenario 1:

- 3 mines (2 zinc, 1 tungsten) and some gas development
- direct GDP impact over 25 years: $980 million [3] to the NWT and $2.3 billion for all of Canada, and about 300 full-time jobs

Scenario 2:

- 5 mines (3 zinc, 2 tungsten) and greater gas development
- direct GDP impact over 25 years: $1.6 billion to the NWT and $5.8 billion across Canada and 550 full-time jobs.

[2] Source: Expansion of Nahanni National Park Reserve. Boundary Options for Public Consultation, October 2007. Parks Canada. Powerpoint presentation.
[3] 2007 dollars

These scenarios were compared to the economic impact of a Park in the scenario that 100% of the watershed was protected, with no mineral development:

Period 2006 to 2016:

- Forecast additional new spending is estimated at $10 million over 10 years
- Forecast additional new spending by visitors to Nahanni at $1.5 million over 10 years
- Economic impact on the NWT economy from park and visitor spending is estimated to be $7.9 million in value-added and $6.5 million in labour income over ten years.

This summary, published by Parks Canada, although based largely on hypothesis, clearly demonstrates that mineral development has a much higher economic potential impact than Park establishment, far outweighing the economic benefits of a Park on the local economy.

The detailed Parks Canada's socio-economic information or study, was not made public. The Chamber, as part of its response to the original Nahanni Park Expansion proposal in early 2008, expressed concern that Parks Canada did not publish the detailed Socio-Economic Impact Assessment Study comparing the economic potential of a Park versus leaving the area open to mineral development.

The Chamber submits that the assessment of known mineral potential, and the benefits that would come from this mineral potential, were underestimated in the Parks Canada economic benefits summary. We also believe that job creation impacts from those three or five hypothetical mineral development projects is also understated.

The economic negative effects the Park expansion may have on these northern businesses is not known because no Socio-Economic Impact Assessment has been completed. In short, **the present and future socio-economic impact of park expansion is not known**.

The Chamber recommends that a proper Socio-Economic Impact Assessment of the Park expansion must be conducted. This study should consider the MERA information and include input from potentially impacted businesses, communities, and local governments. This Socio-Economic Impact Assessment must be shared with the local communities and the general public in an open and transparent public consultation process. The creation, release, and analysis of such a document would ensure that all stakeholders can make an informed decision regarding park expansion. The results of the Socio-Economic Impact Assessment and the responses of the public must be taken into account by the Government of Canada before a final decision is made on the boundaries of Nááts'ihch'oh Park.

The GNWT and Sahtu community leaders should look ahead to long-term economic opportunities in the Mackenzie Mountains. The economic impact of the 2009 Nahanni expansion has been shown to be small, and positively affecting only a small number of businesses and workers in the Dehcho communities. For most northern residents, Park economic opportunities will not provide significant personal economic advancement. The most recent data from Nahanni National Park indicates visitations are down, which does not bode well for the future economic impacts. Without the proceeds from economic growth, progress in social objectives will be slow if at all. Mineral development should be encouraged and facilitated if communities are to build a future generation with better economic and social opportunities. The creation of the proposed Nááts'ihch'oh Park would have a negative influence on the ability to capitalize on the benefits that come with the exploration, development, construction, and production of a mine in the areas with identified high mineral potential.

Attached to this submission is **Appendix "A"** summarizing other socio-economic models and a summary of the potential economic impacts of three known developments, which illustrate the significant economic benefits of mine development.

Conclusion:

The Chamber is concerned about the future of mineral resource development in the Northwest Territories. With the uncertainty surrounding the Mackenzie Valley Gas Project and the ultimate phasing out of the current diamond mines, northerners are looking for new opportunities. The metal mining sector could play a huge role in the future of the NWT's economy going forward in the next twenty years. Even with the small number of proposed projects, including Prairie Creek, Mactung, and Howard's Pass, it is important to continue mineral exploration so that in twenty years new mining projects are ready for a new generation of northerners.

Currently there are three major issues negatively impacting development of resources: a cumbersome regulatory process, lack of infrastructure (roads, power), and the drive for protected areas which reduces land access for exploration.

The Chamber recognizes that protection of Nááts'ihch'oh is important for the extension of Nahanni and as a National Park it will bolster Canada's record and reputation for land conservation. Industry hopes that a good balance between conservation and resource development can be met, but also urges communities and governments to recognize that land use planning and an evolving regulatory process exists to keep development in balance with conservation values, without the need for permanent protected areas, like National Parks. The Chamber does not disagree that there are parts of the Nááts'ihch'oh that should be part of a National Park. However, mineral exploration should be allowed and facilitated in those areas with high mineral, and an access corridor should be included.

In summary:

1. The Chamber would support a park boundary that does not include areas of high mineral potential and one that includes appropriate access and transportation corridors;

2. The Chamber would support a park boundary that does not block access from the NWT side to the rich mineral potential on lands near the Yukon - NWT boundary;

3. The Chamber cannot support the establishment of the proposed park without a properly researched and widely distributed Socio Economic Assessment Report; and,

4. The Chamber of Mines cannot support any of the three proposed boundary options. However, the Chamber offers an alternative for consideration, in **Appendix "C", Maps 1 and 2**.

Appendix "A" - Socio Economic Assessments of Mineral Development

Existing Socio-Economic Models – Edéhzhìe Protected Area:

The Protected Areas Strategy has developed guidelines for the analyzing socio-economic indicators as part of its conservation planning. In 2008, a socio-economic report for the Edéhzhìe Protected Area was published, containing hypothetical economic opportunities influenced by mineral development. The Chamber considers this to be a well-balanced approach to considering all economic realities, and would like to examine some of those results on the assumption that this information might also hypothetically apply to the Nááts'ihch'oh/Nahanni area. Extracts from this report are quoted below: [4]

		Exploration	Construction	Operations
Cost/Revenues (millions)		$50	$167	$40
Years		5	2	10-20
GDP (millions)	Total	$22-$40	$73	$26
	Annual	$4-$8	$37	
Labour Income (millions)	Total	$18-$35	$60	$14
	Annual	$4-$7	$30	
Direct and Indirect Employment (person-years)	Total	180-290	600	200
	Annual	36-58	300	

Figure 1. Impact of Developing a Zinc Mine in the Edehzhie Area on the Economy of the NWT

The above table shows that the economic effects of mine development are relatively small during the exploration phase, increasing substantially during construction and then remain high during operations. "During operations, annual costs of $40 million will create the equivalent of about 200 direct and indirect jobs. This means that, in addition to the 150 jobs directly at the mine (as per the Prairie Creek mine), another 50 person-years of employment will be created in those sectors of the NWT economy that will provide goods and services needed for mine operation. Impacts on total labour income will amount to $14 million, with territorial GDP increasing by $26 million per year." [5]

[4] Socio-Economic Assessment of Edehzhie Candidate Protected Area Volume 2: Socio Economic Assessment of Development Options. Prepared for INAC by Amec Ltd., May 2008. Available online: http://www.nwtpas.ca/areas/document-2008-edehzhie-socioeconomic2.pdf

[5] *ibid*

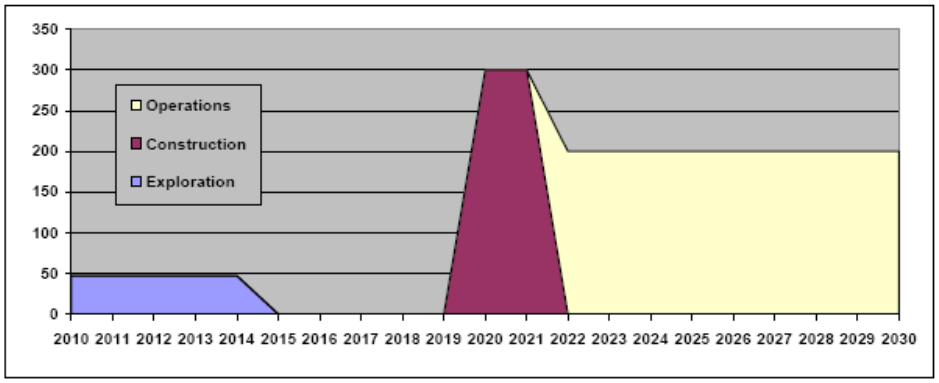


Figure 2. Direct and Indirect Employment Associated with a Zinc Mine in Edehzhie.

The Edéhzhìe socio-economic report also outlines local employment opportunities through mineral exploration, construction, and mine operations. The report suggests that opportunities may be limited because of specialized work, however, experience in the NWT to date shows that northern and aboriginal training in trades and specialized mining-related positions has been a success through corporate and government partnerships (eg: NWT Mine Training Society).

Existing Projects in Nahanni/Nááts'ihch'oh:

There are three existing mining projects in the Nahanni/Nááts'ihch'oh area which provide useful models to help in examining the potential socio-economic benefits of mineral development. These are Canadian Zinc's Prairie Creek lead/zinc deposit, Selwyn Resources' Howard's Pass lead/zinc deposit, and North American Tungsten's Mactung tungsten deposit.

***Prairie Creek*:**

Canadian Zinc has published a detailed Socio-Economic Assessment of the Proposed Prairie Creek Mine Project as part of the Environmental Assessment being carried out by Mackenzie Valley Environmental Review Board. Because much of the property was previously developed, Prairie Creek's construction phase will be modest at $59 million. This direct capital investment will raise the Northwest Territories gross domestic product (GDP) by $24 million when considering the direct and indirect impacts. Construction

activities will span two years with the majority taking place in the second year and will require a workforce of up to 120 people at its peak. [6]

Once into its operations phase total expenditures on the Prairie Creek Project will approach $1 Billion (based on 2008 prices) over the initial fourteen year mine life. This will raise the NWT's GDP by an average of $68 million annually, for a total of $951 million. Direct gross output is estimated at $1.5 Billion, of which almost half will go towards the purchase of goods and services, and Canada's GDP will rise by $1.2 Billion, of which $951 million will be in the NWT, over the life of the mine.

During the operations phase the Prairie Creek Mine will directly employ approx 220 people and 11 in head office, equivalent to 3,234 person years employment, and create an additional 288 Full-Time Equivalent (FTE) jobs across Canada, including 138 in the NWT. Thus the Prairie Creek Mine will increase employment in Canada by 519 on an annual basis, including 358 in the NWT. Adding direct employment and direct and indirect FTE jobs created by business demand equates to a total of 7,262 FTE person years employment in Canada, including 5,011 FTE person years in the NWT. Further it has been estimated that the induced economic impacts of the Project will create a further 265 new jobs in Canada.

Mine operations will generate $28 million in annual total labor income in the NWT, for a total of almost $400 million over the mine life. For Canada, annual labor income will be $40 million, for a mine life total of $560 million. Over the 16 years of construction and operations development of the Prairie Creek Mine will result in the payment of a total of about $285 million in direct and indirect taxation, government royalties and social insurance programs and pension plans.

Canadian Zinc has been actively consulting with local Dehcho communities about the economic potential for its lead/zinc property. During the summer of 2007 mineral exploration and development, the mine employed 47 people, 22 (47%) of which were aboriginals from Nahanni Butte, Fort Liard, Fort Simpson, and Jean Marie River. Northern expenditure from 2004 to 2007 at the project totaled $1.8 million, including

[6] Canadian Zinc Corporation Press Release: Socio-Economic Benefits of Proposed Prairie Creek Mine, April 15, 2010.

$493,000 in northern wages, $39,000 in education and training, and $1.26 million in northern aboriginal business.

***Howard's Pass*:**

Selwyn Resources has been exploring on the Howard's Pass property since 2005 and has made significant discoveries of lead and zinc mineralization located in 15 different zones across a 37 km long linear trend extending across the Yukon-NWT divide. The property is considered the host to the largest undeveloped lead/zinc deposit in the world. Many refer to Howard's Pass as a 'nation builder' deposit, with a resource capable of supporting for multi-generational jobs and revenue for the North and the whole country.
The primary mineralized zones, known as the 'XY', is in the Yukon but the strike extension of this deposit continues well into the NWT and permits have been approved to conduct mineral exploration on the NWT-Sahtu side.

The Indicated mineral resources for the Selwyn Project now total 154.4 Million Tonnes grading 5.35% zinc and 1.86% lead for a metal content of 18.19 billion pounds of zinc and 6.31 billion pounds of lead. The Inferred mineral resources total 234.15 Million Tonnes grading 4.54% zinc and 1.41% lead for a metal content of 23.19 billion pounds of zinc and 7.23 billion pounds of lead. There is huge potential to increase these reserves through regional exploration, and some have estimated that the Howard's Pass district has a resource life of over 50 years. While the first stages of this mine will be permitted from the Yukon side, exploration in the coming years will undoubtedly lead to development plans on the NWT side of the deposit. Selwyn has already been in discussion with Sahtu communities about economic opportunities, an economic bonanza that the NWT needs to tap into.

***Mactung*:**

North American Tungsten has identified a 33 million tonnes indicated resource grading 0.88% tungsten oxides, plus 12 million grading 0.78% and 8.5 million grading 1.08% in the inferred and probable categories. It is the largest undeveloped tungsten deposit in the world. A feasibility study has been completed based on a mine plan for underground development and a reserve life of 11 years plus potential to expand by 17 years with the development of open pits. The project is now undergoing preliminary screening by the

Yukon Environmental and Socio-economic Assessment Board. The company has made overtures to Sahtu communities to work on mutually beneficial impact benefit agreements.

Mineral Exploration as a "Renewable Resource":

Mineral exploration is the first stage in the mining cycle and with only one out of a thousand prospects becoming a producing mine (see **Figure 3**), mineral exploration has very little environmental impact.

The exploration industry can be considered 'renewable' because the same piece of ground may be evaluated time and again for economic minerals depending on commodity prices and commodity use. There are hundreds of mineral deposits in the NWT known since the 1920s that have been re-evaluated a dozen times without ever coming to fruition as an economic mining operation.

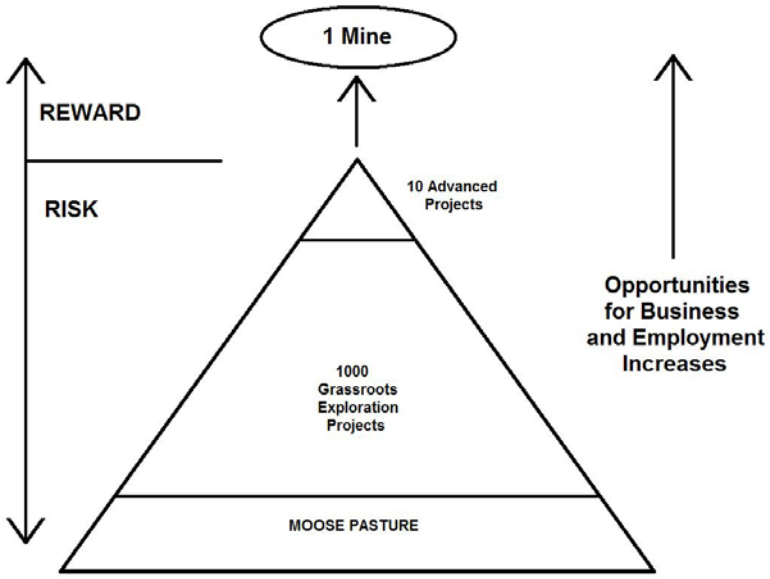


Figure 3. The Mining Pyramid.

There is no single formula to measure or predict the output of monetary benefits for northerners, but a typical exploration program in the Cordillera in the Canadian North (geophysics and diamond drilling) might run $2 million dollars.

For example, in 2007 Eagle Plains Resources conducted a $1.25 million exploration program on its Bronco lead/zinc property, 70 km north of the Canol road in the Sahtu Settlement Area. This involved a five-hole drill program and prospecting. This had previously been an unexplored area with no historical exploration activity, but Eagle Plains has identified copper, lead and zinc mineralization over a 7-km strike distance. Of the $1.25 million budgeted for the 2007 exploration and drill program, between 65% to 75% of those monies stayed in the Northwest Territories. These costs included fixed wing transportation with North Wright Air, helicopter support with Canadian, fuel out of Norman Wells, all camp supplies out of Yellowknife, all transportation to NWT on Canadian North, two wildlife/environmental monitors from both Tulit'a and Norman Wells in camp throughout the entire project, a local Tulita hire (who was trained as a geotech), four community consultations (three in Tulita and one in Norman Wells), Traditional Knowledge Study with the community of Tulita as well as hotels and food in Norman Wells for people traveling in and out of the camp. [7]

In 2007, Aurora Resources Inc. (now Devonian Metals Inc.) conducted a $1.1 million dollar exploration program on its Wrigley zinc property, 13 kilometers southwest of Wrigley in the Dehcho region. Work in 2007 included diamond drilling and geochemical sampling. A memorandum of understanding was signed with the Pehdzeh Ki First Nation in 2007. This agreement led to significant local socio-economic benefits flowing to Wrigley citizens as a result of exploration activity that summer. In total, $300,000 was spent in the community of Wrigley, including: $100,000 to renovate the local hotel, $106,000 towards local labour for exploration work, $823,000 to Great Slave Helicopters, 20,000 litres of diesel fuel purchases, and $40,000 in local groceries and supplies. [8]

[7] Information supplied by Rita Clair of Eagle Plains Resources Ltd.
[8] Information supplied by Tom Gerke of Devonian Metals Inc.

Appendix "B" - Review of MERA Report 2007

Mineral and Energy Resource Assessment of the Greater Nahanni Ecosystem Under Consideration for the Expansion of the Nahanni National Park reserve, Northwest Territories [9]

Background information for the MERA process

The MERA process was established in 1980 as the mechanism for implementing the following federal government policy:

> "It is the policy of the Department of Indian Affairs and Northern Development to ensure that an inventory of the non-renewable natural resource potential of areas in the Yukon and Northwest Territories be compiled prior to their formal establishment as new national parks. The fundamental qualities of the area which recommend it for national park status will be taken into account in any land use activities associated with compiling the inventory. Parks Canada will cooperate with other federal agencies responsible for carrying out such inventories."

The stated purposes of the MERA process are:

> "To ensure that the economic and strategic significance of mineral and energy resource potential is duly considered in the national park establishment process in the Yukon and Northwest Territories;
>
> To ensure that, in making recommendations regarding the withdrawal of land for national park purposes, the Minister of DIAND is advised on the balance between the values of the land with respect to park establishment criteria and the potential for the exploration, development and use of mineral and energy resources which may inhere in the land; and,
>
> To prepare assessments of the mineral and energy resource potential of areas in the Yukon and Northwest Territories which are being considered for administration by Canada as national parks."

MERA

The 2007 MERA, is the second such study completed in the Nahanni region. The first, "MERA 1" completed and published in 2003, addressed three proposed areas: the Ragged Ranges, Tlogotsho Plateau, and the Nahanni Karst of the Ram Plateau. The purpose of the MERA 2007 was to complete a thorough review of the mineral and energy potential of the 39,000 km^2 Greater Nahanni Ecosystem and to identify specific areas with greater or lesser potential for specific minerals and deposit types..

The review includes four **regional studies**:

[9] Available for download:
http://geopub.nrcan.gc.ca/moreinfo_e.php?id=224425&_h=nahanni

- Spring Geochemistry: A Tool for Mineral Exploration in the South Nahanni River Basin of the Mackenzie Mountains, Northwest Territories

- Stream Sediment Geochemistry in the Proposed Extension to the Nahanni Park Reserve

- Evaluation of Airborne Radiometric and Magnetic Data in the Vicinity of Nahanni National Park, Northwest Territories, Canada

- Quaternary Geology and Glacial Limits of the Nahanni National Park Reserve and Adjacent Areas, Northwest Territories, Canada.

It also includes five **mineral deposit studies**:

- Isotope Geochemistry of the Prairie Creek Carbonate-Hosted Zinc-Lead-Silver Deposit,
Southern Mackenzie Mountains, Northwest Territories

- Geochemical Investigation of High-Grade Quartz-Scheelite Veins of the Cantung Mine,
Northwest Territories

- A Review of the Late Cretaceous Little Nahanni Pegmatite Group and Associated Rare
Element Mineralization in the Selwyn Basin Area, Northwest Territories

- The Potential for Intrusion-Related Mineralization within the South Nahanni River MERA Area, Selwyn and Mackenzie Mountains, Northwest Territories

- Radiogenic Isotope Studies of Pb-Zn Mineralization in the Howards Pass Area, Selwyn Basin

Also included is a description of the methodology used to compile all the relevant information using a Geographic Information System (**GIS**) based analytical methods:

- Modelling Mineral Potential for the Greater Nahanni Ecosystem Using GIS-Based Analytical Methods.

Four distinct **deposit types** were identified within the MERA 2 area:

1) SEDEX model (stratiform shale-hosted sedimentary-exhalative zinc-lead-silver) - the largest of several SEDEX occurrences in the area is the Howards Pass zinc-lead prospect

2) ‘Carbonate-fault’ model (carbonate-hosted zinc-lead-silver associated with major faults) - based on the Prairie Creek advanced prospect.

3) ‘Intrusion-related’ model (mineralization, including skarn, rare metals and gemstones, associated with the Cretaceous plutons) - includes the world class Cantung skarn tungsten mine and the Little Nahanni Pegmatite Group lithium prospect.

4) Carlin-type gold (lode and/or derived placer gold) - deposits of this type have not yet been found in the study area, but placer gold deposits with poly-metallic signatures (e.g. Selena Creek) are thought to be good indicators of its presence.

Of these four deposit types, all are represented within or close to the boundaries of the planned park extension known as Nááts'ihch'oh.

Comments on the MERA 2

The approach taken in the report was to gather all pertinent mineral and geologic data for the area and to analyze that information using GIS methodology. The strength of this approach is that there is sufficient data available, together with a number of identified deposits and related mineralized occurrences, to be fairly certain that areas identified as having higher potential have a reasonably good probability of hosting new mineral deposits.

In any such evaluation there is always the possibility that new or unusual types of deposits have not been recognized by the authors and may be overlooked in the screening process. However, the authors of the mineral assessment report have done a thorough and detailed job in reviewing available information, carrying out additional studies to provide additional data and performing the GIS modelling for mineral potential. From this work specific areas of high to moderately-high potential for the various deposit types have been identified.

The maps shown below are taken from the MERA, page 320. These display the results of the evaluation of all combined geologic information and data and highlight areas of highest and lowest potential for new discoveries of mineral and hydrocarbon deposits.

The area of interest is the northern portion of the MERA 2 area, Nááts'ihch'oh and there are clearly a number of areas with significant potential for discovery of mineral deposits in the Nááts'ihch'oh area and this has been illustrated and confirmed by the MERA study.

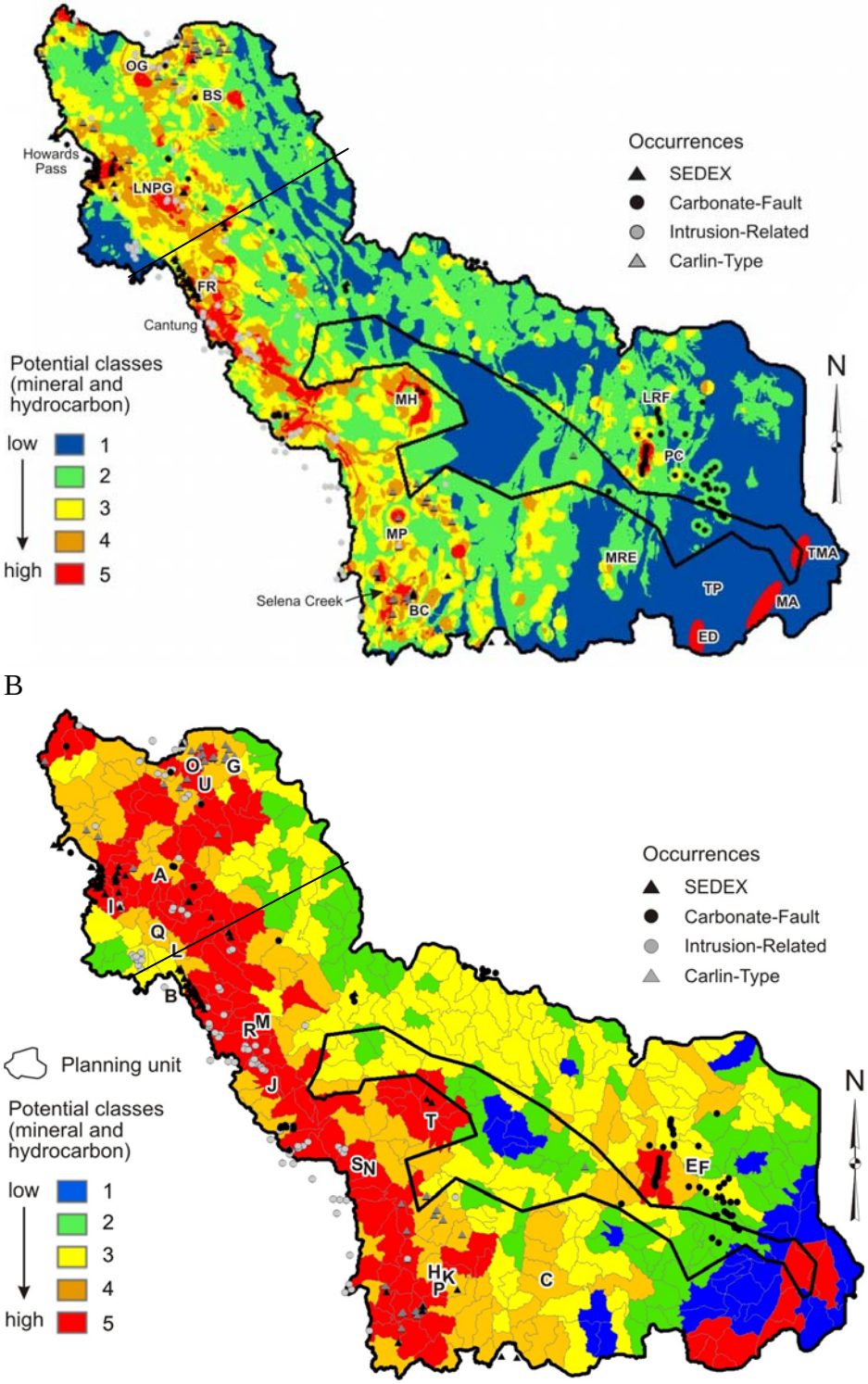


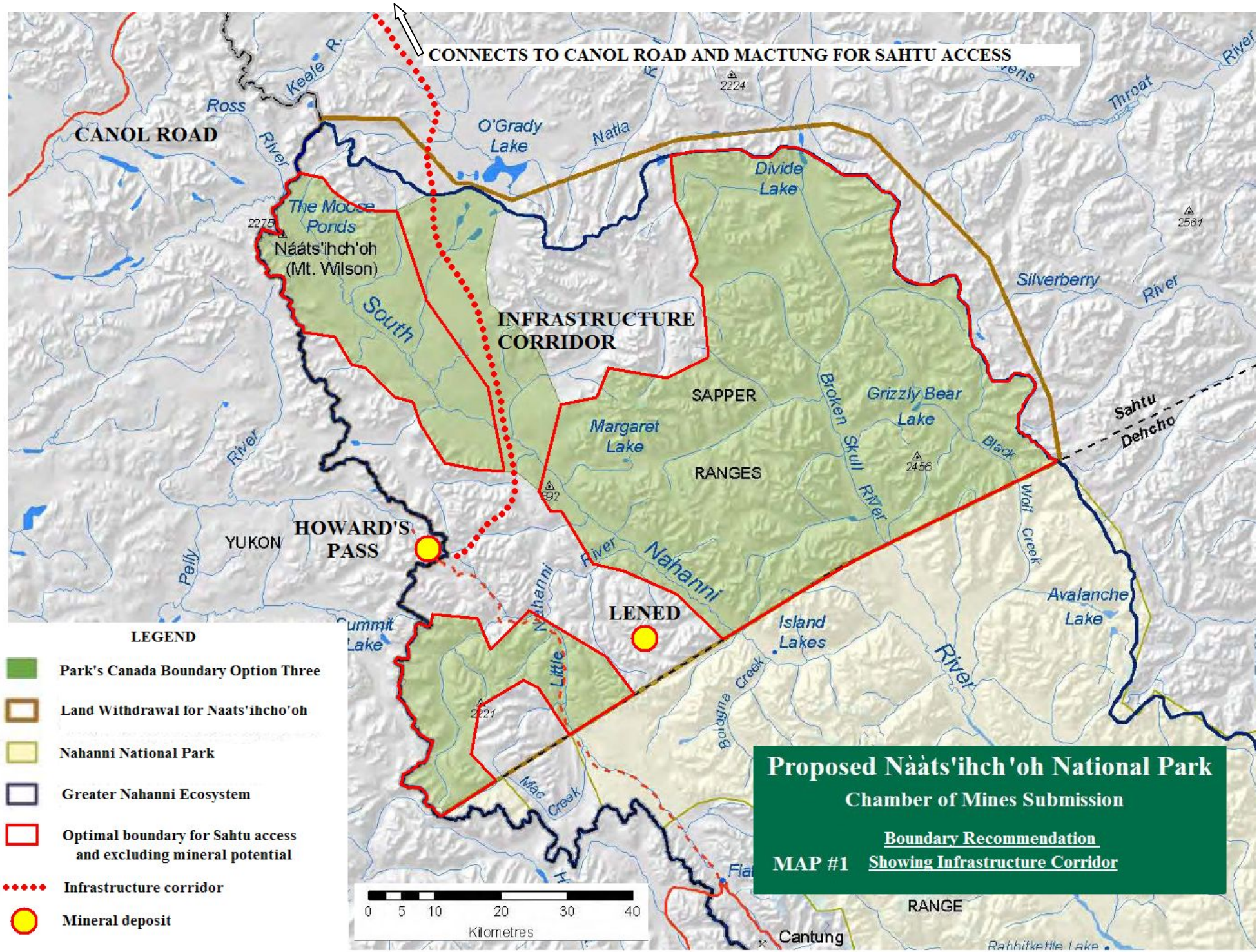
Figure 10. Final additive mineral potential maps. Mineral occurrences by type are shown for reference. **A)** Continuous potential map generated by combining the maximum values of the individual potential maps for each deposit model as well as the potential map for hydrocarbons. BC = Big Charlie pluton, BS = Broken Skull River area, ED = Etanda Dome, FR = Flat River, LNPG = Little Nahanni Pegmatite Group, LRF = Leif Ridge Fault, MA = Mattson Anticline, MH = Mount Hamilton pluton, MP = McLeod pluton, MRE = Meilleur River Embayment, OG = O'Grady Batholith, PC = Prairie Creek, TMA = Twisted Mountain Anticline, TP = Tlogotsho Plateau. **B)** Resource potential apportioned to park planning units using the MAX operator. See text for explanation. Unique letters refer to deposit model areas of interest, as described in the Results section of the text.

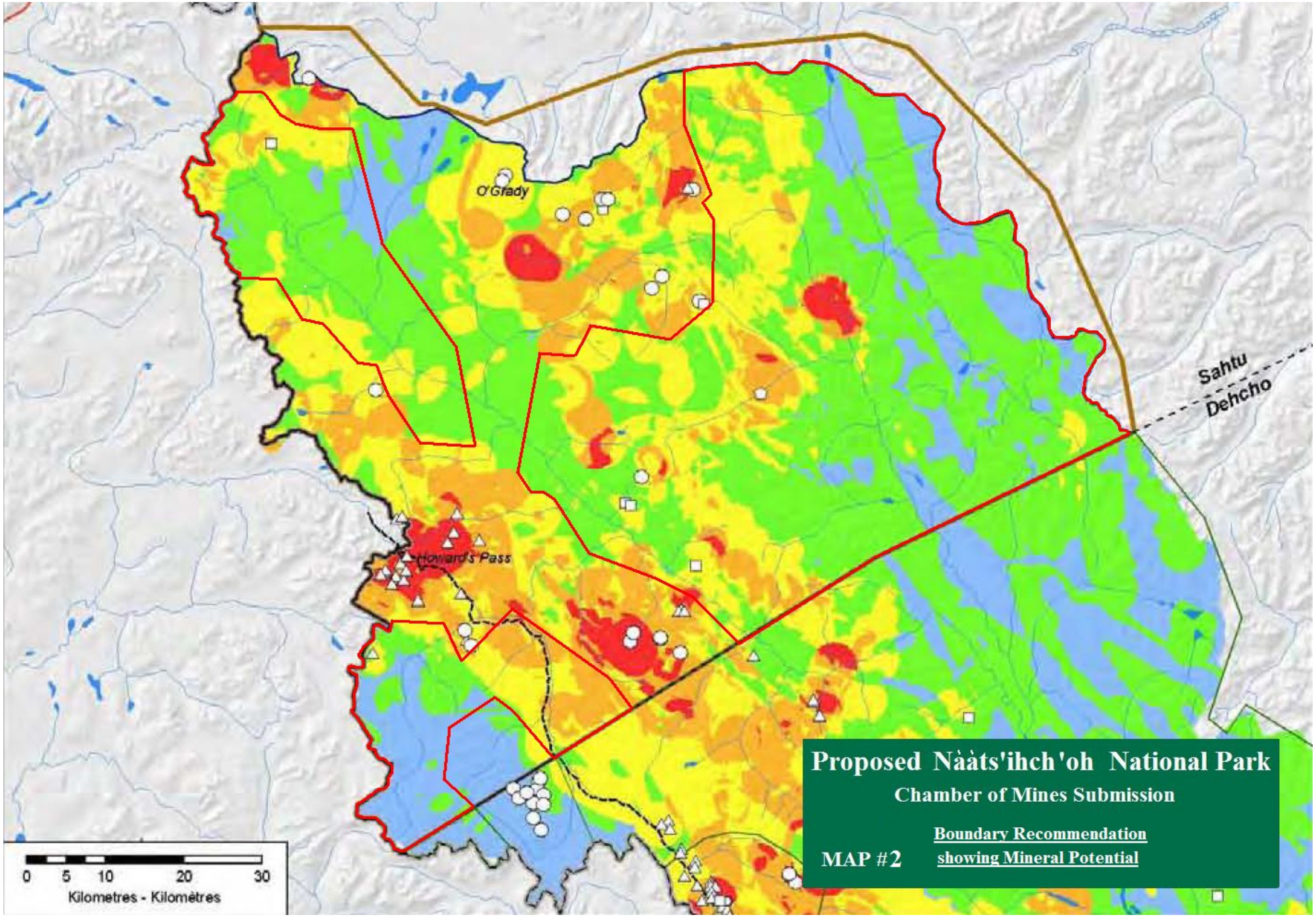
Appendix "C" – Maps

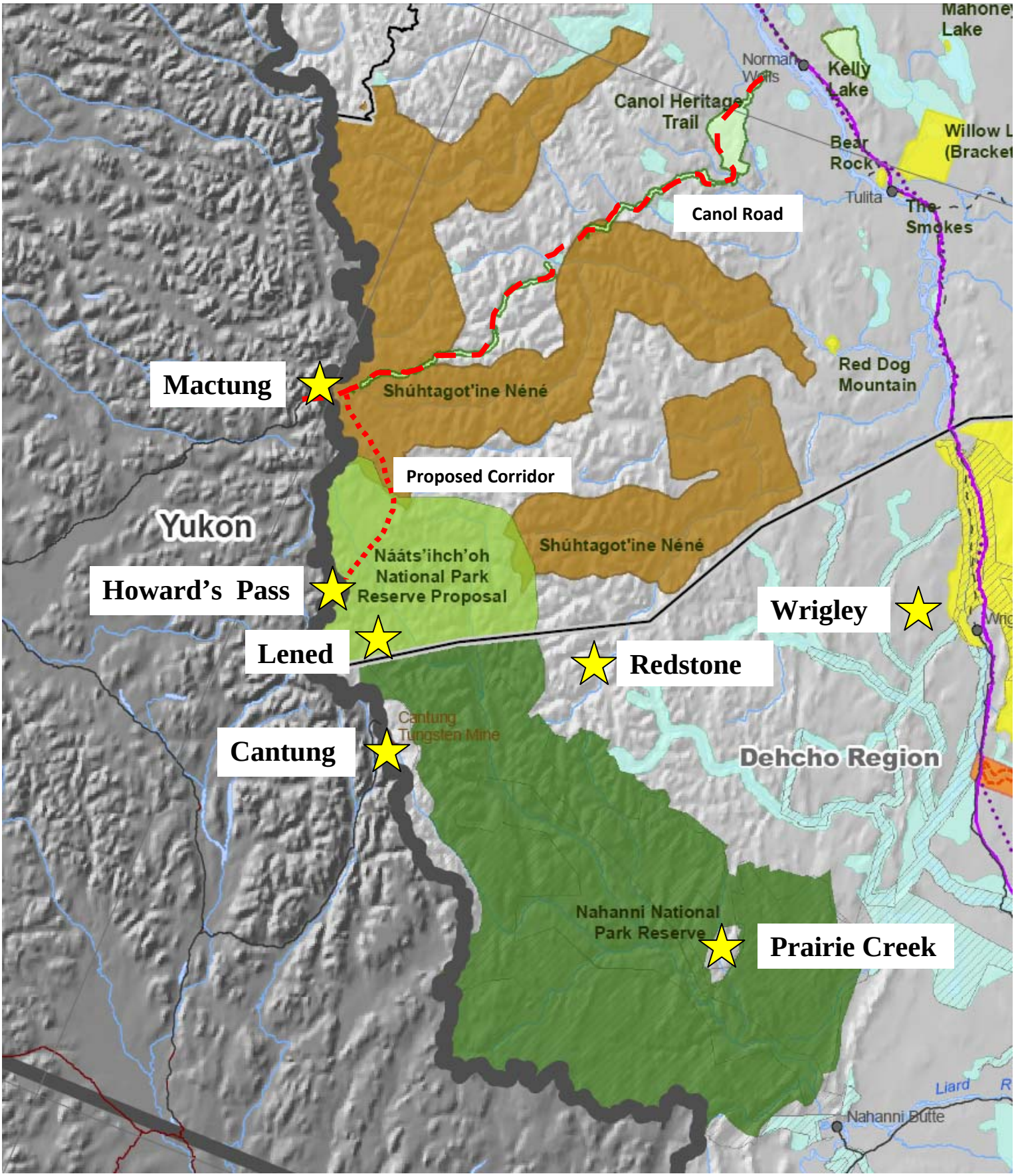
Map #1 – *Chamber of Mines Recommended Boundary Showing Infrastructure Corridor*

Map #2 – *Chamber of Mines Recommended Boundary Showing Mineral Potential*

Map # 3 - *The Protected Areas Strategy – Cutting Off the Cordilleran*


CONNECTS TO CANOL ROAD AND MACTUNG FOR SAHTU ACCESS
CANOL ROAD
Keele R.
Ross River
O'Grady Lake
Natla
Throat River
Divide Lake
The Moose Ponds
Náàts'ihch'oh (Mt. Wilson)
2275
2224
2561
Silverberry River
INFRASTRUCTURE CORRIDOR
South
SAPPER
RANGES
Margaret Lake
Broken Skull River
Grizzly Bear Lake
Black
2456
Sahtu
Dehcho
Wolf Creek
Pelly River
YUKON
HOWARD'S PASS
Nahanni River
LENED
Avalanche Lake
Island Lakes
Bologna Creek
Little Nahanni
Summit Lake
2221
Mac Creek
RANGE
Cantung
Rabbitkettle Lake
0 5 10 20 30 40
Kilometres
LEGEND
Park's Canada Boundary Option Three
Land Withdrawal for Naats'ihcho'oh
Nahanni National Park
Greater Nahanni Ecosystem
Optimal boundary for Sahtu access and excluding mineral potential
Infrastructure corridor
Mineral deposit
Proposed Nààts'ihch'oh National Park
Chamber of Mines Submission
Boundary Recommendation
MAP #1 Showing Infrastructure Corridor


O'Grady
Howard's Pass
Sahtu
Dehcho
0 5 10 20 30
Kilometres - Kilomètres
Proposed Nààts'ihch'oh National Park
Chamber of Mines Submission
Boundary Recommendation
showing Mineral Potential
MAP #2



The Protected Areas Strategy – Cutting off the Cordilleran

showing major mineral deposits

MAP #3