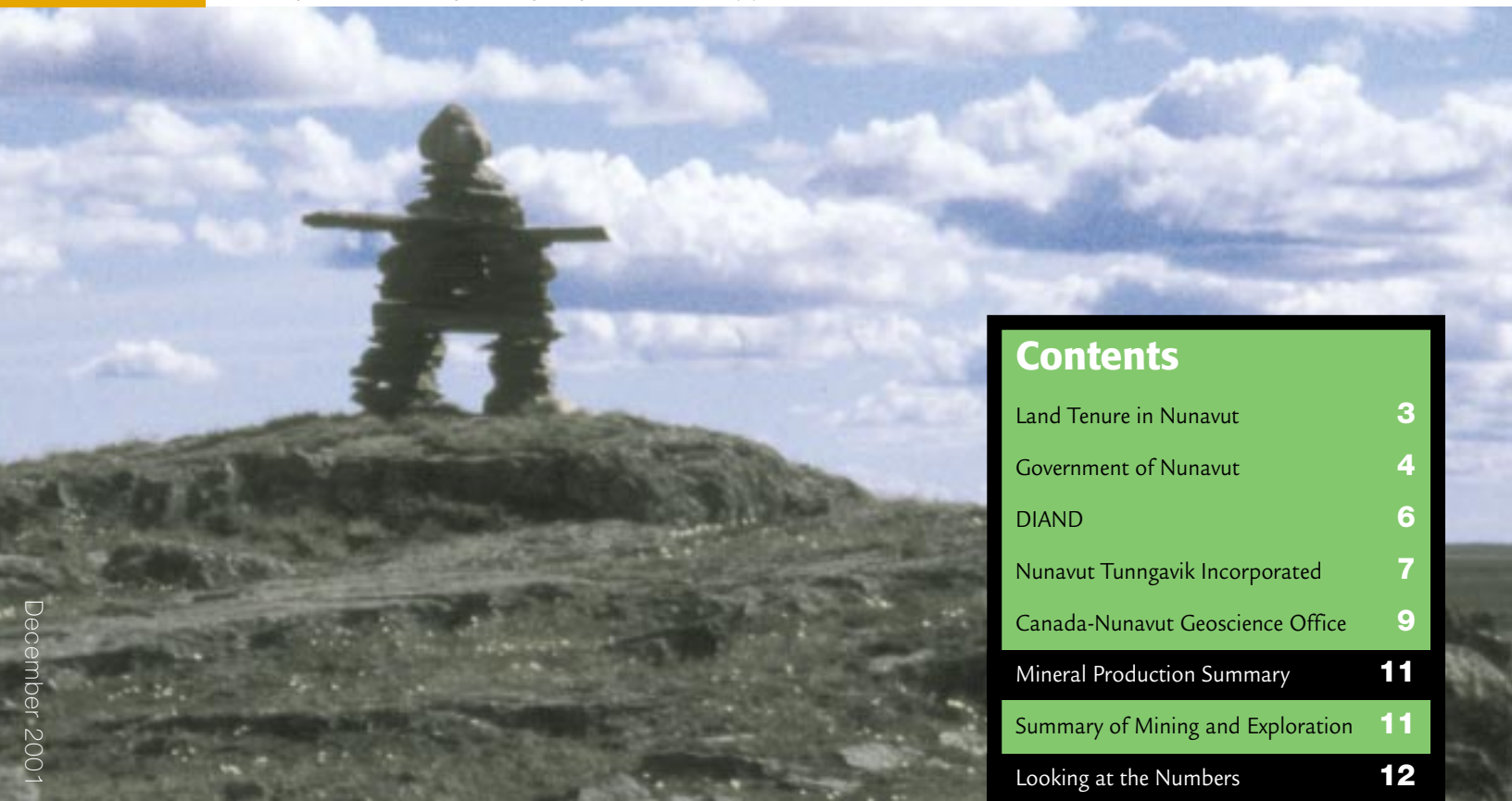


# Nunavut

MINING, MINERAL EXPLORATION AND GEOSCIENCE 2001



Canada



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## A Note About the Overview

This overview is a combined effort by the Minerals, Oil and Gas (MOG) Division of the Department of Sustainable Development of the Government of Nunavut, the Nunavut Mineral Resources Section of Indian and Northern Affairs Canada (DIAND), and the Lands and Resources Department of Nunavut Tunngavik Incorporated (NTI). The intent of this edition is to capture information on exploration and mining activities conducted in Nunavut in 2001, and to make this information available to the public. All information was obtained by MOG, DIAND, and NTI contributors prior to a news cut-off date of November 1, 2001. There are some projects active in Nunavut for which no data has been made public, such as grass-roots exploration programs; these will not be discussed in this edition,

and are not included in any statistical counts.

The overview is organized according to the three administrative regions that comprise Nunavut — Kivalliq (formally, Keewatin), Kitikmeot, and Qikiqtaani (formally, Baffin). Within each section, properties are grouped by commodity, with gold prospects presented first, followed by diamond prospects, followed by nickel-copper prospects, and zinc-lead prospects.

Prospectors and mining companies are welcome to submit information on their programs at any time, for inclusion in the next overview to be released. We thank the many companies that submitted information to us for this year's edition.

Feedback and comments are also appreciated.

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## Land Tenure in Nunavut

### Guide to Acronyms

<b>CMR</b>	Canada Mining Regulations
<b>C-NGO</b>	Canada-Nunavut Geoscience Office
<b>DIAND</b>	Department of Indian Affairs and Northern Development
<b>GSC</b>	Geological Survey of Canada
<b>IOL</b>	Inuit Owned Land
<b>MOG</b>	Minerals, Oil and Gas
<b>DSD</b>	Department of Sustainable Development
<b>NLCA</b>	Nunavut Land Claim Agreement
<b>NTI</b>	Nunavut Tunngavik Incorporated
<b>RIA</b>	Regional Inuit Association

In 1993 the largest Aboriginal land settlement in Canadian history was concluded through the *Nunavut Land Claims Agreement* (NCLA). The NCLA provided for the formation of the new territory of Nunavut on April 1, 1999, as well as providing many other rights to Inuit. Nunavut, which covers 1,994,000 square kilometres, comprises the eastern and northern portions of land previously referred to as the Keewatin and Franklin districts of the Northwest Territories. Nunavut's population approximates 27,000 of which 85% are of Inuit origin. A total of 27 communities are home to anywhere from 50 to 6,000 people. Most communities offer a range of services (see the following web site for the Canada-Nunavut Community Business Service Centre: <http://www.cbcs.org/nunavut/>) including regular scheduled air service. Several offer specific mining and exploration-related services, and are home to independent prospectors and others experienced in mineral exploration and mining.

In addition to the creation of the new territory, the NLCA gave Inuit fee simple title to 356,000 square kilometres of land. There are 944 parcels of Inuit Owned Lands (IOL) where Inuit hold surface title only (Surface IOL), representing approximately 16% of Nunavut. The Crown retains the mineral rights to these

lands. Inuit hold fee simple title including mineral rights to the remaining 150 parcels of IOL (Subsurface IOL), which total 38,000 square kilometres and represent approximately 2% of the territory. Surface title to all IOL is held in each region by one of the three Regional Inuit Associations (RIAs) while Inuit subsurface title with respect to Subsurface IOL is held and administered by Nunavut Tunngavik Incorporated (NTI). NTI issues rights to explore and mine through its own mineral tenure regime. Mineral rights (mineral claims or leases) that existed at the time of the signing of the NLCA — known as “grandfathered rights” — continue to be administered by DIAND until they terminate or the holder transfers its interests to the NTI regime. For both Surface and Subsurface IOL, access to the land, through a Land Use Licence or Commercial Lease, must be obtained from the appropriate Regional Inuit Association.

Throughout the remaining 98% of Nunavut, the Crown owns the mineral rights, which are administered by DIAND through the Canada Mining Regulations (CMR). This includes Surface IOL, for which access to the land must nevertheless be obtained from the RIA as explained above (visit the following web sites for more information: [http://www.polarnet.ca/ntilands/Exploration\\_App.htm](http://www.polarnet.ca/ntilands/Exploration_App.htm);

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**Prospector and Mineral Exploration**  
training courses offered by MOG, 2001.

<http://npc.nunavut.ca/eng/index.html>;  
<http://www.pail.ca/inuorg.htm#qikinu>.

Significantly, the NLCA is a final settlement whereby all land claims in Nunavut have been settled, thus providing a high level of certainty of land tenure. The Government of Nunavut, DIAND, NTI, the newly established Canada-

Nunavut Geoscience Office (C-NGO) and other pertinent government divisions and associations work together to improve the Territory's geoscience knowledge base through regional mapping programs, thematic investigations, and geological compilation and also to facilitate efficient regulatory and permitting regimes.

## Government of Nunavut

The Minerals, Oil and Gas Division (MOG) is the branch of the Department of Sustainable Development (DSD), Government of Nunavut, that specifically deals with issues related

to Nunavut's mineral, oil and gas industries. Within the framework of the NLCA and in partnership with other government departments, Inuit Organizations, community leaders, and the private sector, MOG is helping to build healthy communities and supports the means toward self-reliance. This involves the development of a mineral exploration and mining sector that is based on the principles of sustainable development.

MOG is committed to building

a healthy investment climate as part

of the foundation for a diverse and vibrant economy in Nunavut, without compromising the social values of Nunavummiut and the environmental integrity of Nunavut.

The Division continues to focus on community education and awareness of Nunavut's mineral industry, by integrating earth sciences into the school curriculum and by developing and facilitating continued learning and training programs that are accessible to all Nunavummiut. Related to this is prospector development, whereby prospecting and related skills of Nunavummiut are improved to facilitate more

direct participation and proprietorship. The DSD is also committed to improving the geoscience knowledge base of Nunavut, through co-operation with other levels of government as well as through partnerships, such as the recently established Canada-Nunavut Geoscience Office (C-NGO).

The Department is also committed to resource management, including upgrading of transportation infrastructure, modernisation of land use legislation, and development of an exemplary mineral industry policy. MOG is working with partners to ensure that the permitting and regulatory regime in Nunavut is both effective and efficient. DSD is also one of the partners directing the ongoing feasibility study of construction of a road and port facility extending from the Izok Lake base metal deposit to Bathurst Inlet (discussed in detail under Kitikmeot Region). Such new infrastructure will significantly increase the accessibility of known mineral deposits in the area. The DSD also functions as a liaison between industry and communities, local service sectors, work forces, and prospectors. Through these efforts, and through its partnership with Nunavut Tunngavik Incorporated, Indian and Northern Affairs Canada, and Natural Resources Canada (including the Canada-Nunavut Geoscience Office), DSD provides information to Nunavut's mineral industry that contributes to investor confidence in Nunavut. Key features of the Territory's attractive investment climate include the Nunavut Land

**WITHIN THE FRAMEWORK OF THE LAND CLAIMS AGREEMENT AND IN PARTNERSHIP WITH OTHER GOVERNMENT DEPARTMENTS, INUIT ORGANIZATIONS, COMMUNITY LEADERS, AND THE PRIVATE SECTOR, MOG IS HELPING TO BUILD HEALTHY COMMUNITIES AND SUPPORTING THE MEANS TO SELF-RELIANCE.**

Claim Agreement, a growing geoscience knowledge base, very high mineral potential, expanding business and workforce capacity, and a focus of government sustainable development.

Prospector development is a major focus of the Minerals, Oil and Gas Division. MOG continued to provide "Introductory Prospecting Courses" that are very popular both with prospectors and people with a general interest in mineral deposits. In 2001, fourteen courses were held in thirteen communities, with 143 graduates.

In addition, through the Nunavut Prospectors' Program, prospectors can apply for a contribution of up to \$5,000, which can be used for prospecting, claim staking and rock sampling within a specified region or property. In 1999 and 2000, several interesting mineral showings were reported. The resulting programs also led to numerous potentially prospective mineral discoveries. In 2001 a total of 33 applicants received funding.

Also in 2001, MOG spearheaded the "Mineral Exploration Field Assistant's Course", an 8-week pilot course that offered 12 students training for employment with mineral exploration companies as field assistants. The course included an introduction to "technical communication", "geology", "field navigation",

"small engine repair", "wilderness first aid and survival" and "a field practicum (field school)". Field school was conducted as part of the Committee Bay project operated by the C-NGO. Most students completed the course, and were placed in jobs as field assistants in private-sector mineral exploration camps for two to three weeks. This program was a multi-partnership effort between the training sectors of the RIAs, NTI, MOG, the Department of Education of the Government of Nunavut, DIAND, C-NGO, Nunavut Arctic College, First Air and Canadian North. Students were placed in jobs with BHP World Exploration Inc., DeBeers Canada Inc., Kinross Gold Corporation, Falconbridge Ltd., Noranda Inc., Starfield Resources Inc. and Hudson Bay Exploration and Development Co. Ltd., all of whom were generous with their support. Program results are currently under review.



MOG division teaching prospectors to use Geographic Positioning System (GPS) technology.

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## DIAND

ON APRIL 1, 2001, DIAND OFFICIALLY OPENED ITS MINERAL RESOURCES SECTION IN IQUALUIT.

DIAND continued to regulate and monitor exploration and mining activities in 2001 with site visits to major projects such as the Ferguson Lake, George Lake/Goose Lake, Izok Lake, Muskox, Jericho, Meliadine West and Jackson Inlet projects, as well as the Lupin, Polaris and Nanisivik Mines. DIAND has begun a program of visits to abandoned sites, such as the closed Cullaton Lake gold mine, to retrieve core samples prior to reclamation. In 2001 it also visited the Marble Island site near Rankin Inlet, and the Wager Bay area. Both are currently protected areas; DIAND is assessing major geological features as potential ecotourism attractions and for basic instruction on earth sciences.

On April 1, 2001, DIAND officially opened its Mineral Resources section in Iqaluit. Jason Sharp, formerly of the NWT office in Yellow-

knife, has taken the position of Manager, Mineral Resources Section. Staffing of two District Geologist positions, Jurate Gertzbein for the Kivalliq Region and Robert Carpenter for the Kitikmeot Region, as well as an Archive Geologist position filled by Natalie Roy, has been completed. All Nunavut related duties, files and geological data were transferred to the Iqaluit office by April 2001. A Mining Recorder's office has also been established, where claim tags and claim maps may be purchased.

Work on DIAND's databases, the KIDD (Kimberlite Indicator Diamond Database) and NORMIN (Northern Minerals) databases continued throughout 2001. This work is based in Yellowknife; however the Iqaluit office is progressing towards involvement in upgrading of the NORMIN database.

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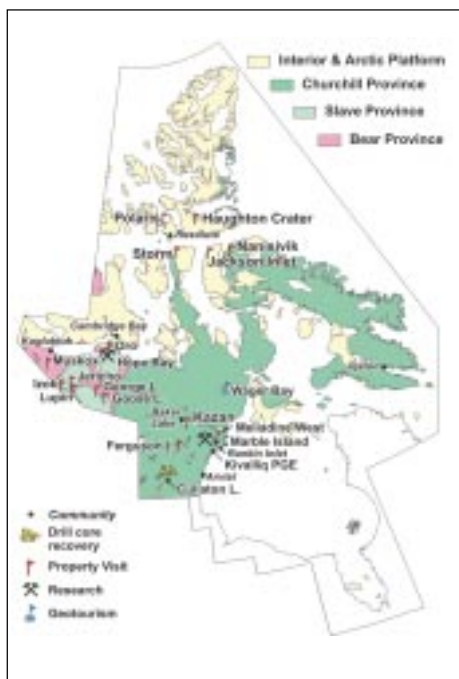
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Location of DIAND property visits and research, 2001

# Nunavut Tunngavik Incorporated

Nunavut Tunngavik Incorporated (NTI) is the Inuit corporation responsible for overseeing implementation of the NLCA. NTI's mandate includes safeguarding, administering and advancing the rights and benefits of the Inuit of Nunavut to promote their economic, social and cultural well being through succeeding generations. The Lands and Resources Department of NTI is responsible for the implementation of Inuit responsibilities related to the management of Inuit Owned Lands (IOL), the environment, minerals, oil and gas, wildlife and marine areas.

There are two forms of mineral tenure that grant exclusive rights on Subsurface IOL administered by NTI. These are the Inuit Owned Lands Mineral Exploration Agreement (usually referred to as the "Exploration Agreement", or "EA") and the Inuit Owned Lands Mineral Production Lease (referred to as the "Production Lease"). The Exploration Agreement grants a company or individual the exclusive right to explore and prospect for minerals (excluding oil and gas, and Specified Substances such as construction materials and carving stone) on a portion of Subsurface IOL. This area, referred to as the Exploration Area, is similar in many ways to a mineral claim under the CMR.

The Production Lease grants the holder of an Exploration Agreement the right to produce minerals from a portion of the Exploration Area known as the Production Lease Area.

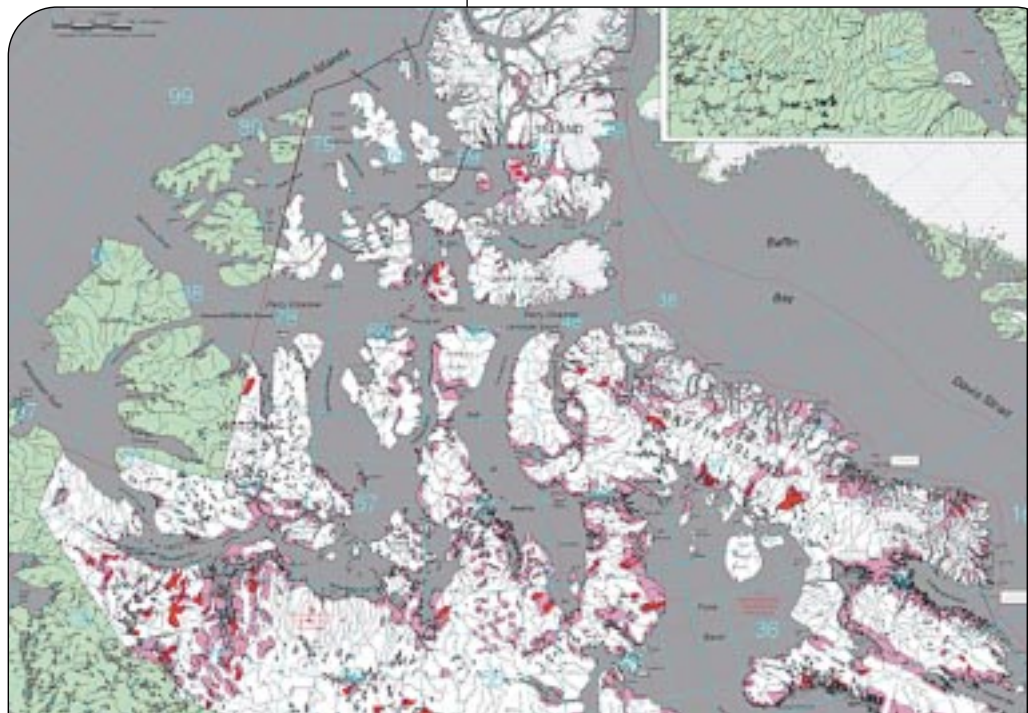
Since 1999, NTI has had in place a system of application that does not require staking when applying for an Exploration Agreement. Rather, the application requires only a description of the Exploration Area based on latitude and longitude. The applicant must submit to NTI a completed application form, *Application for an Inuit Owned Lands Mineral Exploration Agreement* (available on request from NTI or from our Lands Department website [http://www.polar-net.ca/ntilands/Exploration\\_App.htm](http://www.polar-net.ca/ntilands/Exploration_App.htm)). The completed application includes a description of the proposed Exploration Area defined by latitude and longitude of the boundaries

as well as a map showing the proposed Exploration Area. Applications are received during the months of January, March, May, September and November and are processed at the start of the subsequent month, at which time NTI will decide whether to accept an application and issue an Exploration Agreement. Applications are kept confidential until the close of the application period in which they are received, thus ensuring that all applicants are treated fairly. Further details on the application process are included in the application form. It should be noted that although the process and documents described here normally apply, NTI, as a private organisation, has complete discretion as to whether it will issue an Exploration Agreement (or other agreement), what the process will be for obtaining an agreement, and what the terms of the agreement will be.

Successful applicants, upon executing the new Exploration Agreement and submitting the first year's annual fees, will be granted the exclusive right to explore for minerals on the

**THE EXPLORATION AGREEMENT GRANTS A COMPANY OR INDIVIDUAL THE EXCLUSIVE RIGHT TO EXPLORE AND PROSPECT FOR MINERALS (EXCLUDING OIL AND GAS, AND SPECIFIED SUBSTANCES SUCH AS CONSTRUCTION MATERIALS AND CARVING STONE) ON A PORTION OF SUBSURFACE IOL.**

Distribution of Inuit Owned Lands, NTI.





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Exploration Area. In order to gain access to the land, however, the applicant must obtain a surface right issued by the RIA.

NTI currently has 64 active Exploration Agreements with prospectors and exploration and mining companies. These cover more than 11 percent of the total Subsurface IOL. (In addition, grandfathered claims and leases comprise approximately 3.6 percent of all subsurface IOL.) NTI believes that the number of agreements signed is a positive sign of the acceptance of the Exploration Agreements by industry as the total area now taken up is the

greatest since the signing of the NLCA.

Holders of Exploration Agreements are required to submit annual exploration work reports to NTI that remain confidential for a period of up to three years. Information on what reports are currently available for inspection and how to access them can be obtained by contacting NTI's Administrative Geologist.

Many of the advanced exploration projects in Nunavut fall on Subsurface IOL. The following table summarizes the current active Exploration Agreements and their locations.

## Qikiqtaani Region

Project/Deposit	Holder(s)	IOL Parcel(s)	Exploration Agreements
Piling Project <sup>1</sup>	BHP-Billiton	BI-35	Qimmiq 1-8, 10,11 (10 EAs)
Piling Project <sup>1</sup>	Teck-Cominco	CR-26	Piling Project 1-3 (3 EAs)
Melville	Comaplex	HB-15, HB-16	Melville 1-2 (2 EAs)
Mary River	CanZinco	PI-17	Mary River
Gell	Teck-Cominco	RB-20	Gell

## Kivalliq Region

Meliadine <sup>2</sup>	WMC, Comaplex, Cumberland	RI-01, RI-12	Ant 1-4, Fay 1-3, W1, Tan 1-4, Felsic (13 EAs)
Meadowbank <sup>3</sup>	Cumberland	BL-14	Meadowbank 1-3 (3 EAs)
Spi Lake	Comaplex	AR-16	Spi Lake
Square Lake	Comaplex	BL-21	Square Lake
Maze	WMC	WC-02	Maze 1-5 (5 EAs)

## Kitikmeot Region

Hope Bay <sup>4</sup>	Hope Bay Joint Venture	BB-57, BB-60	Akungan 1-3, Aimaokatuk, Tok 1-3 (7 EAs)
Contwoyto	Tahera	CO-08	Contwoyto 1-5, New Contwoyto 1-2 (7 EAs)
Hood River	Kennecott	CO-20	Hood River, Hood River 1-2, Hood River West (4 EAs)
High Lake <sup>5</sup>	Wolfdan	CO-29	Hilk
Muskox <sup>6</sup>	Muskox Minerals	CO-62	Muskox 1-2 (2 EAs)
Muskox North <sup>7</sup>	Jerry Diakow, Gordon Addie (re: Trilogy)	CO-62	Muskox North, Muskox Up (2 EAs)
PGE	Lane Dewar	CO-40	PGE 1
Rockinghorse <sup>8</sup>	Kennecott	CO-44	Rockinghorse

### Note:

All projects referenced by these notes are discussed in this report.

1. Overall project involves Crown land and Subsurface IOL.
2. The project involves land held under NTI Exploration Agreements as well as grandfathered claims and leases.
3. The project involves land held under NTI Exploration Agreements and grandfathered leases.

4. The Boston deposit is located on Surface IOL, while the Doris, Madrid, South Patch, Naartok and Suluk are on Subsurface IOL, distributed among grandfathered leases and NTI Exploration Agreements. Potential extension of the Boston deposit down-dip or along strike to the north will

- also be on Subsurface IOL.
5. The project involves Crown land and land held under NTI Exploration Agreements and grandfathered leases.
6. The project involves Crown land, Surface IOL, and Subsurface IOL under NTI Exploration Agreements.
7. The project involves Crown land,

- Surface IOL, and Subsurface IOL under NTI Exploration Agreements.
8. Near the edge of the project referred to later in this report.



# Canada-Nunavut Geoscience Office

The Canada-Nunavut Geoscience Office (C-NGO) is a partnership between the Government of Nunavut, the Geological Survey of Canada (NRCan), and DIAND. The C-NGO Management Board consists of representatives of the partners as well as representatives of NTI and C-NGO. C-NGO continued with its Committee Bay and Central Baffin Mapping Projects. It also continued with its study focusing on base metal potential in the Polaris Mine district in the Arctic Islands in collaboration with Cominco Ltd and Noranda Inc.

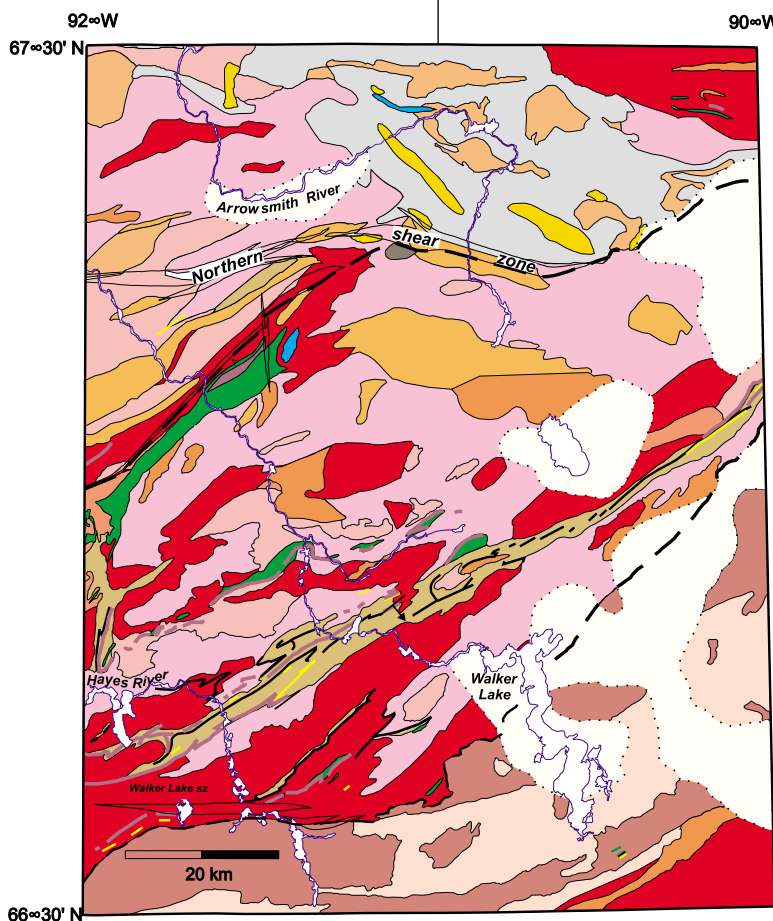
The C-NGO performed new detailed underground mapping and sampling at Breakwater Resources' Nanisivik Mine to investigate structural and stratigraphic controls of the Mississippi Valley-type zinc-lead-silver mineralization comprising the deposit, and to establish criteria for exploration for similar deposits in the area. Staff of the C-NGO also visited the Hope Bay JV's Hope Bay gold project, to study volcanic stratigraphy and gold mineralization in the "Wolverine-Madrid" corridor, and volcanic stratigraphy of the QSP area. Reports of various technical aspects of these investigations will be published in the Geological Survey of Canada's forthcoming (January 2002) Current Research reports ([http://www.nrcan.gc.ca/gsc/bookstore/index\\_e.html](http://www.nrcan.gc.ca/gsc/bookstore/index_e.html)).

The Committee Bay Project, collaboratively delivered with the Geological Survey of Canada (GSC), focused on the Prince Albert Group located southwest of Committee Bay. The area is part of an Archean greenstone belt considered to have high potential for gold and base metal mineralization. Over the course of the 2000, 2001 and 2002 field seasons, bedrock and surficial materials mapping will be performed on NTS map sheets 56J, 56K, 56O and 56P. Bedrock geology maps at a 1:100 000-scale have recently been published for NTS sheet 56K (GSC Open File 4190). Bedrock maps for 56J (north) and 56O (south) will be published

in the spring of 2002. In 2001, studies were completed on gold mineralization in the Three Bluffs iron formation near Walker Lake, and the relationship of the proximal Walker Lake shear zone to regional deformation in the Committee Bay belt. The project also included detailed Quaternary mapping and reconnaissance till geochemistry and kimberlite-indicator mineral surveys across NTS sheets 56K, and parts of sheets 56J and 56O (to be published in the spring of

**THE C-NGO PERFORMED NEW DETAILED UNDERGROUND MAPPING AND SAMPLING AT BREAKWATER RESOURCES' NANISIVIK MINE TO INVESTIGATE STRUCTURAL AND STRATIGRAPHIC CONTROLS OF THE MISSISSIPPI VALLEY-TYPE ZINC-LEAD-SILVER MINERALIZATION COMPRISING THE DEPOSIT, AND TO ESTABLISH CRITERIA FOR EXPLORATION FOR SIMILAR DEPOSITS IN THE AREA.**

Simplified geology of part of the Committee Bay Project, 2001 (C-NGO)





interpretation of sedimentary stratigraphy of the Paleoproterozoic Foxe Fold Belt in central Baffin Island. Over three field seasons (2000-02), the project will cover NTS map sheets 37A, 37D, and the western halves of sheets 27B and 27C. The area has elevated potential for base metal and gold mineralization. Four new maps of the area were released on March 1, 2001, through the GSC publication system (GSC Open Files 3958, 3959, 3960, and 3961).

Fieldwork continued for a thematic study focusing on potential base metal-bearing horizons in the Polaris Mine district in the Arctic Islands, in collaboration with Cominco Ltd and Noranda Inc. The companies are providing logistical support, technical and in-house geoscience data as well as representative rock samples from past activities. In 2001 the project continued with a study of lead-zinc showings and mineralizing systems on western Cornwallis Island, northern Somerset Island, and the eastern Grinnell Peninsula of Devon Island.

Privately funded exploration tends to be attracted to the vicinities of these government-sponsored projects, due to upcoming releases of improved geoscientific information following the field programs. Teck-Cominco, BHP-Billiton and Falconbridge Ltd. conducted regional programs in the Central Baffin area in 2001.

FIELDWORK CONTINUED FOR A THEMATIC STUDY FOCUSING ON POTENTIAL BASE METAL-BEARING HORIZONS IN THE POLARIS MINE DISTRICT IN THE ARCTIC ISLANDS, IN COLLABORATION WITH COMINCO LTD AND NORANDA INC.

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# Summary of Mining and Exploration

The Kitikmeot Region remained a hotbed of exploration in 2001. Echo Bay Mines' wholly owned Lupin Mine was re-commissioned in early 2000. The Hope Bay Joint Venture's Hope Bay project continued as the largest project in the territory, expending \$15 million in its search for gold mineralization east of Bathurst Inlet. Two new zones, the Suluk and Naartok deposits, were the focus of drilling in 2001. To the south, Kinross Gold Corporation worked on the Goose Lake gold deposit in the George Lake project in an effort to increase its resource base.

Diamond exploration in the Rockinghorse-Kikerk Lakes area resulted in the discovery of at least eight new kimberlites. Four of these, the Anuri, Anuri East, Potentilla, and Artemisia kimberlites, produced encouraging diamond counts from initial sampling. These results precipitated a staking rush in November, with claims now covering a broad area stretching northwest from Rockinghorse Lake to southeast of Kugluktuk. Some fifteen exploration companies are involved with the several hundred thousand hectares recently staked. The 2002 exploration season will be very interesting.

Base metal exploration is back in the picture. The High Lake polymetallic deposit saw significant drilling for the first time in years by new owner Wolfden Resources Inc. Re-evaluation of previous drill hole data indicates that an intrusive unit, previously believed to cut off the mineralized zones, is likely to be a sill with mineralization possibly extending along it. In addition, DIAND, the Department of Sustainable Development and the private sector have committed \$6 million towards a feasibility study and environmental assessment evaluation of the proposed Bathurst Inlet Road and Port project. These studies will evaluate viability of all-weather road and port facilities linking Inmet Mining Corporation's Izok Lake base metal deposit west of the Lupin gold mine to deep-water port facilities along Bathurst Inlet.

In the Qikiqtaani Region, Breakwater Resources reported the planned early closure

of the Nanisivik zinc-silver mine, set for September 2002. The closure of both Nanisivik and Teck-Cominco Ltd's Polaris mine will have a significant economic impact on the region. At this time no producing mines are set to replace them. However, major companies including Noranda Inc. and Teck-Cominco continue to search for base metal deposits across the High Arctic.

Twin Mining Corporation's Jackson Inlet diamond project has resulted in a second diamond discovery, this time at the Cargo 1 pipe. Results from a composite of six "mini-bulk" samples are expected early in 2002. Kennecott Canada has recently acquired ground in the area.

Three companies acquired three dozen prospecting permits in the Central Baffin area, where the C-NGO's Central Baffin Project, including bedrock and surficial materials mapping is ongoing. The region is considered prospective for both zinc-lead-silver and nickel-copper-PGE mineralization.

The Kivalliq region saw slightly less exploration activity in terms of the number of active projects relative to those in the Kitikmeot and Qikiqtaani regions. WMC Ltd. placed all of its global gold operations and holdings, including its interest in the Meliadine West gold project, for sale in April 2001, limiting exploration to an airborne geophysical survey. No sale of its Meliadine West interest has been completed to date. More positively, Cumberland Resources conducted a drill program targeting the Vault gold deposit within the company's wholly owned Meadowbank project, resulting in a doubling of known resources.

Starfield Resources Inc. has not only expanded its Ferguson Lake copper-nickel-platinum-group metal (PGM) deposits, but has also discovered two new high-grade palladium-platinum zones. Starfield proceeded to have its geologists re-log previously acquired core in search of

## Mineral Production Summary Year 2000 – November 1st, 2001

Preliminary estimates of the total value of year-2000 mineral production in Nunavut stand at \$384 million, up from the 1999 production total of \$349 million (NRCAN, 2001). This represents 4.5% of Canada's total mineral production.

A large proportion of this total was derived from zinc shipments, totaling approximately 185,000 tonnes valued at \$310 million. This equates to 81% of the total metal production in Nunavut (NRCAN, 2001). Lead shipments accounted for \$21 million from sales of 32,000 tonnes; silver sales totaled \$3.76 million from sales of 16,000 kg. Gold production, curtailed in 1999, resumed in 2000, resulting in \$49 million from sales of 3,696 kg.

Nunavut ranked third in Canada in both zinc and lead sales (NRCAN, 2001), accounting for 19.8% of Canada's zinc and 22.3% of its lead. The territory also contributed 1.4% of Canada's total silver sales and 2.4% of its gold sales.

**THE HOPE BAY JOINT VENTURE'S HOPE BAY PROJECT CONTINUED AS THE LARGEST PROJECT IN THE TERRITORY, EXPENDING \$15 MILLION IN ITS SEARCH FOR GOLD MINERALIZATION EAST OF BATHURST INLET.**



extensions of those and other similar zones. This resampling has led to the discovery of rhodium mineralization.

Several reconnaissance and grass-roots programs were conducted. Hudson Bay Exploration and Development explored for base metals and Tri-Origin Exploration Ltd began its program targeting potential Olympic Dam-type copper-gold mineralization. BHP-Billiton Ltd continued with diamond exploration and Comaplex Minerals conducted gold exploration.

## Looking at the Numbers

The following tables provide information on the distribution of projects by maturity, target commodities, geographical location, and a tally of diamond drilling metreages for Nunavut in 2001 up to November 1. Natural Resources Canada (<http://www.nrcan.gc.ca/mms/efab/mmsd/exploration/byprov2001.htm>) forecasts that mineral exploration and deposit appraisal expenditures in Nunavut will total \$54.2 million this year, compared to \$62.4 million in 2000 and \$37.4 million in 1999. Approximately \$31.4 million, or 58% of the 2001 spending is expected to be incurred by junior companies. Nunavut differs from the national trend of dominant exploration spending by senior companies, although the proportion of junior company spending has risen steadily in recent years across Canada.

### Active Projects

Region/Commodity	Gold	Nickel/PGE	Base Metal	Diamonds	Totals
Kivalliq:	4	1	2	0	7
Kitikmeot:	4	2	2	10	18
Qikiqtaani:	0	0	8	3	11
<b>Totals:</b>	<b>8</b>	<b>3</b>	<b>12</b>	<b>13</b>	<b>36</b>
Estimated 2000 Figures	11*	4	5	16	36

\*In the 2000 overview, major drilling projects at the Doris and Boston deposits were considered separate projects from the Hope Bay reconnaissance work, and work at the Vault showing was similarly considered separate from the Meadowbank deposit. This year the distinction has not been made, and the estimated totals for both 2000 and 2001 presented here reflect the lack of distinction. Active mines are included in the total.

### Project Maturity

Region/Commodity	Reconnaissance	Advanced*	Mines	Totals
Kivalliq:	5	2	0	7
Kitikmeot:	14	3	1	18
Qikiqtaani:	9	0	2	11
<b>Totals:</b>	<b>28</b>	<b>5</b>	<b>3</b>	<b>36</b>
Estimated 2000 Figures	27	6	3	36

\*Defined as projects that included (but are not limited to) drilling or bulk sampling for resource calculations, or projects undergoing environmental assessment.

### Drilling

### Preliminary Diamond Drilling Metreage Statistics

Region/Commodity	Gold	Nickel/PGE	Base Metal	Diamonds	Totals
Kivalliq:	4,044	40,000			
Kitikmeot:	36,907	5,900	3,148	5,341	
Qikiqtaani:			5,346	1,566	
<b>Totals:</b>	<b>40,951</b>	<b>45,900</b>	<b>8,494</b>	<b>6,907</b>	<b>102,252</b>
Estimated 2000 Figures	73,912	24,384	7,707	5,000*	111,003

\*Estimated; data is missing for some projects



# Kivalliq

The Kivalliq Region includes the eastern mainland, Southampton Island, and several smaller islands. The largest communities — Rankin Inlet, Arviat, and Baker Lake — are the primary staging points for exploration projects inland and offer expediting services.

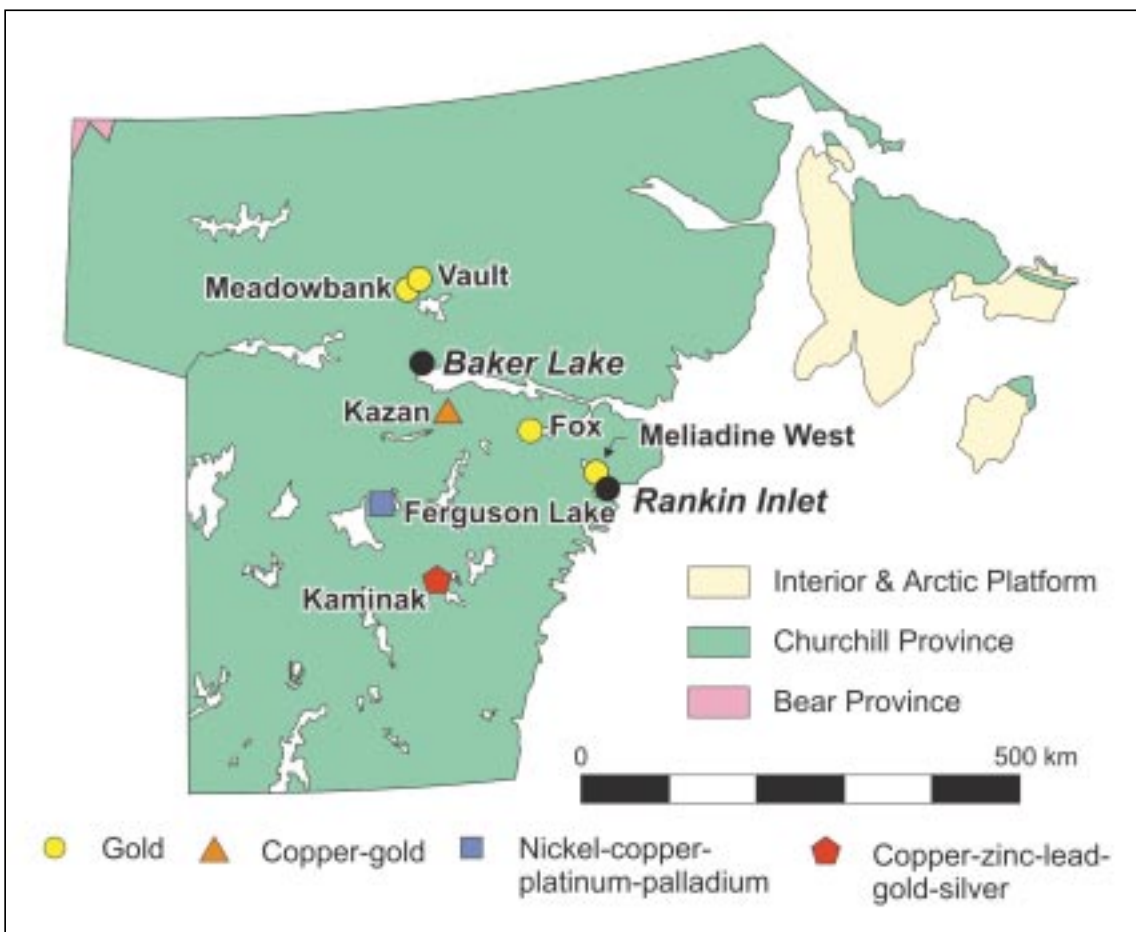
The Kivalliq region is underlain primarily by the Western Churchill geological province, which is Archean-Proterozoic in age. Phanerozoic sedimentary rocks of the Hudson Platform cover most of the islands.

Past-producing mines in the region include the North Rankin Nickel mine, at Rankin Inlet, and the Cullaton Lake/Shear Lake operation north of Nueltin Lake. Exploration has primarily been for lode and iron formation gold,

volcanogenic massive sulphide, unconformity-hosted gold, and mafic-ultramafic nickel-copper deposits. The presence of other deposits, such as epithermal gold and diamondiferous lamprophyres, has also been demonstrated.

The Ferguson Lake project was the largest program underway in the region in 2001, followed by the Meadowbank project and several smaller reconnaissance projects.

Core sample from Starfield Resources' Ferguson Lake Project



Mining and Exploration in the Kivalliq Region

## Meadowbank Project (Vault Zone)

Operator, Owners	Cumberland Resources Ltd
Commodities	Gold
Coordinates	96°00' W, 65°04' N
NTS	66H/1, 56E/4
Location	75 km north of Baker Lake

In 1999, Cumberland acquired exploration rights to a 74,000 acre area northeast of the Meadowbank project. The Vault Zone is located on ground covered by NTI Exploration Agreements, while the previously identified Meadowbank project is on grandfathered leases.

The general geology of the Vault area consists of northeast-trending, Archean intermediate volcanic rocks, bounded to the northwest by mixed sedimentary and volcanic rocks, and to the southeast by younger granite intrusions. Several showings, including the Wally World, PDF, Longroot, and Lakeshore have been found, but Cumberland's initial work has focused on the Vault Zone.

The Meadowbank gold deposits are located within rocks of the Archean Woodburn Lake greenstone belt. Mineralization is hosted by iron formation interbedded with felsic to intermediate tuff, associated with subordinate orthoquartzite and ultramafic schist. The supracrustal package is folded into a north-west trending, isoclinal, recumbent anticline and is sandwiched between two large granitoid intrusions.

Mineralization within the Vault Zone occurs as a northeast-trending, shallowly dipping zone of quartz-sericite-carbonate-pyrite-altered volcanoclastic rocks associated with early isoclinal folding. A 27 hole, 2853 metre drill program in 2000 intersected significant mineralization, including 11.63 g/t over 5.0 metres and 5.20 g/t over 4.15 metres, in separate intervals within hole VLT-008, and 7.02 g/t over 8.75 metres in VLT-024. A preliminary resource of 3.365 Mt grading 3.9 g/t gold (0.422 million ounces) was reported in December 2000.

A second year of drilling in 2001 consisted of nineteen holes totaling 4,044 metres.

Intersections of up to 8.93 g/t gold over a 4 metre interval in hole VLT-046. The deposit, remains open at depth and along strike, now known to be 850 metres long, 300 metres wide, and up to 120 metres deep. A 1450 line-kilometre airborne geophysical survey, between the four original Meadowbank

underlie, Wolf-Wesmeg Formation mafic and ultramafic rocks with the interlayered Lean and Lower Lean Iron Formations, and the Falcon Formation variolitic flows. South of the Pyke Break, stratigraphy is dominated by Sandhill Formation siltstones and wackes, and Sic Sic Formation polymictic conglomerates.



Meadowbank campsite.

deposits and the Vault Zone was also completed.

In October 2001, the inferred resource for the deposit was updated to 7.47 million tonnes grading 3.90 g/t gold, for a total of 936,700 ounces. Overall, the project has a measured/ indicated resource of 7.775 million tonnes grading 5.79 g/t and an inferred resource of 10.937 million tonnes grading 4.44 g/t, for a total of 3.009 million ounces gold.

## Meliadine West

Operator, Owners	WMC International (56%) Cumberland Resources Ltd (22%) Comaplex Minerals Corp (22%)
Commodities	Gold
Coordinates	92°11' W, 63°01' N
NTS	55J/13, 55K/16, 55N/1
Location	30 km north of Rankin Inlet

The Meliadine West deposits are hosted within the Archean Rankin Inlet Group, in the hanging wall of the Pyke Break Deformation Zone. Stratigraphy in the area strikes east-southeast and is overturned with south-facing tops. The stratigraphy, from north to south (oldest to youngest) is the Sam Formation (metaturbidites), Upper Oxide Iron Formation and Tiriganiaq Formation wackes and siltstones. These structurally overlie, but stratigraphically

Mineralization is hosted primarily within the iron formation and associated metasediments and zones of high strain at volcanic/sedimentary contacts. Mineralization generally consists of quartz±iron±carbonate±arsenopyrite±pyrrhotite veins and sericitic alteration. Four main deposits are known — the Tiriganiaq (or Tiriruniak, in Upper Oxide IF and at the volcanic/sedimentary contact), Pump (Upper Oxide IF), F Zone (Lower Lean IF), and Wolf (Lower Lean IF) deposits.

Comaplex Minerals and Asamera Minerals staked the Nat claim in 1987. The Discovery Zone, on the Meliadine East property, was discovered in 1989 by prospectors working for Asamera Minerals and Comaplex Minerals, prompting additional staking. Rio Algom optioned the Meliadine West property in 1991 but terminated the option in 1992 despite intersecting high-grade gold intervals during a drill program. Cumberland acquired Asamera's interest in 1993. With Comaplex as operator, the F Zone was discovered in 1993 and the Pump Zone in 1995. WMC International began earning an interest in the property in 1995, with the Tiriruniak (or Tiriganiaq) and Wolf Zones being discovered. Comaplex applied for an NTI Concession Agreement (later replaced by an Exploration Agreement) in 1996. Cumberland and WMC





Iron formation from the  
'F' zone at Meliadine West

received additional Exploration Agreements in 1999 and 2000. Total drilling by the partners, as of late in 2000, is approximately 135,000 metres. The indicated and inferred resource is 22.1 million tonnes grading 6.33 g/t gold (3 g/t cut-off), for 4.5 million ounces. This compares with the previous estimate of 23.7 million tonnes grading 8.5 g/t, for 6.5 million ounces. Using a 5.0 gpt gold cut-off, the Tiriganiaq Zone alone hosts an indicated resource of 6.9 million tonnes grading 9 gpt gold, for 2.01 million ounces.

Work this year was limited to an 800 line-kilometre airborne geophysical survey over part of the claim block. Prospecting on the WMC claims produced gram-level gold values from boulders and outcrops.

WMC has placed its interest in the project up for sale, but as of November no buyer had been identified.

## Fox

Operator, Owners	Comaplex Minerals
Commodities	Gold, silver
Coordinates	93°20' W, 63°16' N
NTS	55N/6
Location	100 km NW of Rankin Inlet

The three Fox claims cover an area of amphibolitized mafic volcanic and lesser sedimentary rocks and basal ortho- and paragneiss. These are intruded by Trans-Hudson-age (1.84 Ga) granitic intrusions and are cut by regionally extensive east-west and northeast oriented structures. Mineralization occurs as thin, auriferous quartz veins in and near lean iron formation.

Comaplex prospected the property, collecting 41 grab samples. The auriferous veins were found to be spatially restricted to the iron formation horizons and appear to be pre-deformational. Gold values were of low grade and had poor continuity along strike.

## Ferguson Lake Project

Operator, Owners	Starfield Resources
Commodities	Nickel, copper, cobalt, palladium, platinum
Coordinates	96°51' W, 62°52' N
NTS	65I/14,15
Location	230 km west of Rankin Inlet

Starfield holds 57,304 acres in the Ferguson Lake area. INCO first discovered nickel-copper mineralization there in 1950-55, completing 38,000 metres of diamond drilling to outline a resource of 6.354 Mt grading 0.75% nickel and 0.87% copper. Starfield acquired the ground in March 1999 and began diamond drilling and geophysical work.

Mineralization occurs as chalcopyrite-pyrite-pyrrhotite stringers and massive pyrrhotite in zones up to ten metres thick. These are hosted by a hornblendite sill or laccolith that can be traced for 9 km on surface and for 18 km using airborne geophysical data. The



Iron formation at Cumberland Resources'  
Meadowbank Project

hornblende is bounded on either side by amphibolite, which in turn is bounded by hornblende gneiss to the north and south. The entire sequence is folded in northeast trending folds and is repeated to north and south. A syenite intrusion is located just northeast of the deposit.

Starfield embarked on two phases of exploration in 2000. During the winter and spring, 5000 metres of diamond drilling, magnetic surveys and about 71 line-kilometres of UTEM surveys were completed. A 12,500 metre drill program was begun in the late summer. As of January 2001, Ferguson Lake's global resource was estimated at 32.4 Mt at 0.86% copper, 0.59% nickel, and 1.26 g/t palladium and platinum. Approximately 1.31 million ounces of platinum group metals — primarily palladium — have been outlined.

Starfield began a planned 40,000 metre diamond drill program in early March 2001, using three drill rigs. Three holes tested the Main and East zones in addition to surface mapping, but most activity was aimed at expanding known mineralization in the West Zone. This produced intersections such as 45.95 metres grading 1.34% copper, 0.76% nickel, 0.089% cobalt, 1.99 g/t palladium, and 0.32 g/t platinum in hole FL01-91. A new discovery was made in hole FL01-101, where a low sulphide interval above the massive

sulphide body proved to contain high palladium-platinum values: 0.35 metres at 103 g/t palladium and 26.7 g/t platinum. Subsequently, Starfield began re-logging other holes and began sampling intervals similar in appearance to the high-grade interval in hole 101.

As a result of the year's drilling, Starfield boosted its inferred resource for the property to 60.1 million tonnes grading 0.93% copper, 0.59% nickel, and 1.51 g/t combined palladium and platinum. This includes a higher-grade resource of 12.7 million tonnes grading 1.39% copper, 0.85% nickel, and 2.20 g/t palladium and platinum. Palladium is the dominant of the two precious metals in both cases.

### Kazan Project

Operator, Owners	Tri-Origin Exploration Ltd
Commodities	Copper, gold
Coordinates	95°30' W, 63°45' N
NTS	55M/12-14
Location	70 km south of Baker Lake

Tri-Origin acquired Prospecting Permits 2400-2403 in 2001 to explore for Olympic Dam-style mineralization near Bissett Lake. BHP-Billiton has the right to incur a 50% interest by incurring work expenditures of \$1.6 million.

Most of the property is covered by arkose, conglomerate, siltstone, and mafic trachyte of the Proterozoic Baker Lake Basin, with some later intrusions of the Martell syenite. The southern

part of the property is underlain by Archean quartz monzonite and volcanic rocks of the Parker-McQuoid greenstone belt. Copper, gold, and uranium occurrences are associated with zones of brecciation and veining, with hematite, chlorite, siderite, and/or albite alteration.

Interest in the Bissett Lake area was first peaked by the potential for uranium deposits in the 1970s. Pan Ocean Oil, New Continental Oil, Esperanza Oil, Cominco, and Noranda were active in the early- to mid-1980s. Modest diamond exploration in the area in 1993 resulted in the recovery of G-5 garnets, clinopyroxenes, and a chrome diopside from about ten till and esker samples. Exploration for Olympic Dam-style mineralization during the mid- to late-1990s has been carried on by several companies but little exists in the way of hard data.

Tri-Origin began its work with an approximately 6,000 line-kilometre combined airborne magnetic and gravimetric survey followed by ground-truthing and prospecting. Ninety-seven grab samples were collected.

### Melville Peninsula Project

Operator, Owners	Falconbridge Ltd
Commodities	Nickel, copper, palladium, platinum
Coordinates	84°15' W, 67°08' N
NTS	46K/15,16, 46O/5, 46N/1,2
Location	110 km northeast of Repulse Bay

Tri-Origin Exploration's crew for the Kazan Project, Kazan River





Kazan River



Prospecting Permits 2356-2360 were acquired in 2001 and cover 187,950 acres on the Melville Peninsula. The permits are underlain by Proterozoic Penrhyn Group metasedimentary rocks and mafic and ultramafic intrusions. Mineralization occurs in numerous sulphidic gossans in the metasediments, but little sulphide has been noted in the intrusions.

Aquitaine Company of Canada explored the area for its base metal potential between 1970 and 1972, followed by Borealis Exploration in 1975. Between them, the companies generated a number of anomalies, including the metasediment-hosted copper-nickel Bil and Duc zinc-copper-nickel-molybdenum showings. BHP and Noranda further examined the base metal potential between 1994 and 1998.

Falconbridge's program included prospecting across all five permits. Five float, 125 grab and 125 whole-rock samples were collected.

### Kaminak Project

Operator, Owners	Hudson Bay Exploration and Development
Commodities	Copper, zinc, lead
Coordinates	96°00' W, 62°30' N
NTS	55K, 55L, 65H, 65I
Location	150 km southwest of Rankin Inlet

Regional prospecting for volcanogenic massive sulphide mineralization took place in the Kaminak greenstone belt. A total of 1014 whole-rock, till, and other samples were collected for analysis.

### Kivalliq Reconnaissance

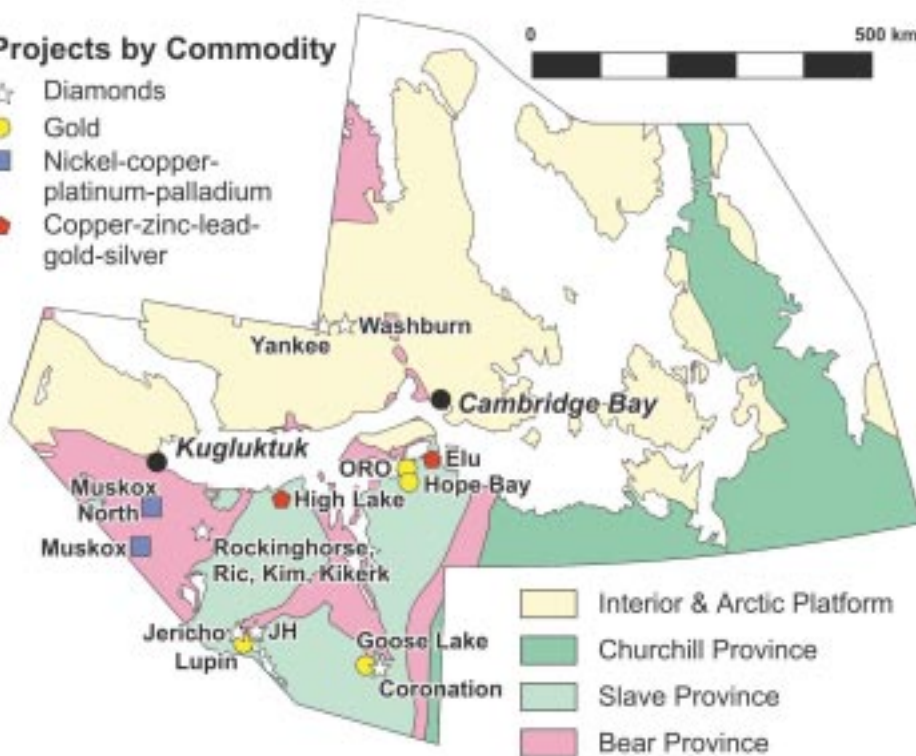
Operator, Owners	BHP Billiton
Commodities	Unspecified
Coordinates	
NTS	
Location	

BHP Billiton collected 660 till samples on open ground in the Kivalliq. No results have been made available.

## Kitikmeot Region

### Projects by Commodity

- ☆ Diamonds
- Gold
- Nickel-copper-platinum-palladium
- ◆ Copper-zinc-lead-gold-silver



Mining and exploration  
in the Kitikmeot Region

Diamonds and gold were the two primary commodities sought by companies in the Kitikmeot this year. Nickel-copper-platinum mineralization programs around the Muskox did produce some encouraging results as well. In August 2001, DIAND committed \$3 million towards a feasibility study and associated environmental assessment evaluation to lay the framework for construction of a 295-km all-weather road extending from the Izok Lake zinc-copper deposit to a proposed deep-water port at Bathurst Inlet. The Government of Nunavut and the private sector will contribute a further \$1.5 million each. This feasibility study is currently underway. The project will be directed by a Technical Committee consisting of representatives from Kitikmeot Corporation, Inmet Mining, the Inuit-owned Nuna Logistics Corporation, the Community of

The Kitikmeot region spans the western and northern mainland, and parts of Victoria, Prince of Wales, King William, and Somerset islands. Kugluktuk and Cambridge Bay are the largest communities in the region and provide services to camps in the area. Yellowknife, to the south, is also an important logistical center.

The Kitikmeot is geologically diverse. The Archean Slave Province occupies part of the western mainland and is overlain to the west and east by the Paleoproterozoic siliciclastic and carbonate rocks of the Wopmay Orogen. Inliers of the Paleoproterozoic rocks are also found on Victoria Island, overlain by the Paleozoic Arctic Platform sedimentary rocks that cover most of the islands. The Archean Churchill Province underlies most of the northern mainland.

The small mines at Roberts Bay, Ida Bay, and Ida Point, south of Elu Inlet, are the only past producers in the region. The Lupin gold mine is active, having been in production since 1982. Mining has been proposed at the nearby Jericho diamond project; the project is in the initial stages of regulatory review.

Traditional exploration targets have included massive sulphide-hosted base metals and lode and iron formation gold in the Slave. Extensive nickel-copper exploration has taken place at the 1.27 Ga Muskox Intrusion, along with vein copper and sedimentary-hosted massive sulphides. Recent diamond exploration has occurred across virtually the entire western mainland and parts of Victoria and Somerset islands.

Kugluktuk, the Department of Sustainable Development and Department of Community Transportation of the Government of Nunavut.

This infrastructure will facilitate access to Inmet's Izok Lake base metal deposit, which contains a mineable resource of 16.5 million tonnes grading 11.4% zinc, 2.2% copper, 1.1% lead, and 60 gpt silver worth approximately \$2 billion. Other known deposits such as Teck-Cominco's Hackett River Deposit (19.5 million tonnes grading 5.0% zinc, 0.41% copper, 0.75% lead, 145 gpt silver and 0.45 gpt gold) will also benefit from the road and port. Upon development, the infrastructure is expected to focus future exploration to this region.

## Lupin

Operator, Owners	Echo Bay Mines Ltd
Commodities	Gold
Coordinates	111°14' W, 65°46' N
NTS	76E/11,14
Location	402 km north of Yellowknife

The Lupin area is underlain by metaturbidites of the Archean Contwoyto Formation, which contains a silicate and sulphide-facies iron formation. The rocks have been repeatedly deformed, such that the mine site stratigraphy consists of two steeply plunging, steeply dipping anticlines separated by a syncline. Where mineralized, the iron formation is well laminated and contains disseminated to massive pyrrhotite, arsenopyrite, loellingite and pyrite. Arsenopyrite is typically found in the iron formation adjacent to steeply dipping quartz veins. The three primary ore zones are the West (in the west limb of the western anticline), Central and East zones (on the west and east limbs of the syncline). Two other ore bodies, McPherson 1 and 2, occur in different iron formation lenses several dozen metres west of the West Zone.

The Canadian Nickel Company (Canico) discovered gold here in 1961. By 1964, trenching, geophysics and diamond drilling

had outlined a resource of 1.2 Mt grading 17.14 g/t gold. In 1979, Canico optioned the property to Echo Bay Mines, who bought it outright the following year. Underground exploration and mine construction commenced shortly afterward and the mill was commissioned in April 1982. Production continued until low gold prices caused the mine to be placed on care and maintenance in January 1998. In this period, the mine milled 10.46 Mt with an average grade of 9.9 g/t, and produced 2.84 million ounces. The mine re-opened in April 2000 and produced 117,729 ounces by the end of the year, at a cash cost of US\$214/ounce.

At the end of 2000, proven and probable reserves were estimated at 1.652 Mt grading 8.9 g/t. The Centre, West and McPherson zones remain open at depth.

The mine reached a milestone in 2001 by pouring its three millionth ounce in May. Lupin is on track to produce 150,000 ounces, in 2001 having extracted 0.329 Mt grading 8.0 g/t in the first half of the year. Cash operating costs were US\$223 per ounce, with total production costs (including depreciation, amortisation, and ongoing reclamation) equalling US\$273 per ounce.

Exploration at the site included a 255-metre drift drive on the West Zone south of the shaft on the 890 metre level. Approximately

2000 metres of drilling began testing this portion of the Lupin Ore Unit in September.

Echo Bay's Ulu Deposit, located 160 km north of Lupin, contains a resource of 375,000 oz gold, and represents potential additional ore feed for the Lupin milling facility.

## Hope Bay Project

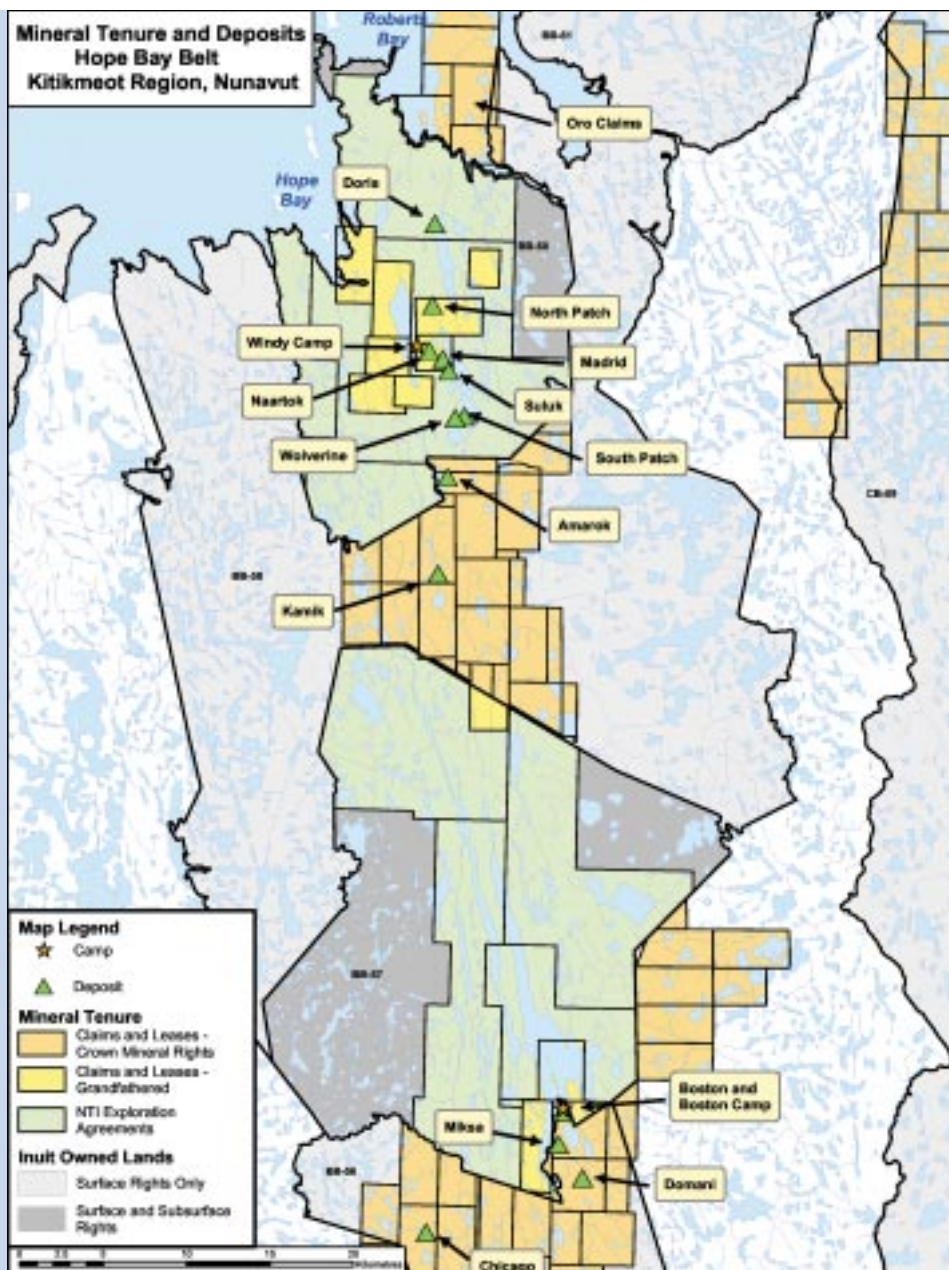
Operator, Owners	Miramar Mining Corp (50%) Hope Bay Gold Corporation (50%)
Commodities	Gold
Coordinates	106°30' W, 68°00' N
NTS	76O/9,10,15,16, 77A/2,3,6,7,10
Location	160 km southwest of Cambridge Bay

The Hope Bay project was again the largest exploration project in Nunavut, with \$15 million spent in 2001. The joint venture controls most of the Hope Bay greenstone belt (approximately 250,000 acres), large portions of which are Inuit Owned Lands administered by Nunavut Tunngavik

Aerial view of  
the Lupin gold mine







Incorporated. The Hope Bay belt comprises mafic metavolcanic and metasedimentary rocks that extend over 80 km in a north-south direction and are bound by Archean granite intrusive rocks and gneisses. The greenstone package has been deformed during multiple deformation events and is transected by major north-south trending shear zones that appear to control mineralization, particularly where major flexures are apparent. Second-order shears branching off the major shear zone also host significant gold mineralization.

The Boston deposit is located near the south end of the belt and is associated with a flexure in the Hope Bay regional structure. The Doris deposit consists of a steeply dipping, four kilometre long quartz vein system in folded and metamorphosed pillow basalts and is situated on an inferred inflexion in the regional Hope Bay Break. The Madrid deposit is lower grade, and consists of three styles of veining and brecciation specific to the Matrim, Perrin, and Rand zones of the deposit.

Sporadic exploration in the Hope Bay area

began in 1964 and resulted in several gold and silver showings (Discovery, Ida Point, Ida Bay, Rad, Roberts Lake, Lahti). Noranda began exploring for volcanogenic massive sulphide deposits in 1977 but left the belt in 1990. BHP Minerals Canada began staking that same year and commenced drilling in 1992 at the Boston property. BHP received NTI Concession Agreements in 1993, 1994 and 1995 covering Subsurface IOL adjacent to the Boston deposit and around the Doris and Madrid deposits. After spending \$85 million over nine years, BHP sold the property to Cambiex Exploration in late 1999 for US\$18.5 million. Cambiex sold a 50% interest to Miramar a few days later for \$20.6 million. Cambiex changed its name to Hope Bay Gold Corporation in June of 2000. (The NTI Concession Agreements were converted to Exploration Agreements in the name of Miramar and Hope Bay Gold Corporation.)

The joint venture's operations in 2000 included reconnaissance drilling of several showings and deposits, prospecting, and mapping. Major drilling projects were completed at the Boston, Doris and Madrid deposits and the South Patch showing. Mapping and prospecting were completed at Dinger, Wolverine, Jeffe, East Patch, and Kamik.

The most recent global resource estimates for the project were released in November 2000. The Madrid deposit totals 1.072 million tonnes grading 8.7 g/t gold, for a total of 0.299 million ounces. Boston is estimated at 3.899 million tonnes grading 12.4 g/t, for 1.546 million ounces. Doris is calculated at 2.406 million tonnes, grading 18.3 g/t gold, for 1.412 million ounces.

The joint venture's 2001 program included prospecting and mapping at 1:5000 on the Boston 2 and 13, Quito 2, Akungani 1, Kamik 1, Amarok 1-3, Tok 1 and 3, Madrid 1 and 2 claims, as well as the mining leases 3548 and 3549. Less detailed 1:10,000 mapping and prospecting were also completed over the Chicago 1 and 4, Heku 1-5, and Boston 18-20 claims. A total of 750 grab, 300 till, 40 soil, and 15 whole-rock samples were collected during this program.



Drilling amounted to 24,907 metres (116 holes) completed in three program phases testing several targets along the 8-kilometre long “Deformation Zone” (DFZ west) and southeast of the Madrid Deposit. Two new significant gold deposits, called Naartok and Suluk, were defined.

Each of the Perrin Bulge, Penn Zone, South Patch, and Wolverine showings were tested by 3-4 drillholes. Seven holes tested the Doris Connector zone and six more were completed at the P112 area.

Half of the drilling (66 holes, 12,461 metres) was completed at one of the two newly discovered significant gold deposits: the Naartok & Suluk zone, located west of Madrid. Naartok is characterized by a west-trending, steeply north dipping zone of disseminated, stockwork, and breccia-style gold-pyrite mineralization associated with dolomite-sericite-silica-albite alteration within mafic volcanic rocks. Significant intersections include: 13.6 metres at 19.8 g/t gold (hole M126) and 2.1 metres grading 30.4 g/t (hole M192).

The other newly recognized significant deposit is the Suluk-Patch Lake area, southeast of Naartok. It was targeted by the remaining 24 holes, which totaled 6,846 metres. There, gold mineralization is associated with brecciated, silicified, and

sulphidized mafic to ultramafic volcanic rocks and intercalated carbonaceous and/or graphitic argillite. Among the better intersections was a 19.4 metre interval grading 15.6 g/t gold in hole M148.

The joint venture has initiated a scoping study and expects to have updated resource estimates available in the near future

### George Lake/Goose Lake

Operator, Owners	Kinross Gold Corp.
Commodities	Gold
Coordinates	107°26' W, 63°56' N
NTS	76G/13
Location	100 km south of Bathurst Inlet

The area is underlain by greywacke with units of iron formation. Granitic intrusions and thin quartz-feldspar porphyry dykes are locally present. The rocks are folded along north-northwest and northeast trends, and cross cut by northwest and northeast trending faults. Mineralization occurs in close association with iron formation apparently localized at the intersection of thickened iron formation and late folds, faults, and dykes. Free gold is found in along with pyrite, pyrrhotite, and arsenopyrite.

Gold exploration in the George Lake area began in 1982 with the formation of the George

Lake and Back River joint ventures consisting of Homestake Mining, Kerr-McGee Corporation, and the Mac Lab Group. Drilling at George Lake began in 1985, and continued to 1994. Arauco Resources purchased the property in 1996 and conducted a major drilling program in 1997. Later that same year, Arauco changed its name to Kit Resources.

The property remained idle until 1999 when Kit was merged into Wheaton River Minerals. Kinross acquired the option to earn a 70% interest by spending \$20 million before November 2004. The new joint venture began exploration with a limited field program in 1999. In 2000, Kinross completed a 40-hole, 11,000 metre diamond drill program on the Goose Lake deposit, increasing its resource base to 3.897 Mt at 12.51 g/t gold, or a total of 1.567 million ounces. Total indicated and inferred resources at the project stand at 7.806 Mt grading 11.25 g/t, for 2.8 million ounces.

This year, Kinross completed a 38-hole, 10,000 metre drill program, again focussed on the Goose Lake deposit. Reported intersections include: 7.0 metres grading 38.6 g/t gold (Hole 01GO-59) and 17.45 metres of 11.8 g/t gold (01GO-65). The deposit has been outlined over a 600 metre strike length and to depths of 300 metres, but remains open. Fifty-six grab samples, 450 till samples, and 200 bedrock channel samples



were collected. In September of 2001, Wheaton River Minerals Ltd announced it had signed a Letter of Intent to sell its George Lake Project to Kinross Gold Corporation in return for four million Kinross shares.

Both the George and Goose Lake deposits are on Subsurface IOL, subject to grandfathered mineral claims and leases.

Elu	
Operator, Owners	Sherwood Petroleum Corporation
Commodities	Gold, base metals
Coordinates	105°45' W, 68°20' N
NTS	77A/2,3,7,10
Location	90 km southwest of Cambridge Bay

The Elu property consists of 34 claims totaling 82,500 acres northeast of the Hope Bay greenstone belt. The belt consists of felsic and mafic volcanic rocks with subordinate sedimentary rocks. A major north-trending, iron-carbonate-altered shear zone cuts the belt and is considered analogous to the Hope Bay belt. A mafic plutonic complex separates the two belts but the two belts may be related.

Little exploration work other than prospecting has been reported in the belt. The Hope Bay Joint Venture prospected the area in 2000, discovering six gold targets and one platinum-group element target. Most of the gold targets were found in association with quartz vein systems near shear zones, fold structures, and lithological contrasts.

In 2001 the joint venture sold the property to Sherwood Petroleum for a total of ten million units (one share, one warrant per unit) in the company. The joint venture conducted exploration on Sherwood's behalf. Sulphide-bearing gossans were discovered along a twelve kilometre long zone in felsic volcanic rocks, including massive and semi-massive sulphides in two locations eight kilometres apart. The more northerly Peninsula showing yielded grab samples of up to 10.3% copper, 5.2 g/t gold, and 150 g/t silver, but subsequent channel samples in trenches returned maximum values of 0.51% copper over two metres, and up to 0.34 g/t gold and 28 g/t silver. Channel

samples from the southerly Elu 1 showing assayed 0.45% copper across one metre and 0.23% copper over four metres. A second trend of felsic volcanic rocks to the east was found to host anomalous copper occurrences as well.

Oro Claims	
Operator, Owners	Navigator Exploration Corp
Commodities	Gold
Coordinates	106° 01' W, 68°14' N
NTS	77A/3
Location	125 km southwest of Cambridge Bay

The Oro Claims cover 10,183 acres at the north end of the Hope Bay greenstone belt just north of Miramar/Hope Bay Gold's Doris deposit.

Past exploration of the area resulted in the discovery of the Ida Point and Wombat (Granite) gold showings and the Ida Bay and Roberts Lake silver deposits in 1966-1967. Then-owner Roberts Mining Company carried out limited mining of the high-grade silver ore at Roberts Lake and underground exploration of the Ida Point Showing. Ida Point is a carbonate-altered shear zone within mafic volcanic rocks. The Wombat showing occurs as quartz veins in sheared granite along the eastern edge of the greenstone belt.

Navigator acquired an option on the property in 1998. Drilling and channel sampling that summer produced intersections of up to 5.96 metres grading 5.48 g/t gold at the Ida Point. In 2000, grab samples collected on the Oro 5 claim assayed up to 9.54 g/t gold. Evidence for a shear zone was found in a northeast-trending valley. A heliborne magnetic and electromagnetic survey was flown over the entire property in September, with additional lines over the suspected shear zone.

This summer the property was mapped at 1:10,000 scale to provide a framework from which to focus further exploration. Thirty-two whole-rock samples were collected. Eighty-eight grab samples were also collected; ten samples from seven locations assayed greater than 1 g/t gold.

Jericho	
Operator, Owners	Tahera Corporation
Commodities	Diamonds
Coordinates	111°29' W, 66°00' N
NTS	76E/14
Location	350 km southwest of Cambridge Bay

In 1992-93, Lytton Minerals and New Indigo Resources staked the Jericho, Contwoyto, and Burnside claim group (437,000 acres), around the northern end of Contwoyto Lake. Extensive airborne geophysical surveys were flown and thousands of till samples were collected by contractor Canamera Geological between 1993 and 1995. Drilling in February 1995 resulted in the discovery of the JD/OD-1 kimberlite. A month later, the JD/OD-2 kimberlite was found 350 metres north-northwest of the original discovery. The JD/OD-1, or Jericho pipe, was outlined by 28,000 metres of drilling in 1996. A third pipe, JD/OD-3, also known as Nazareth, was discovered, but neither it nor the JD/OD-2 pipe were of sufficient grade to warrant advanced exploration. A decline was driven into the Jericho pipe in 1997 and 14,555 tonnes of kimberlite was mined for bulk sampling. About 9435 tonnes were processed at a diamond pilot plant on the Lupin mine-site, and 10,535 carats were recovered. The diamonds were assigned an average value of US\$69.65 per carat by HIM Laboratories in 1998, and were re-valued at an average of US\$74 per carat in 1999. The Contwoyto-1 kimberlite was found on the Contwoyto claim group in 1999 but produced a grade of only 0.27 carats per tonne.

According to resource calculations released in September 2000, the Jericho pipe has an indicated resource of 3.667 million tonnes grading 1.14 recoverable carats per tonne, at a value of US\$83.50/tonne. Additional inferred resources stand at 3.401 million tonnes averaging 0.52 carats per tonne. The study proposes an eight year mine life with total production in excess of three million carats. Tahera entered the environmental review process in the summer of 2000.

In the fall of 2001, Tahera's exploration staff discovered a new kimberlite pipe about six kilometres west of the Jericho pipe. A 100.4 kilogram sample was found to contain two diamonds, one of which exceeded a millimetre in two dimensions. Prospecting and till sampling continued during the summer.

In September, Tahera and Kennecott signed an agreement, by which the latter can earn a 62.5% interest in the property, effectively incorporating the claim group into the existing Rockinghorse/Hood River joint venture.

In the short term, Kennecott is obligated to spend \$1 million on exploration, including drill-testing of 20 targets, within twelve months. Kennecott began with prospecting and ground gravity surveys at the heads of several indicator mineral trains. Four float trains were found to coincide with mineral indicator trains. Float similar to the Jericho pipe was found at the southern end of a mineral indicator train 900 metres west of the Jericho pipe.

Mineable reserves total 2.53 million tonnes grading 1.19 carats/ tonne, recoverable by open pit mining with a projected four year operation, followed by four years of underground mining. Start-up is targeted for 2004. Despite the Kennecott deal, Tahera remains the sole official proponent of the Jericho project for now. The environmental review continued in 2001, with an environmental impact statement being prepared in the later part of the year.

## Rockinghorse

Operator, Owners	Kennecott Canada Exploration (50%) Tahera Corporation (50%)
Commodities	Diamonds
Coordinates	113°05'05"W, 66°35'46"N
NTS	86I/2,3,6-12,14,15
Location	450 km north of Yellowknife

The Rockinghorse property covers approximately 1.1 million acres north of Takijuk Lake (also referred to as Napaktulik Lake and Takiyoak Lake). The eastern half of the property is underlain by Archean intrusive rocks, with some mafic to intermediate volcanic

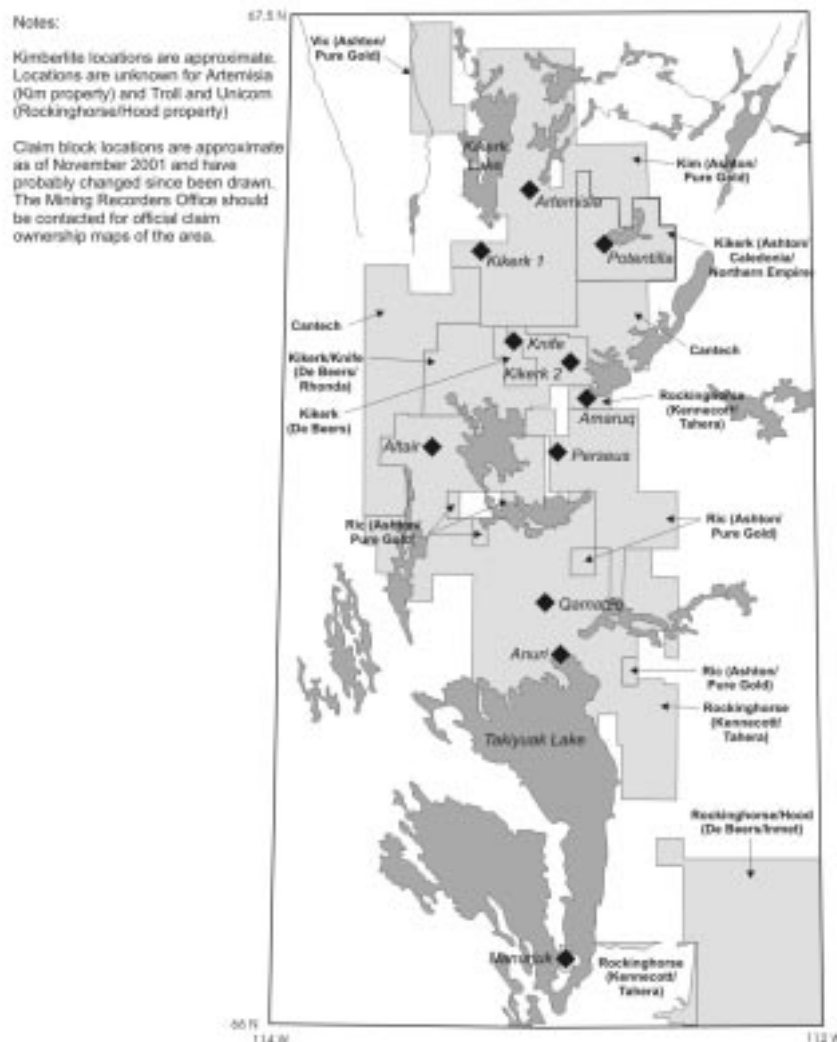
and gabbroic rocks in the northeast. The Paleoproterozoic Epworth Group underlies the western part of the claims.

Tahera Corporation and its predecessors, Lytton Minerals and New Indigo Resources, have held the ground since the early 1990s. Till sampling and geophysical surveys were conducted by contractor Canamera Geological until 1997, at which time the property was optioned to Kennecott, who became the operator. In 1999, Kennecott drilled the Altair pipe in the northwestern corner of the property, but caustic fusion results from drill core did not return encouraging diamond counts. The Nanurjuk kimberlite was discovered in May of 2000.

Kennecott's 2001 program included the collection of 275 till and 5 water samples. Three ground gravity surveys totaling 50 line-kilometres were completed over the Tak Bay, Amaruq, and Nap A grids. A 4050 line-kilometre magnetic and electromagnetic survey was flown over the Napaktulik grid.

Eight holes totaling 1580 metres were completed and four new kimberlites were discovered: Amaruq, Qamattiq, Anuri, and Anuri East. Caustic fusion of 656 kg from Anuri yielded 937 diamonds, 337 of them exceeding 0.5 millimetres in one dimension. The largest stone recovered was 0.75 carat. A 78 kg sample from Anuri East contained 68 diamonds — of which 18 exceeded 0.5 millimetres in one dimension.

Figure 4: Cartoon of the Rockinghorse-Kikerk Lakes Area (86I, 86P South)



## Kim

Operator, Owners	Ashton Mining of Canada (89.7%), Pure Gold Resources (10.3%)
Commodities	Diamonds
Coordinates	113°02' W, 67°15' N
NTS	86P/2,3,6,7
Location	120 km southeast of Kugluktuk

The 130,900 acre Kim project is located just west of the Kikerk Lake property. Like Kikerk, the property is underlain by the Paleo-proterozoic Epworth and Recluse Groups.

Ashton staked the property in 2000 and collected a first set of till samples on the property.

Further till sampling took place in 2001. The Artemisia kimberlite was discovered in September; a 103.2 kg sample of kimberlite core was analyzed by caustic fusion and returned 342 micro- and 38 macrodiamonds (exceeding 0.5 mm in one dimension), the largest of which measured 1.23 x 1.15 x 1.10 mm. A further tonne of the kimberlite was collected from outcrop for caustic fusion.

## Kikerk Lake

Operator, Owners	Ashton Mining of Canada, Caledonia Mining Corporation, Northern Empire Minerals Ltd.
Commodities	Diamonds
Coordinates	112°37' W, 67°15' N
NTS	86P/2,7
Location	125 km southeast of Kugluktuk

The 15 claim, 38,738 acre Kikerk Lake property is underlain by rocks of the Paleoproterozoic Epworth and Recluse Groups of the Coronation Supergroup. The former consists of dolomite, shale, and quartzite, while the latter is primarily shale. The Coronation Supergroup unconformably overlies Archean gneisses of the Slave craton.

The fifteen claims are among a larger property acquired in 1993 by Caledonia, who collected alluvial and beach gravel samples. Till sampling began in 1994. Portree Inc. acquired the option to earn a 50% interest in 1997 and conducted geophysical surveys

over five targets. These were drilled without success. Condor International Resources acquired the option from Portree in 1998 and collected till samples. Eleven shallow drill holes failed to locate kimberlite. Ashton acquired the option to earn a 52.5% interest in the property in 2000 and completed a till sampling program intended to locate the source of an indicator mineral train identified by earlier work.

In 2001, a geophysical survey completed in the spring identified five anomalies. Two holes totaling 346 metres tested a 140 x 60 metre magnetic anomaly and intersected the Potentilla kimberlite. 208 kilograms of kimberlite yielded 230 microdiamonds and 22 macrodiamonds (exceeding 0.5 mm in one dimension). The largest diamond was 2.13 x 1.94 x 0.87 millimetres in size and was recovered from diatreme facies material.

Two additional holes totaling 193 metres encountered narrow kimberlite dykes coincident with a linear feature 1 km east of Potentilla. Preliminary analysis suggests these dykes are not the source of the indicator mineral trains.

Drilling coincided with additional geophysical work and till sampling. At present there remains about 10 unexplained kimberlite indicator mineral trains on Ashton's properties in Nunavut.

## Ric

Operator, Owners	Ashton Mining of Canada (87.5%) Pure Gold Resources (12.5%)
Commodities	Diamonds
Coordinates	113°00' W, 66°45' N
NTS	86I/10,11,14-16
Location	460 km north of Yellowknife

Covering 126,000 acres, the Ric property is primarily underlain by Archean granitoid and gneissic rocks. Paleoproterozoic carbonate and clastic rocks cover the northwestern corner of the property.

The Ric property has been explored by the Ashton/Pure Gold joint venture since 1993. Till

sampling and ground and airborne geophysical surveys were completed over several seasons.

Prospecting of an indicator mineral train resulted in the discovery of the Hydra kimberlite in 1999. The Perseus kimberlite, inferred to be a 10 metre wide sill, was discovered in 2000.

Ground geophysical surveys were completed along a 1.4 km length along strike with the dyke, and detected several anomalies. Drilling on two anomalies, 290 and 420 metres along strike from the discovery holes also intersected kimberlite. The thickness and dip of the intersections suggest both holes cut the Perseus dyke along strike. Ashton also completed grid and reconnaissance till sampling on the property.

## Rockinghorse/Hood

Operator, Owners	De Beers Canada Exploration Inc. Inmet Mining Corp
Commodities	Diamonds
Coordinates	111°45'13" W, 65°59'40"N
NTS	76E/13, 76L/04, 86H/15, 86I/1
Location	230 km southeast of Kugluktuk

The 292,479 acre TK and MOR claim groups are located within the Slave Geological Province. Metasedimentary and metavolcanic rocks underlie the majority of the property, along with granite, granodiorite, and granitic gneiss. Diabase dykes are common in the area and trend north-northwest.

Inmet has previously explored the property for massive-sulphide base metal deposits. More recently, the focus has shifted to diamonds, with De Beers' discovery of the Muskox, Rush, Voyageur, and Peregrine kimberlites.

De Beers collected 472 till samples this year, and completed ground magnetic and electromagnetic surveys over eight grids for a total of 294 line-kilometres. Ten drill holes totaling 1,157 metres were completed over nine targets and one previously known kimberlite. Two new discoveries, Troll and Unicorn, were reported.



## Washburn Diamond Project\*

Operator, Owners	Major General Resources (52%) Ascot Resources (48%)
Commodities	Diamonds
Coordinates	109°20' W, 70°10' N
NTS	77F/2 (main claim group), 77D/12,13, 77C/9,10,15,16
Location	190 km northwest of Cambridge Bay

\*Identified as “Homerun Project (Victoria Island Property)” in 2000 DIAND Overview

Major General and Ascot's 175,765 acre Washburn project is the approximate geographic center of the Victoria Island diamond play. Most of the play, some 1.4 million acres, is collectively known as the “Homerun Project”. There are three other joint ventures within the project: the 90,000 acre Yankee project (Hawkeye earning an interest from Major General) is reported here separately. The 988,800 acre Tahoe Lake property is a joint venture of Major General and Dia Met Minerals, while the 160,822 acre Mariner property is a Major General/Ascot/Dia Met venture. No 2001 exploration results have been reported for the Dia Met joint ventures, probably due to its summer acquisition by BHP Canadian Diamonds, a subsidiary of BHP-Billiton.

The property geology consists of an Ordovician age carbonate platform overlying the Proterozoic Shaler Group shale and Elice Formation sandstone. Diabase dykes cut the Proterozoic rocks but not the platform. To date, sixteen kimberlites have been reported on the island, fourteen of which are diamondiferous. Kimberlite dykes totaling 25 km in length have been inferred from geophysics and limited drilling.

The Major General/Ascot joint venture began exploring for diamonds on Victoria Island in 1994. Airborne and heliborne magnetic surveys, combined with positive till sample results, led to the location of several high-priority targets by 1995. Further work was delayed until a positive consultant's report

led to a joint venture between the existing partners and Monopros (now De Beers Canada) in 1998. Further till sampling and geophysical work took place in 1998. Monopros drilled eight targets in 1998, five of which were found to be kimberlites. Two additional kimberlites were discovered in 1999, and geophysical surveys indicated the presence of several kimberlite dykes over a 15 km strike length. Despite high microdiamond counts in samples from some of the pipes, Monopros chose not to renew its option. During the summer of 2000, Major General completed a 1400 line-kilometre heliborne magnetic survey. Ground-based magnetic surveys, prospecting, and till sampling were concentrated around previously identified targets.

The 2001 season saw the joint venture collect 149 till samples, from which 361 indicator minerals were collected. Although 155 of these are thought to be derived from the Snowy Owl kimberlite, the remainder appear to represent new targets. A 900 line-kilometre magnetic survey over the northern part of the property revealed a dozen new targets for further examination.

## Kikerk Lake\*/Knife Lake\*

Operator, Owners	De Beers Inc. (earning 70%), Rhonda Corporation
Commodities	Diamonds
Coordinates	~113°30' W, 67°00' N
NTS	86P/3
Location	80 km southeast of Kugluktuk

\*Identified as “Epworth Project” in DIAND 2000 Overview

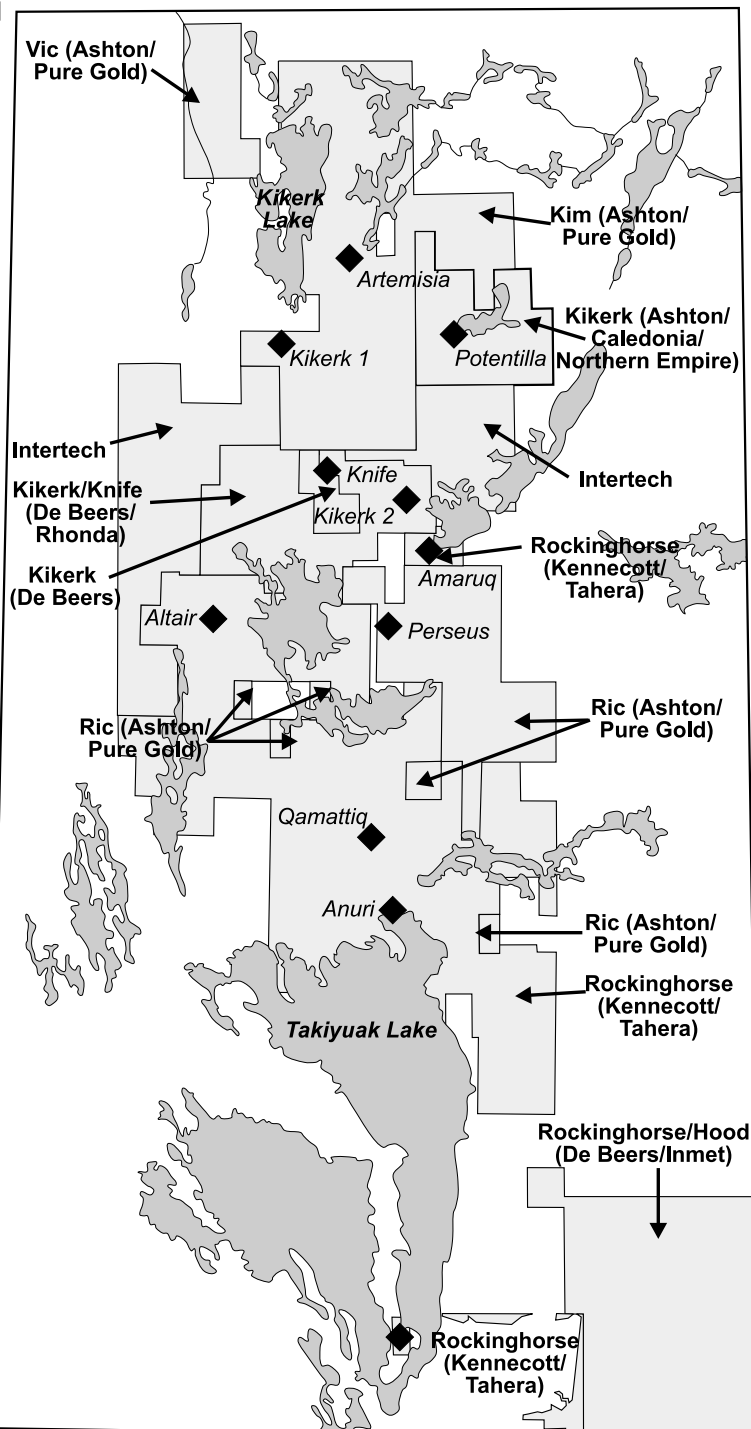
The Tree-1 and KL claims cover 11,428 acres north of Takijuk Lake (also referred to as Napaktulik Lake and Takiyoak Lake). The property geology consists of Paleoproterozoic Coronation Supergroup carbonate and clastic sedimentary rocks. Mackenzie diabase dykes transect the property and trend north-northwest and east-northeast. Zinc-lead-silver mineralization has been found primarily within the Rocknest Formation, which consists of inner-shelf facies dolomite and argillite.

Rhonda and Noranda began a joint venture on the property in 1993, initially exploring for stratabound copper and zinc. Several zinc-lead-silver showings, including the Esker, Muskox, Zinc Lake, O'Seim, South, North,



## Napaktulik Lake Region

67.5° N



66° N

114° W

112° W

Note: Kimberlite locations are approximate. Locations are unknown for Artemisia (Kim property) and Troll and Unicorn (Rockinghorse/Hood property). Claim block locations are approximate and may have changed since Nov. 2001. Contact the Mining Recorder's Office for official claim ownership maps of the area.

and Far Out zones were discovered between 1995 and 1997. The Harley copper-silver showing was examined between 1996 and 1997. Till samples were collected from 1994 onward. In January 2000, Noranda relinquished its interest in the joint venture. De Beers, and subsequently Monopros, acquired the right to explore for diamonds in May 2000, and the former discovered the Knife kimberlite pipe.

This year De Beers' reconnaissance work included the collection of ten till samples and one ground magnetic and electromagnetic survey totaling 49 line-kilometres. The Knife kimberlite was further tested by 1,278 metres of diamond drilling in seven holes.

## Yankee Property\*

Operator, Owners	Hawkeye Gold International Inc. (earning 50%), Major General Resources
Commodities	Diamonds
Coordinates	109°52' W, 70°06' N
NTS	77F/2
Location	220 km northwest of Cambridge Bay

\*Identified as "Homerun Project" (Yankee Property) in 2000 DIAND Overview

The 90,000 acre Yankee project lies directly west of the Washburn project and resides in the same regional geological context (see above).

Major General began exploration on Victoria Island in 1994. They made several kimberlite discoveries on the Victoria Island property by the Monopros/ Major General/ Ascot Minerals joint venture in 1998-1999. Major General secured the 90,000 acre Yankee property, located to the west of the Victoria Island kimberlites, via prospecting permits in 1998. Hawkeye Gold entered into an option agreement in June 1999. The following year, Hawkeye completed a 750 line-kilometre airborne geophysical survey. Ground magnetic surveys and till sampling were completed over nine anomalies generated by previous geophysical surveys.

During 2001, ground magnetic surveys were completed over three land-based targets. The results suggest the presence of two kimberlite-like signatures with indecisive results

for the third. Five additional targets under lakes were to be surveyed but hazardous ice conditions forced a deferment. Till samples collected down-ice from each of the targets in 2000 are reported to contain up to eleven kimberlitic garnets.

## JH Claims

Operator, Owners	Tahera Corporation (earning 51%), Navigator Exploration Corp
Commodities	Diamonds
Coordinates	111°01' W, 65°48' N
NTS	76E/14,15
Location	350 km southwest of Cambridge Bay

The JH-1 and JH-1A claims cover 914 acres south of the Jericho project. Much of the property is under Contwoyto Lake, but where exposed, the geology consists mostly of Archean Contwoyto Formation turbidites.

The area has a lengthy history of exploration. It started in the early sixties, with the discovery of what is now the Lupin gold deposit to the southwest. With the beginning of mining operations at Lupin, considerable exploration for iron formation-hosted gold deposits took place between 1981 and 1990. Diamond exploration in the area started in 1992 and has continued to the present. Navigator acquired the JH-1 and JH-1A in 1999 and 2000 respectively, and optioned the property to Tahera in 2001.

Tahera completed ground magnetic and electromagnetic surveys over two previously identified kimberlite targets in 2001.

## Muskox Project

Operator, Owners	Muskox Minerals Corp
Commodities	Nickel, copper, cobalt, platinum, palladium, gold
Coordinates	115°15' W, 67°00' N
NTS	86J/11,14, 86O/3
Location	90 km south of Kugluktuk

The 1.27 Ga Muskox Intrusion is a layered mafic/ultramafic complex intruding the Paleoproterozoic Coronation Supergroup.

The intrusion is flanked by metasedimentary rocks of the Fontano, Odjick, and Drill formations. The intrusion has a funnel-like shape that is up to 11 km wide and is exposed for 125 km in a north-south direction. Geophysical data suggests the intrusion continues for another 250 km under cover rocks. Regional tilting of the Coppermine Homocline has resulted in the intrusion dipping to the north, exposing the entire sequence from base to roof.

The intrusion consists of four main units. The Feeder (or Keel) Dyke consists of bronzite gabbro and picrite, in the southern part of the intrusion, south of the Coppermine River. The Marginal Zone has a similar composition and lies along the eastern and western flanks of the intrusion. The Layered Series, making up the main body of the intrusion, consists of rhythmically layered mafic and ultramafic cumulate rocks. This varies from dunite, olivine clinopyroxenite, and olivine gabbro in the south, to orthopyroxenite, websterite, peridotite, and dunite in the centre, and gabbro with feldspathic and picritic websterite in the north. Finally, the Roof (or Upper Border) Zone, lies to the north and is composed of granophyric gabbro with inclusions of Hornby Bay Formation. The Coppermine River basalts, further to the north, originated from the same magmatic event that generated the Muskox complex.

Mineralization occurs as semi-massive and massive sulphide pods located within the

Marginal Series and the adjacent country rocks.

The Muskox Intrusion was first discovered in 1956 by INCO, who spent three years exploring and drilling for nickel-copper mineralization. Numerous companies examined the intrusion between 1969 and 1988 but no significant deposits were outlined.

Muskox Minerals staked and negotiated Inuit Concession Agreements (later transferred to Exploration Agreements) in 1995-1997. Initial work included geophysical and geochemical surveys and geological mapping of the Marginal Series near McGregor Lake. Property-wide geophysical work in 1996 included VLF, magnetics, gravity, UTEM, and HLEM surveys. Further surveys, including "Controlled Source Audio Magnetotelluric" surveys were completed in 1997-1999. Numerous, highly anomalous grab samples were collected from the Pyrrhotite Lake, Southeast Speers Lake, Sulphide Breccia, Trench 87-1, Chalco Cliffs, and Chromite Reef areas. Work in 2000 included a Controlled Source Audio Magnetotelluric survey and drilling of the Southeast Speers Lake, Pyrrhotite Lake, and Keel-1 targets.

This year's drill targets were the Keel 1 West and East, Keel 2, Pyrrhotite Lake, SE McGregor, and the Far West Margin. At Keel 2, hole MU-33 cut four highly anomalous intervals between 1 and 6 metres thick. Based on results of downhole electrical conductivity surveying in this hole, hole MU-35 was drilled





Lupin Mine

to the east, and it cut 21 metres of massive sulphides. The best of three intervals in MU-35 was 15 metres grading 1.28% copper, 0.45% nickel, 1.20 g/t palladium, and 0.18 g/t platinum. Hole 36 tested the southern Keel sector and intersected 1.28% copper, 1.17% nickel, 0.17% cobalt and 0.17 gpt palladium over 4.33 metres at 317.09-321.42 metres depth, part of a 28.6-metre massive to semi-massive sulphide intersection. The company reports this to be a new mineralized zone.

Surface mapping and grab sampling elsewhere on the property have returned impressive PGM values from the Lower and Upper Chromite Reefs, each with a near-surface extent of one kilometre.



## High Lake

Operator, Owners	Wolfden Resources Inc.
Commodities	Copper, zinc, gold, silver
Coordinates	110°51' W, 67°23' N
NTS	76M/7
Location	150 km west of Bathurst Inlet

The High Lake property is underlain by north-trending Archean basaltic to rhyolitic flows and fragmented volcanic rocks. Less voluminous argillite and greywacke form the easternmost portion of the property. Late Archean plutonic rocks intrude the supracrustal rocks in the western part of the property and Proterozoic diabase dykes intrude all units.

Mineralization on the property is primarily related to volcanogenic processes with minor remobilization due to later igneous and structural processes. Numerous gossans host copper-zinc-gold-silver mineralization, including the A-B and D zones. The former consists of stringers and massive lenses of chalcopyrite, pyrite, pyrrhotite, sphalerite, and magnetite, while the latter consists primarily of sphalerite, pyrite, and minor chalcopyrite.

The deposit was discovered in 1955 by Kennarctic Explorations. Drilling took place between 1956 and 1959, with resource calculations following considerably later in

1973. The deposit remained idle until Kennco Explorations Canada (same company, different name) completed limited geophysical and geochemical work on the property in 1991. Aber Resources acquired an option to earn up to 60% in 1993 and completed several thousand metres of drilling. Wolfden signed a letter of intent to acquire the property in 2000 and completed the deal in April 2001. Wolfden applied for, and received, an NTI Exploration Agreement for open Subsurface IOL adjacent to the existing property.

Re-evaluation of previous drill hole data indicates that mineralization occurs beneath a synvolcanic sill, previously believed to truncate the ore zone at depth. The program therefore extended B-zone (the main ore zone) mineralization down-dip and found that

mineralization is open at depth. Wolfden completed sixteen holes totaling 3148 metres, all testing the A-B zone except for a single hole on the D zone. Two notable intersections were: 14.35 metres at 12.53% copper, 0.44% zinc, 0.78 g/t gold, and 40.01 g/t silver in HLW-01; and 80.60 metres of 5.75% copper, 0.2% zinc, 0.74 g/t gold, and 26.39 g/t silver in HLW-03. Interpretation of magnetic data suggests the presence of several "feeder" pipes on the property. One pipe is associated with surface mineralization that has returned copper values of up to 6.38%. Combined historical resources for the deposit, outlined by 1993 stand at 5.3 million tonnes grading 4.05% copper, 2.36% zinc, 1.76 gpt gold and 31.73 gpt silver in three zones.



## Izok Lake Project

Operator, Owners	Inmet Mining Corp
Commodities	Zinc, copper, lead, silver
Coordinates	112°48' W, 65°38' N
NTS	86H/10
Location	250 km SE Kugluktuk

The Izok Lake deposit is covered by Mining Lease 3163 and lies just within Nunavut's border.

Texasgulf Inc. began exploring the Itchen Lake area in 1971 and later located a gossan at Izok Lake. In 1974, massive sulphide boulders were also located near the lake shore and returned assays of up to 30% zinc. Drilling began the following year and continued into 1976. Ownership passed along to Texasgulf's successor, Kidd Creek Mines, in 1977, and from there to Falconbridge, Minnova Inc, and Metall Mining Corp, which acquired an initial interest in 1992. Metall changed its name to Inmet Mining in 1995.

The deposit consists of four massive sulphide lenses near the top of gneisses derived from felsic flows and tuffs. Three of the lenses are found beneath Izok Lake, while the fourth, the Inukshuk zone, is located beneath the shore. The deposit's resource is estimated at 16.5 million tonnes grading 11.4% zinc, 2.2% copper, 1.1% lead, and 60 g/t silver.

Prefeasibility studies in 1993-1994 envisioned an open pit mine with a mine-life of thirteen years or more. Daily production would total 3000 tonnes, with a 4:1 strip ratio. Approximately 400,000 tonnes of concentrate would be produced per year. However, viability is contingent on the construction of infrastructure linking it to a port. The ongoing \$6 million feasibility study and environmental assessment evaluation will determine whether production of the deposit following infrastructure construction is viable.

## Muskox North Project

Operator, Owners	Trilogy Metals Inc
Commodities	Nickel, copper, cobalt, platinum, palladium, gold
Coordinates	115°15' W, 67°00' N
NTS	86J/11,14, 86O/3
Location	90 km south of Kugluktuk

Trilogy acquired the project area through staking on Crown land and Surface IOL, and application by prospectors for NTI Exploration Agreements on Subsurface IOL. The company is exploring for a possible unexposed northern extension of the Muskox Intrusion, inferred on the basis of

gravity readings collected by the Geological Survey of Canada in the 1960s.

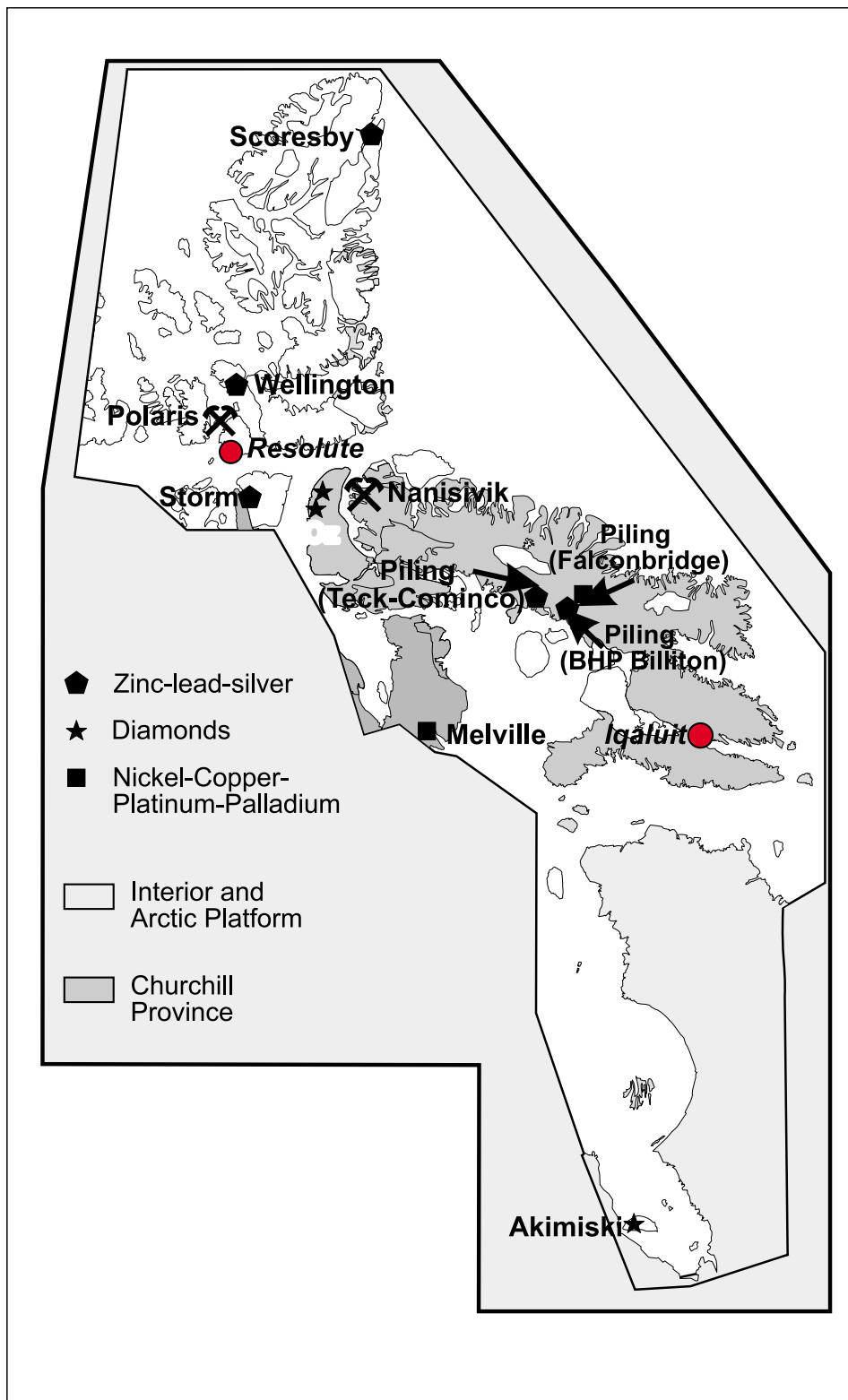
Last year's work in the southeastern portion of the property included 94 line-kilometres of gravity surveys and about 250 line-kilometres of magnetic surveys. Bedrock mapping of the area was also initiated.

Work for 2001 included processing of last year's geophysical data. The presence of two inter-connecting mafic-ultramafic magma chambers has been interpreted from the data, along with a possible stock that is thought to rise to within 350 metres of the surface. Satellite bodies have been inferred at the suggested contact between the intrusion and the overlying sedimentary rocks. The company also delineated several possible kimberlite-like targets from gravity data in the eastern and western part of the property.

The company reported plans to follow up these results with till sampling, additional geophysics, and exploration drilling but no additional results had been reported by press time. Trilogy has entered into an option agreement with PGM Holdings, whereby the latter can earn a 70% property interest through cash payments, share issuance and work expenditures.



## Qikiqtaani (Baffin) Region



The Qikiqtaani region includes Baffin Island and the northern Arctic Archipelago. Most exploration crews work out of Resolute or Iqaluit, the territorial capital.

Most of Baffin, eastern Devon, and eastern Ellesmere islands are underlain by the Churchill province of the Canadian Shield. The remaining islands are covered by Phanerozoic sedimentary rocks of the Arctic Platform.

Most exploration in the islands has been for Mississippi Valley-type deposits such as Polaris and Nanisivik. Nickel-copper deposits were a popular target on southern Baffin during the mid-1990s. Diamond activity is in an upswing, following initial phases of exploration in the 1960s and 1980s. Most kimberlites reported in the region are on Somerset and Baffin Islands, though a diatreme of uncertain affinity has been reported on Bathurst Island.

Mining and exploration  
in the Qikiqtaani Region





## Nanisivik

Operator, Owners	Canzinc (Breakwater Resources Inc.)
Commodities	Zinc, silver
Coordinates	84E 25' W, 73E 03' N
NTS	48C/01
Location	On Baffin Island

The Nanisivik ore body is hosted by the dolomitic Society Cliffs Formation, near its upper contact with the Victor Bay shale. The ore body lies upon a major west-northwest trending graben that underlies Strathcona Sound. The ore body was originally thought to consist of the Main and Lower Lenses, with a vertical “keel” connecting the two, as well as several satellite ore bodies. Mineralization included layers of sphalerite, galena, pyrite and dolomite.

Mineralization in the Nanisivik area was first reported by the Bernier Expedition of 1910-11. Prospecting in 1937 led to some trenching, but no production. Texas Gulf Sulfur drilled the Nanisivik ore body between 1958 and 1969, and optioned the property to Mineral Resources International in 1972. Nanisivik Mines Ltd was formed in 1974 to run the proposed mine, and start-up was achieved in 1977.

Nanisivik Mines became a wholly owned subsidiary of MRI after the other partners — Kidd Creek Mines, Metallgesellschaft Canada,

## Polaris

Operator, Owners	Teck Cominco Ltd
Commodities	Zinc, lead
Coordinates	96°56' W, 75°23' N
NTS	68H/8
Location	100 km north-northwest of Resolute, on Little Cornwallis Island

The Polaris deposit occurs within dolomitized limestone of the Thumb Mountain Formation, which in turn, is overlain by calcareous shales of the Irene Bay Formation. The ore body consists of the Panhandle and Keel areas. The Panhandle is between five and forty metres thick, while the Keel is up to one hundred metres thick. Mineralization consists of colloform sphalerite, and moderate- to coarse-grained galena, and marcasite. Sparry dolomite, calcite and ice occur as gangue.

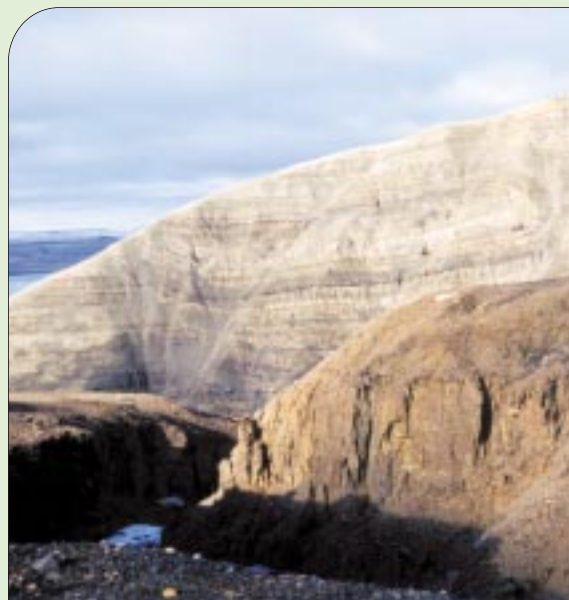
Bankeno Mines Ltd discovered zinc-lead mineralization on Little Cornwallis Island in 1960. After a decade of exploration, Arvik Mines Ltd was formed by Cominco (75%) and Bankeno

(25%) to develop the deposit. Underground exploration took place in 1972-73 and outlined a reserve of 23.0 Mt grading 14.1% zinc and 4.3% lead.

Arvik Mines was dissolved in 1979 and Cominco took full ownership, with Bankeno retaining a royalty option. Production began in 1982 in the Panhandle area, and shifted to the Keel in 1985. Cominco sold a 45% interest to Pine Point Mines in 1988.

Polaris is an underground mine, with production via longhole open stoping. Pillar recovery accounts for a large part of production. Polaris is nearing the end of its mine-life and exploration programs have not defined additional mineable reserves. Ore reserves as of November 30, 2000 were estimated at 1.419 million tonnes grading 12.1% zinc and 2.9% lead.

In the first half of the 2001, production amounted to 0.497 Mt grading 12.89% zinc and 3.28% lead. Overall production for the year is expected to be 1.04 Mt at 12.15% zinc and 3.25% lead, slightly less than in 2000. The mine remains on track to close in the summer of 2002.



Nanisivik sign posts



Billiton Canada, and the Government of Canada – were bought out by 1986. MRI, in turn, was acquired in 1987 by Conwest Exploration Company (a wholly owned subsidiary of Alberta Energy Company). Breakwater Resources acquired the mine in 1996, and currently operates it through wholly owned subsidiary Canzinc.

Nanisivik is an underground mine, with mechanized room and pillar technique being the primary method of mining. Post-pillar mining was introduced in 1997. A substantial

increase in the mine's reserve was reported in 1999. As of December 31, 2000, proven and probable reserves totaled 2.868 million tonnes grading 6.9% zinc, 0.4% lead, and 28 grams per tonne silver. Additional measured and inferred resources are estimated at 4.152 million tonnes grading 6.3% zinc, 0.4% lead, and 24 grams per tonne silver.

Planned production for 2001 was 0.787 Mt grading 8.1% zinc and 32 g/t silver. Actual production was lower, with the first six month's total being 0.385 Mt grading 6.4% zinc and

28 g/t silver. Total cash costs were US\$0.44/pound, compared to US\$0.40/pound for the first half of 2000. The higher operating costs stemmed from start-up difficulties with the new Dense Media Separation plant and lower grades, resulting in a first half loss of \$8.3 million.

Exploration on the mine site included a 25 line-kilometre airborne EM survey over the mine grid to re-evaluate previously flown surveys. Three holes totaling 551 metres were completed on targets on the Deb grid and seven holes totaling 1453 metres were completed on the mine grid. The Canada-Nunavut Geoscience Office conducted a surface-mapping project to establish a link between mine-scale geology and the regional geological framework.

In October, Breakwater announced that Nanisivik would close in September 2002 as a result of anticipated low zinc prices.

### Jackson Inlet

Operator, Owners	Twin Mining Corporation
Commodities	Diamonds
Coordinates	88°16' W, 73°15' N
NTS	58D/1,8
Location	120 km west of Nanisivik

Twin Gold's Jackson Inlet property covers seventy-nine claims on the Brodeur Peninsula of Baffin Island. Three kimberlites were known to crop out on the claim block prior to Twin's acquisition of the claims. The area is underlain primarily by Cambrian and Ordovician sediments and Silurian limestones that, in turn, overlie Archean crust of the Rae craton.

Diamond exploration on northern Baffin Island dates back to the early seventies, when Diapros and Cominco uncovered kimberlites on both the Brodeur Peninsula and to the west on Somerset Island. A second phase of exploration began shortly after the diamond rush arose in the N.W.T., with Lumina Investment and Cyclone Capital conducting work in the region.

Twin acquired the property from privately-held Helix Resources in June of 2000. A





prospecting program in May 2000 had collected a 94.5 kilogram sample from a previously known (but unspecified) kimberlite and was found to contain 40 microdiamonds and two macrodiamonds. Further prospecting and magnetic surveying began in the summer. Over a dozen new kimberlite occurrences were reported, four of which were trenched. Sample results included 0.196 carats from 887 kg of fresh and weathered kimberlite from Pipe 1. Pipe 2 yielded 1.049 carats from 560 kg of material, and 195 kg from Pipe 3 contained 0.156 carats.

Twin undertook a large program in 2001, including 6,641 line-kilometres of airborne magnetic and electromagnetic surveys and about fifty line-kilometres of ground-based magnetics. Seventeen diamond drill holes totaling 1,566 metres were also completed. Eighty-seven soil samples were collected and detailed surficial geological mapping was completed on ten claims.

Fourteen of the holes were completed on the previously known kimberlite occurrences; the drilling and the geophysical data demonstrated that the occurrences were part of a single large kimberlite, the Freightrain, kimberlite approximately 500 metres in diameter. A mini-bulk sample of 320 tonnes of wet kimberlite was excavated and shipped for processing.

Exploration drilling resulted in the discovery of the Cargo-1 pipe. Sampling at another location, Cargo-2, resulted in the discovery of kimberlitic float.

## Oz Claims

Operator, Owners	Kennecott Canada Exploration Inc.
Commodities	Diamonds
Coordinates	87°00' W, 73°08' N
NTS	48C/4,5, 58D/8
Location	110 km west of Nanisivik

The Oz claims are found in seven blocks on the Brodeur Peninsula located east-southeast to north-northwest of Nanisivik. Some of the blocks are adjacent to Twin Mining's ground. The area is underlain primarily by Cambrian and Ordovician sediments and Silurian limestones that overlie Archean rocks of the Rae craton.

Exploration interest in the area began in the 1970's, waned, rose again after the early 1990's diamond rush in the N.W.T., and subsequently waned again. Twin Mining began exploration work in 2000 and renewed interest in the area. Kennecott staked fifty-seven claims in the summer of 2001. Information on their exploration activities was not available at the time of writing.

## Akimiski Island Project

Operator, Owners	Navigator Exploration Corp
Commodities	Diamonds
Coordinates	81°45' W, 53°00' N
NTS	43A/13, 43H/04
Location	20 km east of Attawapiskat, Ontario.

Navigator acquired Prospecting Permits 2395-2399 in 2001, covering the western third of Akimiski Island.

The islands' geology is poorly known, inferred to be Paleozoic to Mesozoic platformal rocks similar to those found on the mainland. Diamondiferous kimberlites have been found to the west in Ontario by De Beers, leading to speculation that Akimiski may be a potential host for kimberlites as well.

Navigator's program in 2001 consisted of an airborne magnetic survey. The results are still being interpreted, with some modeling focusing on discrete features.

## Piling Project

Operator, Owners	BHP Billiton
Commodities	Nickel, copper, zinc, lead
Coordinates	73°00' W, 68°38' N
NTS	37A/9,10
Location	300 km southwest of Clyde River

Prospecting permits 2329-2331 and the ten Qimmiq NTI Exploration Agreements are underlain by the Paleoproterozoic Piling Group, comprising clastic and carbonate rocks overlain by sulphidic black shales. Mafic to ultramafic flows and sills overlie the sediments.

Very little exploration has taken place in the project area. Petro-Canada Resources conducted lake sediment surveys and prospecting traverses across NTS sheets 27B, 37A and 37D in 1985.

BHP-Billiton's work consisted of 1:50,000-scale mapping and gossan prospecting. Nineteen stream sediment, 23 soil, 236 grab and 548 till samples were collected.



## Piling Project

Operator, Owners	Falconbridge Ltd
Commodities	Nickel, copper
Coordinates	71E 30' W, 68E 30' N
NTS	27B/5,6,11-14, 37A/7,8,10
Location	250 km southwest of Clyde River

Falconbridge holds Prospecting Permits 2361 to 2382 to the immediate south and east of BHP's permit group. For geology and exploration history, refer to the BHP section above.

Exploration consisted of prospecting and reconnaissance mapping.

## Storm Claims

Operator, Owners	Noranda (50%) Inc. Teck-Cominco Ltd (50%)
Commodities	Copper, zinc
Coordinates	94°00' W, 73°40' N
NTS	58C/3,6,10,11
Location	110 km south of Resolute

The Storm claims are located on northern Somerset Island. The Ordovician-Silurian Allen Bay Formation, a dolomitized limestone, covers much of the western property. This is overlain by the Silurian Cape Storm Formation limestone that outcrops to the east. Copper mineralization occurs as chalcocite and bornite veins in limestone. Zinc mineralization includes the Typhoon showing and the Seal deposit, the latter of which has an inferred resource of 2 million tonnes grading 8% zinc and 25 g/t silver.

Cominco discovered base metal mineralization in the area in 1996. A geophysical survey was flown in 1997, and was followed by more detailed work including drilling between 1998 and 1999.

Noranda acquired an interest in the property and was the operator in 2000. Geophysical surveys, include hyperspectral surveys, were flown over the property. About 1900 metres of diamond drilling were completed on pre-existing targets. A new showing, the Typhoon, was discovered by prospecting. The showing consists of sphalerite-bearing gossans found over a 1.2 kilometre strike length.

In 2001, Noranda's efforts were concentrated on the zinc mineralization of the property. Three holes tested the Typhoon showing, while about seven more targeted the Seal zinc deposit.

## Wellington

Operator, Owners	Noranda Inc.
Commodities	Zinc, lead
Coordinates	93°30' W, 75°08' N (Cornwallis Island permits)
NTS	59B/6,7,10,11
Location	200 km north of Resolute, on Devon Island

The Wellington property is located along the eastern margin of the Boothia Uplift. It is underlain by folded and faulted Cambrian to Silurian platform carbonates, unconformably overlain by Early to Middle Devonian clastic and carbonate rocks deposited during the Boothia Disturbance-Ellesmerian Orogeny. The property was previously explored by BHP from 1994 to 1996. Noranda completed an earn-in agreement with BHP early in 1998 and has been active on the property over the last two field seasons. In 1999, the program focused on the JG, BK, and Orion grid areas. Eight NQ diamond drill holes were completed for a total of 2350 metres on the JG grid. 544 core and grab samples and 40 soil samples were collected in total, but results remain confidential. Geophysical surveying included 55 line-kilometres of induced polarization, 12 line-km of electromagnetics, 100 line-km of gravity, and down-hole surveys in four drill holes; a hyperspectral survey was also flown over the Grinnell Peninsula. In 2000, a further 5000 metres of diamond drilling were completed over established targets. Additional magnetic, electromagnetic, and hyperspectral surveys were flown. Some gravity work was also completed over the property.

Noranda's 2001 work included prospecting and the collection of 100 grab samples and 1100 soil samples. One hundred sixty line-kilometres of gravity surveys were also completed. Seventeen drill

holes totaling 2700 metres were completed over previously identified zinc showings. Additional indications of zinc mineralization were noted and are thought to warrant a follow-up.

## Scoresby

Operator, Owners	Teck-Cominco Ltd, Noranda Inc.
Commodities	Zinc, lead
Coordinates	70°00' W, 80°30' N
NTS	29G/13, 39H/16, 120B/3,4,5,6,14,15, 120C/3,7,8,9
Location	450 km northeast of Grise Fiord

Prospecting permits 2217-2220, 2235-2239, 2245, 2247, 2250, 2252, 2296, 2297, 2316-2321, 2351 and 2352 are located along the northeastern shore of Ellesmere Island. This part of the island is underlain by Ordovician to Devonian carbonates with lesser sandstone, mudstone, siltstone and conglomerate. Zinc and lead mineralization was noted by Great Plains Development in 1974 during its exploration of the area. Otherwise, work in the area has been minimal due to its remote nature.

Cominco and Noranda continued reconnaissance exploration of the area, but no data was available at press time.

## Piling Project (Teck-Cominco)

Operator, Owners	Teck-Cominco Ltd
Commodities	Zinc, lead
Coordinates	74°00' W, 69°15' N
NTS	37D/2,3,6-8
Location	250 km southwest of Clyde River

Teck-Cominco's ground consists of Prospecting Permits 2336 to 2346 are situated north of BHP's permit group and three NTI Exploration Agreements on Subsurface IOL. For geology and exploration history, refer to the BHP section above.

Exploration consisted of prospecting and reconnaissance mapping.

## Conclusions

### Projected Exploration and Market Trends within Nunavut

Nunavut is being increasingly recognized by industry as an “under-explored” region with very high economic mineral potential. Ongoing exploration programs are encouraging, considering current depressed commodity prices for gold and base metals. The mineral investment community, including major mining companies, recognizes that Nunavut remains sound for mineral investment despite obvious climatic and infrastructure disadvantages. The success of the Polaris and Nanisivik zinc mines, and the reopening of the Lupin gold mine clearly demonstrate the feasibility of responsible mining in Nunavut. Diamonds are successfully mined at BHP’s Ekati Mine in the neighboring Northwest Territories.

Gold continues to be a leading commodity for expenditures incurred through advanced exploration of several large, possibly world-class deposits in Nunavut, including the Hope Bay belt deposits and the Meadowbank

deposits. The sale of the George Lake Project to Kinross Gold indicates the latter’s faith in the project’s viability; Kinross was the operator prior to the sale. WMC Resources Ltd is hopeful that the sale of its interest in the Meliadine West gold project will occur shortly.

In 2000, PGM prices, particularly for platinum and palladium, surged to unprecedented levels, partly due to increased demand for vehicle pollution-control devices and to Russia’s inability to supply world markets. Platinum demand for jewelry is also on the rise. In 2001, prices fell back considerably, but have recently stabilized at or above pre-1999 levels due to sustained demand. The PGMs commonly occur within magmatic copper-nickel mineralization providing a multiple commodity setting. Thus a renewed interest in copper-nickel-PGM mineralization, such as at the Muskox and Ferguson Lake projects, has occurred. Companies engaged in magmatic copper-nickel

or PGM exploration, are likely to increase exploration activities in Nunavut in the future.

A number of world-class zinc mines, including two in Nunavut, are becoming depleted in resources. Although current zinc demand is low, grass-roots base metal exploration is continuing within the Territory. Some grass-roots exploration for zinc is underway by BHP and Hudson Bay Exploration and Development. Wolfden Resources is continuing advanced copper exploration, and Noranda is continuing with mid-stage exploration of the red metal.

Diamond markets remain strong. Recent success by Kennecott and Ashton shows that diamond potential is very high in western Nunavut. Diamond-bearing kimberlite pipes have recently been discovered on Baffin Island, and interesting structures have been found on the Boothia Peninsula.



Bedding in carbonates  
at Nanisivik

# Nunavut

MINING AND EXPLORATION OVERVIEW 2001



Underground at Polaris



**Contact information** addresses



Indian and Northern  
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