

nunavut

Overview 2009
Mineral Exploration, Mining and Geoscience



Indian and Northern
Affairs Canada

Affaires indiennes
et du Nord Canada



(Above) Qikiqtarjuaq,
August 2009
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Acknowledgements

The 2009 Exploration Overview was written by Karen Costello (INAC), Andrew Fagan (consultant) and Linda Ham (INAC) with contributions from Don James (CNGO), Keith Morrison (NTI) and Eric Prosh (GN).

Front cover photo:

Installation of power plants,
Meadowbank Mine
COURTESY OF AGNICO-EAGLE MINES LIMITED

Back cover photo:

Out on the land prospecting
COURTESY OF CNGO

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About the *Nunavut: Mining, Mineral Exploration and Geoscience Overview 2009*

This exploration overview is a combined effort of four partners: Indian and Northern Affairs Canada (INAC), Government of Nunavut (GN), Nunavut Tunngavik Inc. (NTI) and Canada-Nunavut Geoscience Office (CNGO).

The intent of this publication is to capture information on exploration and mining activities in 2009 and to make this information available to the public. All exploration information was gathered prior to mid-November 2009.

We thank the many contributors who submitted data and photos for this edition. Prospectors and mining companies are welcome to submit information on their programs for inclusion in the next Overview. Feedback is appreciated.

NOTE TO READERS

This document has been prepared on the basis of information available at the time of writing. All resource and reserve figures quoted in this publication are derived from company news releases, websites and technical reports filed with SEDAR (www.sedar.com). Readers are directed to individual company websites for details on the reporting standards used in each resource and reserve estimate. The authors make no warranty of any kind with respect to the content and accept no liability, either incidental, consequential, financial or otherwise, arising from the use of this document.

All exploration information was gathered prior to mid-November 2009. A project's status (active versus inactive) for INAC tracking purposes and for inclusion in this publication (both for the magazine and accompanying map) was determined by several factors, including: information publically available (e.g., corporate presentations, press releases, ftp sites such as those of the Nunavut Impact Review Board (NIRB) and the Nunavut Water Board (NWB)), active mineral tenure as shown on SidViewer, and valid Land Use Permits and Water Licenses as issued by INAC and NWB, respectively.

With reference to the use of the term *National Instrument 43-101 (NI 43-101)*: This is an industry standard outlining rules and guidelines for reporting and disclosing scientific and technical information about mineral projects. This standard is supervised by the Canadian Securities Administrators.

Land Tenure in Nunavut

The territory of Nunavut was created in April 1999 as a result of the Nunavut Land Claims Agreement (NLCA), the largest Aboriginal land settlement in Canadian history. Spanning two million kilometres (km), the territory has 25 communities and approximately 30,000 people. Inuit represent 85 per cent of Nunavut's population, creating the foundation of the territory's culture and values. This culture is inherently connected to the land, shaping government, business and day-to-day life.

In addition to the creation of the territory, the NLCA gave Inuit fee simple title to 356,000 square kilometres (km²) of land. There are 944 parcels of Inuit Owned Lands (IOL) where Inuit hold surface title only (surface IOL). The Government of Canada or "the Crown" retains the mineral rights to these lands. Inuit also hold fee simple title — including mineral rights — to 150 parcels of IOL (subsurface IOL), which total 38,000 km² and represent approximately two per cent 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 to subsurface IOL is held and administered by

Nunavut Tunngavik Inc. (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 NLCA signing — known as grandfathered rights — continue to be administered by Indian and Northern Affairs Canada (INAC) until they terminate or the holder transfers its interests to the NTI regime. For both surface and subsurface IOL, access to the land must be obtained from the appropriate RIA.

The Crown owns mineral rights to 98 per cent of Nunavut. INAC administers these rights through the *Northwest Territories and Nunavut Mining Regulations* (NTNMRs). This includes surface IOL, for which access to the land must be obtained from the RIAs as explained above.

Significantly, the NLCA is a final settlement whereby all land claims in Nunavut have been settled with the Inuit of Nunavut, thus providing an unmatched level of land tenure certainty.

For more information on the location of IOL and Crown land in the territory, take a look at the 2009 Nunavut Exploration and Activity Map. ■



Prospecting course, sighting claim line, Clyde River, August 2009
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GUIDE TO ACRONYMS

CNGO	Canada-Nunavut Geoscience Office	KivIA	Kivalliq Inuit Association
DPA	Development Partnership Agreements	MRO	Mining Recorder's Office
EA	Inuit Owned Lands Mineral Exploration Agreement	NGO	Non-Government Organizations
EDT	Department of Economic Development and Transportation, Government of Nunavut	NIRB	Nunavut Impact Review Board
EIS	Environmental Impact Statement	NLCA	Nunavut Land Claims Agreement
EM	Electromagnetic	NRCan	Natural Resources Canada
GIS	Geographic Information System	NT	Northwest Territories
GN	Government of Nunavut	NTI	Nunavut Tunngavik Inc.
GSC	Geological Survey of Canada	NTNMR	Northwest Territories and Nunavut Mining Regulations
IIBA	Inuit Impact Benefit Agreement	NTS	National Topographic System
INAC	Indian and Northern Affairs Canada	NWB	Nunavut Water Board
IOL	Inuit Owned Land	NWNSRTA	Nunavut Waters and Nunavut Surface Rights Tribunal Act
IPG	Institutions of Public Government	PGM	Platinum Group Metals
KIA	Kitikmeot Inuit Association	QIA	Qikiqtani Inuit Association
KIM	Kimberlite Indicator Mineral(s)	RIA	Regional Inuit Association

Indian and Northern Affairs Canada



Boulder sampling,
Cumberland Peninsula,
Baffin Island
COURTESY OF CNGO

In Nunavut, Indian and Northern Affairs Canada's (INAC) broad mandate encompasses the stewardship of land and natural resources, and northern governance. In partnership with the Government of Nunavut (GN), Nunavut Tunngavik Inc. (NTI), Institutions of Public Government (IPGs) and other federal partners, INAC works to meet the federal government's constitutional, political and legal responsibilities to Inuit and Northerners.

INAC does this in a number of ways. It ensures compliance with assessment requirements under the *Northwest Territories and Nunavut Mining Regulations* (NTNMRs). INAC geologists monitor, assess and report on mineral-related activities in Nunavut. They also maintain an archive of Nunavut's mineral exploration and mining history available to clients.

INAC's Nunavut Regional Office serves as an advocate for sustainable mineral development in the territory by helping industry understand Nunavut's co-management and regulatory system. This is often done through MDAG (Mineral Development Advisory Group) meetings that INAC coordinates with partner organizations. INAC also visits schools and community events to spread the word about local

rocks, minerals and careers in the exploration and development industry. Outside the territory, INAC promotes Nunavut as a premiere location for mineral-related investment. As part of this, INAC co-manages the Canada-Nunavut Geoscience Office (CNGO) with the GN, Natural Resources Canada (NRCan) and NTI.

INAC has also been busy in 2009 with Crown land and water-related responsibilities, as well as inspections and enforcements. Under the *Territorial Lands Act* and the *Nunavut Waters and Surface Rights Tribunal Act*, INAC works with license, permit and lease holders — and partner organizations as required — to ensure that certain terms and conditions are met for Crown land and waters in Nunavut.

In terms of land administration, INAC manages and administers surface and subsurface rights on Crown land in Nunavut. The department also ensures compliance of the *Territorial Lands Act* and related regulations. INAC also issues land use permits, leases, quarry permits and licenses of occupation to ensure Crown land is used responsibly. In February 2009, the Nunavut Region Mining Recorder's Office issued 122 prospecting permits (214 permits were issued in 2008).

As an intervener in the environmental assessment and regulatory process in the past year, INAC provides technical advice to the Nunavut Impact Review Board (NIRB) and the Nunavut Water Board (NWB).

2009 was another busy year for INAC's work in the management of fresh water in Nunavut, in the area of monitoring, inspection and enforcement as well as providing technical advice to the Nunavut Water Board (NWB) for the development of numerous water licenses. INAC participated as an intervener in the NWB's process for public hearings related to Type A water licenses for the Nanisivik and Lupin mines, as well as security reviews (estimates/reductions) for the Meliadine West Project and Polaris mine.

As part of INAC's inspection and enforcement responsibility, INAC completed 199 inspections of exploration camps, mines and research camps in 2009. ■

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Chidliak claim post COURTESY OF PEREGRINE DIAMONDS LTD.

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Government of Nunavut



Prospecting course,
examining outcrop
near town, Pond Inlet,
July 2009
COURTESY OF GN-EDT

The Government of Nunavut (GN), through the Department of Economic Development and Transportation (EDT), is working in support of a strong and diversified minerals industry based on best practices of sustainable development, and partnership between Nunavummiut and industry. A number of quality discoveries have been made in Nunavut, and there will be substantial opportunities to be realized in the territory as exploration continues and as more projects evolve into producing mines. EDT is working to ensure that all Nunavummiut are in a position to benefit from these opportunities, and that they have the option to become full participants in development in the territory.

At the same time, it is recognized that exploration and mining companies have the option of investing in many competing jurisdictions worldwide. Therefore, EDT is committed to working with its partners in NTI and the Government of Canada to make the legislative, policy and regulatory environment of Nunavut efficient, internationally competitive and attractive to investors. Significant investment in the

territory by major, multinational mining companies is a strong vote of confidence in Nunavut's mineral potential, its regulatory system, and the commitment of its people.

The Department has its headquarters in Iqaluit, and Resident Geologist Offices in Arviat and Cambridge Bay.

Parnautit: The Nunavut Mineral Exploration and Mining Strategy

To maintain Nunavut's position as a jurisdiction of choice for mineral investment, the GN developed *Parnautit: The Nunavut Mineral Exploration & Mining Strategy*, which provides a framework of policies and actions to encourage mineral discovery and development. The goal of Parnautit is: "To create the conditions for a strong and sustainable minerals industry that contributes to a high and sustainable quality of life for all Nunavummiut." The strategy addresses Nunavut's regulatory and taxation regimes, workforce training, infrastructure development and environmental baseline availability.

The strategy was released in March 2007, and work is underway on areas of legislative renewal and regulatory reform, development of a policy on uranium and community consultation guidelines. The GN remains strongly committed to public geoscience as a means of encouraging new exploration opportunities. The GN provides core funding to the Canada-Nunavut Geoscience Office (CNGO), and direct program support of the CNGO's territorial mapping and research projects. For more information, or to view a copy of *Parnautit: The Nunavut Mineral Exploration & Mining Strategy*, please visit www.edt.gov.nu.ca/parnautit.

Development Partnership Agreements

The Development Partnership Agreement (DPA) program was introduced in 2006, as a means of extending the territorial off-road fuel tax credit (rebate) to developing and producing mines. Through a DPA, the GN and operator work cooperatively in such areas as education and training, socioeconomic

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monitoring and mitigation and infrastructure development. As the physical and economic circumstances of no two mines are alike, so too each DPA should reflect the unique and shared needs of the mine operator and the local population. Proponents entering the regulatory phase are encouraged to begin negotiations with the GN on a Development Partnership Agreement for their projects.

Nunavut Prospectors' Program (NPP) & Prospector Training

EDT provides technical and financial assistance to Nunavummiut with demonstrated prospecting skills to carry out their own prospecting projects. The program has been in existence since 1999, and up to \$8,000 in annual financial assistance is available for each prospector. There are typically 15 to 20 projects, from across the territory, funded annually.

Every year, EDT geologists present a six-day Introductory Prospecting Course to interested residents in communities throughout the territory. Since 2000, the course has been held in all of Nunavut's 25 communities, with more than 600 graduates to date. Graduates of the course often apply for NPP funding to start their own prospecting programs, and many work as field assistants on mineral exploration projects. In 2009, the Prospector Course was held in 10 Nunavut communities: Iqaluit, Pangnirtung, Kimmirut, Kugaaruk, Pond Inlet, Taloyoak, Clyde River, Qikiqtarjuaq, Igloolik and Arviat.

Minerals Education and Training

EDT works with many other stakeholders, including the Department of Education, the Government of Canada and the mining and exploration industries in a number of programs designed to inform Nunavummiut of all ages of the opportunities in the minerals industries.

The Nunavut Mine Training Roundtable was formed last year to coordinate mining-related training. Industry stakeholder members include Inuit organizations, the GN, Government of Canada,



Ptarmigan
COURTESY OF CNGO

Nunavut Arctic College and industry. EDT is a member and provides secretarial support.

The first roundtable meeting was held in the winter of 2008. Through regular meetings, the roundtable will identify short-term training opportunities, monitor industry requirements and develop a long-term training plan for Nunavut.

GN and INAC geologists completed distribution of the *Nunavut Common Rocks and Minerals* teaching kit this year. The kits are now in every high school and middle school in Nunavut, and are also being used for the introductory prospecting course (mentioned above). The kits contain more than 60 geological specimens, common testing tools and a guidebook in Nunavut's four official languages. Many exploration companies contributed specimens to the kits. Companies interested in including geological education as part of their consultation activities may arrange to borrow the teaching kit, by contacting one of the GN or INAC geologists listed in these pages.

Other EDT programs and information include the Nunavut High School Math and Science Awards Program, the Independent Science Program for Youth (I-SPY) to support science-education camps and activities throughout Nunavut, the Mineral Exploration Field Assistant's Course (offered by Nunavut Arctic College), curriculum development for Nunavut schools and "Careers in Mining" school and community presentations. ■

Nunavut Tunngavik Inc.



Mapping at Herbert Zone,
Commander Resources Ltd.'s
Qimmiq property
COURTESY OF COMMANDER RESOURCES LTD.

Nunavut Tunngavik Inc. (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 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 (Exploration Agreement, or EA) and the Inuit Owned Lands Mineral Production Lease (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 subsurface IOL. This area, referred to as the exploration area, is similar in many ways to a mineral claim under the *Northwest Territories and Nunavut Mining Regulations*.

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.

NTI has 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 (available on request from NTI). 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 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 organization, 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. The terms may include, for example, NTI holding a direct interest in a project.

Under the standard terms, 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 exploration area. In order to gain access to the land, however, the applicant must obtain a surface right issued by the appropriate Regional Inuit Association (RIA).

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.

NTI Uranium Policy

In September 2007, NTI approved a Uranium Policy which will guide NTI's decisions regarding proposed uranium exploration and mining projects on NTI's mineral rights and on NTI's submissions to regulatory agencies regarding projects on Crown mineral rights. The policy states that NTI will support and allow uranium-related activities as long as they meet the requirements listed in the policy.

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Those requirements are:

1. The safe and peaceful use of nuclear energy.
2. Benefits to Inuit from mining and exploration.
3. Protection of human health.
4. Limited negative impacts of exploration and mining.
5. Participation of Inuit in the environmental assessment and operation of uranium projects.

The text of the uranium policy is available from NTI.

In 2008, NTI entered into its first exploration agreement with Kivalliq Energy that included the right to uranium and thorium in the Lac Cinquante area. In 2009, NTI entered into its second exploration agreement including uranium rights with Forum Uranium on land just east of Kiggavik.

Many of the advanced exploration projects in Nunavut fall on subsurface IOL. The following table summarizes the current active exploration agreements and their locations. ■

PROJECT/DEPOSIT

HOLDER(S)

QIKIQTANI REGION

Piling Project ¹	Commander Resources Ltd.
Melville	Comaplex Minerals Corp.

KIVALLIQ REGION

Meliadine ²	Resource Capital Fund
Meadowbank ³	Agnico-Eagle Mines Limited
Ukalik	Forum Uranium Corp.
Sedna	4579 Nunavut Ltd.
Lac Cinquante	Kivalliq Energy Corporation

KITIKMEOT REGION

Hope Bay ⁴	Newmont Mining Corporation
Contwoyto	Tahera Diamond Corporation/Golden River Resources
Hood River	Tahera Diamond Corporation/Golden River Resources
High Lake ⁵	MMG Resources Inc. (Minmetals)
Muskox ⁶	5050 Nunavut Ltd./MIE Metals Inc.
Rockinghorse ⁷	Kennecott Canada Exploration Inc.
Strongbow	North Arrow Minerals Inc.

Note: All projects referenced below 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. Near the edge of the project referred to later in this report.

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Canada-Nunavut Geoscience Office

The Canada-Nunavut Geoscience Office (CNGO) is a partnership between the Geological Survey of Canada (GSC), Indian and Northern Affairs Canada (INAC) and the Government of Nunavut's Department of Economic Development and Transportation. NTI is an ex-officio member of the partnership. CNGO's mandate is:

- To collect, interpret and disseminate geoscience data in support of exploration and development of mineral and energy resources;
- To provide GIS and cartographic expertise;
- To provide training opportunities for young geologists and Nunavummiut; and
- To promote geoscience education in Nunavut.

In 2009, the CNGO's work included:

- Participation in multi-component field-based projects of Natural Resources Canada's GeoMapping for Energy and Minerals (GEM) initiative;
- Continued hydrocarbon source-rock studies;
- An industrial minerals (limestone) project;
- Support to university and university-industry research partnerships;
- A remote-sensing survey in support of mineral exploration 'tool' development;
- GIS and cartographic support;
- Outreach and community consultation activities; and
- Continued as a principal partner in the development and implementation of a web-based system of data delivery (nunavutgeoscience.ca).

The objective of each project is to highlight mineral and energy exploration opportunities by providing new ideas, data and the geoscience tools for making effective exploration decisions leading to successful discoveries. Projects are designed to test geologic hypotheses, address critical geoscience knowledge gaps, develop new geologic and exploration models and make a significant contribution to the geoscience knowledge base of Nunavut. The

GEM projects are multi-faceted and include components of ground-based bedrock and surficial mapping, geophysical, geochemical and geochronological studies, airborne geophysical surveys and comprehensive data compilation activities. In addition, field-based projects involve community engagement and public outreach activities. The outreach is intended to demonstrate the importance of mineral and energy resources for economic development and society, to provide awareness of employment opportunities in geoscience and to promote Earth science education for students. CNGO projects are anticipated to improve the quality of life for Nunavummiut by allowing them to derive economic and social benefits resulting from responsible development of mineral and energy resources.

Booth River (Nickel) Project: GSC GEM (J. Bédard, C. Leshner, C. Mealin)

The objective of the Booth River project is to understand the Ni-exploration potential and petrogenesis of the 2025 Ma Booth River Intrusion in western Nunavut. In 2009, the project included making two, detailed sample sections through the thickest part of the intrusion, exposed on the north flank of the Kilohigok Basin.

Igneous layering indicates the intrusion dips shallowly to the southeast. Most of the intrusion is composed of homogeneous gabbro-norite, although olivine-rich rocks occur locally in the westernmost part of the intrusion. Two types of gossanous zones were recognized. The first type is associated with the lower contact of the intrusion and appears to correspond with the location of banded iron formations in the footwall. The second gossan type corresponds with small concentrations of sulphides in pegmatoidal patches. Based on field examinations, neither gossan type appears to have economic importance, but their origin will be investigated to improve understanding of the scale of metal scavenging processes and metallogenic potential.

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Nunavut Geoscience Data
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The lower contact of the intrusion is very irregular in attitude. Detailed mapping demonstrates the form of the lower contact is neither a topographic nor fault effect, but rather is inferred to reflect the upwelling into the intrusion of plumes (diapirs?) of sedimentary rocks from the footwall. The plumes are spaced approximately two kilometres (km) apart, and transfer abundant metasedimentary material several hundred metres from the lower contact. Mixing and dissolution of metasedimentary xenoliths with Booth River rocks could represent an effective crustal contamination mechanism.

Northrock Resources has gold and nickel properties (see Turner Lake project, this volume) in the Bathurst Inlet area. The company intersected > (greater than) ten metres (m) of massive Ni-Cu-Fe sulphide mineralization at the base of a lens of ultramafic rocks (Booth River rocks?) in 2008. As part of the GEM Booth River project, sampling of

the mineralized ultramafic rocks occurred in 2009 for geochronological and geochemical analysis.

The Booth River project will constitute the PhD thesis of Caroline Mealin (Laurentian U.), with C.M. Leshner (Laurentian U.) and Jean Bédard (GSC-Québec) as co-supervisors.

Cumberland Peninsula Integrated Geoscience (GEM) Project

(M. Sanborn-Barrie, M. Young, A. Dyke, D. James)

In 2009, the GeoMapping for Energy and Minerals (GEM) Cumberland Peninsula project included 1:200,000-scale bedrock, surficial and detailed geophysical (magnetotelluric) mapping of a rugged and frontier region of eastern Baffin Island. The area, which had only been investigated in a very cursory manner in the early 1970s, is under-explored and includes a previously unrecognized orthogneiss complex and presumed, Paleoproterozoic meta-

Cumberland Batholith,
southeast Baffin Island
COURTESY OF CNGO



Geologic mapping,
Cumberland Peninsula
(GEM) project, Baffin Island
COURTESY OF GN-EDT

volcanic, metasedimentary and meta-plutonic rocks. The supracrustal rocks have exploration potential for base and precious metals. Models for regional, stratigraphic correlation of the supracrustal rocks exposed on the Cumberland Peninsula with similar Paleoproterozoic rocks of central Baffin Island (see Baffin Gold project of Commander Resources, this volume) and west Greenland may help in developing metallogenic models for the Cumberland Peninsula. In view of the discovery of diamonds on neighbouring Hall Peninsula (see Chidliak Project of Peregrine Diamonds, this volume), deciphering tectonic affinity of the plutonic complex will be critical in evaluating the diamond exploration potential of the Cumberland Peninsula.

In advance of ground-based studies, a 57,000 line-km aeromagnetic survey was flown over the southern part of the GEM Cumberland Peninsula project area in 2008. The data were released in April 2009 as GSC Open Files 6086 to 6094. Digital data and maps are available from the Geoscience Data Repository (GDR) website (www.gdr.nrcan.gc.ca). The survey was co-funded by the Government of Nunavut (\$1.3 million, Strategic Investments in Northern Economic Development [SINED] funding) and GSC (\$1.1 million, GEM funding).

Studies in the Elu Belt, NE Slave Province (H. Mvondo, D. Lentz)

The Archean Elu Greenstone Belt, northeast Slave Province, contains a number of gold occurrences, although factors influencing gold mineralization are poorly understood. New, detailed-scale mapping, structural and stratigraphic studies in the Elu Belt are intended to develop a better understanding of the setting and timing of gold mineralization. Results may provide tools for making better exploration decisions in greenstone belts of the northeast Slave Province.

In 2009, field work focused on an arcuate east-west to northeast-southwest trending and northwards concave shaped zone that forms a structural and stratigraphic link between Elu and Hope Bay greenstone belts. The zone is informally referred to as the Elu Link. Preliminary work shows the Elu Link consists of highly strained, thick pillowed flows and subordinate intercalations of felsic lavas, psammities and banded iron formation. The supracrustal rocks are flanked to the south and the north by regionally extensive, partly migmatized metagranitoid complexes. Elu Link supracrustal rocks are intruded by syn-tectonic, sheet-like bodies of hornblende metagabbro which are themselves cut by a syn- to late-tectonic porphyritic and equigranular hornblende +/- biotite metagranites containing slivers of migmatitic gneiss. The supracrustal rocks and the migmatitic gneiss suffered a D1 to D3 deformation history contrasting with the metagabbros and the metagranites that only record D2 and D3 strain.

To assist with field mapping and to better use available magnetic data, magnetic susceptibility was measured on hand samples. The results indicate averages of $1.53 \pm 10.47/-1.30$ (SI) ($n=41$) for metagranites, $1.68 \pm 5.88/-1.31$ for 43 readings on metagabbro, $1.00 \pm 5.19/-0.85$ for 19 readings on metavolcanic rocks, and $8.64 \pm 15.90/-5.60$ ($n=5$) for diabbases, summarized from their log distributions. These values show variations denoting subdivisions within the main lithologic units and demonstrate that magnetic susceptibility data is a useful tool for mapping in this region.

The project is a partnership between the University of New Brunswick (H. Mvondo and D. Lentz), Newmont UAS Limited and the CNGO. Work is supported by SINED funding, and logistical, in-kind and technical guidance provided by Newmont USA Limited.

Hall Peninsula (GSC GEM) Project (W. Miles, R. Dumont)

In advance of ground-based studies anticipated to start in the 2010 field season, a 93,643 line-km aeromagnetic survey was flown over the Hall Peninsula, southern Baffin Island, in 2009. This survey fills a geoscience knowledge gap as there were no pre-existing publicly available aeromagnetic data for the Hall Peninsula. The new data should be available for public release by May 2010 and will be available through the Geoscience Data Repository (GDR) website (www.gdr.nrcan.gc.ca/aeromag).

The Hall Peninsula is poorly mapped and mostly underexplored. It is thought to consist of Archean orthogneisses of uncertain tectonic affinity, Paleoproterozoic supracrustal rocks (Lake Harbour Group?), and plutonic units. Peregrine Diamonds Limited has discovered diamond-bearing kimberlite intrusions (see Chidliak Project, this volume) on the Hall Peninsula, significantly elevating the diamond prospectivity of the region. The supracrustal rocks may have base-metal exploration potential.

Hudson Bay-Foxe Basin (GEM) Energy Project (S. Zhang)

Foxe Basin is a large and mainly unexposed Paleozoic sedimentary basin in eastern Nunavut; its hydrocarbon potential is largely unknown. In 2009, field studies of Paleozoic outcrops on Melville Peninsula representing the exposed western margin of Foxe Basin, were intended to address key questions relating to potential hydrocarbon systems in the basin. This work is a continuation of the CNGO's Nunavut Energy Project (2007-08, transferred into the GEM Hudson Bay-Foxe Basin project in 2009). Previous studies by S. Zhang

confirmed the Ordovician sequence in Hudson Bay Basin to contain potential hydrocarbon source rocks (see Zhang, S. 2008a: New insights into Ordovician oil shales in Hudson Bay Basin: their number, stratigraphic position, and petroleum potential. *Bulletin of Canadian Petroleum Geology*, 56-4; and Zhang, S. 2008b: Rock-Eval data for four wells in Hudson Bay and Foxe Basin. Geological Survey of Canada, Open File 5872.) The Ordovician of Foxe Basin is inferred to have a Hudson Bay Basin equivalent.

In the 2009 field season, the Ordovician sequence on Melville Peninsula was systematically examined and sampled. Field observations and measured stratigraphic sections reveal the upper part of the Ordovician sequence on Melville Peninsula to be equivalent to that on Southampton Island (northern Hudson Bay Basin), which contains oil shales. However, the sequence is significantly thinner on Melville Peninsula than on Southampton Island. Oil shales were not observed in 2009. Examination of conodonts (in progress) will be used to strengthen stratigraphic correlations between the Foxe and Hudson Bay basins.

Hyperspectral Project: Hackett River and Hope Bay Greenstone Belts. Developing Remote Sensing Exploration Tools (L. Wickert, J. Peter, J. Harris, D. James)

The Hyperspectral Project is intended to test the usefulness of airborne hyperspectral imaging as a mineral exploration tool in Canada's North. Airborne or satellite-based spectral platforms are effective in areas having little to no vegetation in hot, arid environments with abundant outcrop and/or regolith. However, there are no case-studies in the public domain demonstrating the efficacy of detection and delineation of alteration zones (and associated mineral deposits) by spectral response using airborne hyperspectral data under the geographic and climatic conditions of the northern Slave Province. The anticipated result of this project will be development of a hyperspectral exploration

Arctic Cotton
COURTESY OF CNGO





Fisherites sp. fossil from
Bad Cache Rapids,
Southampton Island

COURTESY OF GN-EDT

tool for volcanogenic massive sulphide (VMS) and orogenic gold deposits in the Arctic.

In 2009, hyperspectral surveys were flown in western Nunavut over parts of the Hackett River greenstone belt (VMS deposit), adjacent areas immediately to the east and the Hope Bay greenstone belt (orogenic gold). Hydrothermal alteration styles (e.g., chloritization, sericitization and carbonatization) associated with VMS and orogenic gold deposits are mineralogically ideal for detection by hyperspectral methods. However, it is uncertain if the method will be effective at high, northern latitudes.

This is a cooperative project involving personnel from the Geological Survey of Canada, Canada-Nunavut Geoscience Office and Canada Centre for Remote Sensing, and is supported by logistical, in-kind and technical guidance provided by industrial partners Newmont USA Limited, Sabina Silver Corporation and Minerals and Metals Group Limited. The survey contractor was SpecTIR LLC of Reno, Nevada. Preliminary data are expected to be publicly available for the Hackett River area before the end of 2009. Data for Hope Bay will remain confidential until spring 2011, in accordance with a confidentiality agreement. The project is supported by SINED funding.

Industrial Minerals (Limestone) Project, Southampton Island (S. Zhang, E. Prosh)

Areas around Coral Harbour, Southampton Island, contain regionally extensive exposures of limestone. Some of the limestone units may have a 'pure' composition and have potential use as an industrial mineral. Industrial limestone has a diversity of uses including acid-water treatment around mines, the manufacture of lime and cement, aggregate (crushed limestone), rock dust for explosion abatement and the application to soils to adjust pH (agricultural use). In particular, reagent grade lime (calcine or quicklime) will be required at new or planned mines in the Rankin Inlet-Baker Lake area of Nunavut. The outcome of the project will be an assessment of the industrial mineral (carbonate) potential in the Coral Harbour area. The project is supported by SINED funding.

Field studies in 2009 included detailed sampling at 21 sites located west and north of Coral Harbour. A total of 135 samples were collected from the 21 localities, each is between one and three kilograms (kg) and covers a stratigraphic interval of approximately 1.5 m. Samples were collected mainly from the Bad Cache Rapids limestone (Upper Ordovician) mapped by S. Zhang in 2007. Geochemical and petrographic studies of the

samples are ongoing and data will be available in a GSC open file in 2010.

Multiple Metals - Melville Peninsula (GEM) Project (D. Corrigan, T. Tremblay, L. Nadeau)

The Multiple Metals – Melville Peninsula Project is a three-year bedrock and surficial mapping project intended to focus on the Precambrian Shield of Melville Peninsula. The project's principal objective is to enhance mineral exploration and development by generating an improved geoscience database and geologic models for the region. These activities stem from collaboration between the GSC, CNGO, Memorial University, University of Manitoba, University of Western Ontario, University of Waterloo and Boston College. The area forms part of the Rae Province and consists of multiple belts Archean-age Prince Albert Group and associated granitoid rocks, overlain in the southern part of the peninsula by the Paleoproterozoic Penrhyn and Folster Lake groups.

The project area is about 45,000 square kilometres (km²) and is located within parts of NTS map sheets 46J, K, N to P, and NTS 47A to D. The 2009 field season was preceded by analysis of till samples from northern Melville Peninsula, as well as re-analysis of approximately 2,200 archived lake sediment samples, mainly from the central part of the peninsula, using modern LA-ICP-MS techniques. Prior to the field season, three airborne geophysical surveys were flown. One of the surveys (aeromagnetic only) was completed in the summer of 2009 in the central Melville area, mainly in NTS map sheets 47A and 47B. The two other surveys, consisting of aeromagnetic and radiometric measurements, were flown over the Penrhyn Group.

Bedrock studies, co-led by David Corrigan (GSC-Ottawa) and Léopold Nadeau (GSC-Québec) were concentrated mostly in NTS map sheets 47A and B, and mainly over belts of Prince Albert Group rocks. Field mapping, enhanced by the newly acquired high-resolution aeromagnetic survey, provided a better understanding of the stratigraphic, structural

and metamorphic evolution of the entire region. Gossanous horizons, especially those associated with silicate- and oxide-facies iron-formation and with ultramafic flows and sills, were systematically sampled for assay (in progress). The mapping also provided new insights on two areas of interest, including a) a relatively large gabbro unit having disseminated chalcopyrite and pentlandite and b) a small mafic-ultramafic complex with orthopyroxene and finely layered gabbro-anorthosite, which also locally contains disseminated chalcopyrite. Most areas where gossans were found corresponded with anomalies previously detected in till. Samples with suitable metamorphic minerals and/or datable accessory minerals were collected for in-situ U-Pb dating and thermobarometry in order to determine the range and intensity of Paleoproterozoic tectonothermal overprint on the Archean basement. Representative samples from most of the main rock types or main map units were sampled for tracer isotope and U-Pb zircon age determination in order to establish whether they represent more than one suite of rocks, to constrain crustal evolution and to allow for better regional correlations.

A number of studies form the basis for a Post-Doctoral study, a PhD thesis and of M.Sc theses that were initiated in fly camps in the Penrhyn Group, ahead of the 2010 field season planned in that area. The Post-Doctoral study is focussed on the age,

Marine delta, Melville Peninsula
COURTESY OF CNGO



Geologist checking out
glacially eroded ultramafic rock,
Melville Peninsula
COURTESY OF GN-EDT



source and potential mineral enrichment of Paleoproterozoic granitoid units and pegmatites that intrude the Penrhyn Group. The PhD study (University of Manitoba) is focussed on basin evolution of the Penrhyn Group and its stratigraphic equivalent on Baffin Island (Piling Group), with particular attention to the nature and economic significance of polymetallic black shales. Two M.Sc. theses, funded in large part by an NSF Grant to Dr. Yvette Kuiper (Boston College), focus on the structural evolution of the Penrhyn Group. This study is also relevant to the Piling Group on Baffin Island, particularly the Bravo Formation which hosts significant gold occurrences.

An important component of this project is dedicated to adding to an already substantial amount of Quaternary data and knowledge, mainly produced by Lynda Dredge (GSC). The new studies, led by Tommy Tremblay (CNGO), focus on a) providing a better understanding of the ice flow history in the region and b) providing tighter till sample grids over areas down-ice from known bedrock mineralization, or in areas showing existing till anomalies. The geochemistry and mineralogy of both heavy mineral concentrates from till and silt-sized till matrix will be analyzed to obtain results demonstrating base-metal, gold and diamond potential. In 2009, Quaternary mapping was focused on the northern half of Melville Peninsula, and will deploy over the southern half in the summer 2010.

Airborne aeromagnetic and radiometric surveys were acquired during the summer 2009 as an aid to mapping and mineral exploration. A 44,500 line-km aeromagnetic survey was flown over the central Melville Peninsula area in order to gain a better understanding of the various lithological map units, lithological contacts, and to allow extrapolation of units in areas of thick and widespread Quaternary cover. A 41,700 line-km aeromagnetic-radiometric survey was flown over the Penrhyn Group. The latter will complement bedrock geological mapping planned for the summer 2010. The aeromagnetic survey flown over central Melville revealed large-

scale structural patterns and led to more precise mapping of tectonically dismembered segments of the Prince Albert Group. The radiometric surveys, flown uniquely over the Penrhyn Group, will allow a better understanding of the geological significance and spatial distribution of strong gamma-ray anomalies that were detected during an earlier, five kilometre-spacing survey flown in the 1970s. A ground magnetotelluric survey, using both long- and short-polarity instruments, was acquired along an across-strike transect extending from the northern to southern extent of the peninsula. The objective of this survey was to gain a better understanding of mantle conductivity, and potentially link conductivity with lithosphere-scale structures. The short-polarity survey was conducted to gain insights on crustal conductors and their potential links to mineralized zones.

Mesoproterozoic Basins of Nunavut (GEM) Project (E. Turner, D. Long)

This project aims to update and refine understanding of the evolution and metallogeny of the Bylot Basins. Field activities in 2009 were conducted from two-person camps and focussed primarily on sedimentary architecture and metal potential of terrigenous clastic units near the base of the Borden (Baffin Island), Fury and Hecla (Baffin Island) and Aston and Hunting (Somerset Island) basins. Results are intended to provide exploration companies with new exploration concepts for these basins. This project is a partnership among Laurentian University, GEM and CNGO, and is a continuation of multi-year metallogenic and stratigraphic studies of the Mesoproterozoic geology of eastern Nunavut by E. Turner of Laurentian University. Preliminary results from 2009 field work are presented below.

The Mesoproterozoic Bylot Basins were a series of sub-parallel extensional depressions associated with the Mackenzie Igneous event (approximately 1,270 Ma). In the Borden Basin, basal strata dominated by theolitic basalt and siliciclastic sandstones were previously interpreted as pre-

dominantly terrestrial flows and fluvial sandstones. New field data indicate that the basalt flows were partly subaqueous, and that the overlying Adams Sound Formation is almost exclusively marine. A similar, marine-dominated setting can be demonstrated for basal terrigenous clastic units in the Aston and Hunting and Fury and Hecla basins. The potential for extensive unconformity-type deposits, analogous those in the Athabasca Basin, is low in the Bylot Basins owing to a dearth of feldspar, and to extensive, early quartz cementation. Uranium present in associated basement rocks may have been scavenged by fluids well after lithification of the Mesoproterozoic basin-fill to produce local, vein-type U deposits.

The marine mudstone (shale)-dominated Arctic Bay Formation overlies basal basalt and sandstone in the Borden Basin. Although overlying carbonate rocks of the Nanisivik and Iqqittuq formations (formerly Society Cliffs Formation) host numerous base-metal showings (e.g., Nanisivik deposit), the prospectivity of the Arctic Bay Formation for shale-hosted mineralisation has not been determined. Three well-exposed sections through the Arctic Bay Formation in the Milne Inlet Graben (MIG) were examined using (a) standard lithostratigraphic techniques to evaluate the possibility of basinal characteristics favourable for SEDEX mineralisation and (b) using a portable XRF device to test for anomalous base-metal concentrations and redox-sensitive elements. Although most of the critical stratigraphic and structural prerequisites for SEDEX mineralisation are demonstrably present, geochemical profiles through the two closely spaced stratigraphic sections tested indicate generally low to negligible Zn and Pb concentrations. Molybdenum is present only in a thick (>100 m) black shale interval (< [less than] 65 ppm), and U is present at subeconomic yet elevated levels (<50 ppm) in the black shale. The consistent presence of these two redox-sensitive elements throughout the black shale interval indicates that although no significant metals were supplied to the basin area tested by this pilot

study, basin bottom-water was O₂-depleted and could have had the potential to carry significant base-metal concentrations in other deep areas of this segmented, tectonically active rift system.

NE Thelon Basin Uranium (GSC GEM) Project (c. Jefferson)

The NE Thelon Basin Uranium project, part of the larger Northern Uranium for Canada Project, will improve framework and conceptual knowledge of areas around the northeast margin of the Mesoproterozoic Thelon Basin which are prospective for uranium. This project builds on knowledge obtained during the preceding Secure Canadian Energy Program, providing attributes to test in new and poorly understood districts. In Nunavut, the project targets the northeast part of the Thelon Basin, and will determine what methods from the well-known Athabasca Basin can be applied as well as what unique new methods must be developed for the region. Partnerships will include the GSC, INAC, exploration companies and academia.

Industry is exploring and developing new resources in the area. Challenges to making and developing new discoveries include data gaps and multiple possibilities for exploration paradigms. Remote predictive mapping will maximize the effectiveness of geological field work by linking remotely sensed data to rock properties in strategic training areas. Remotely sensed data will be obtained from public sources, industry consortia and new surveys. AREVA's development of the Kiggavik mine provides unprecedented training opportunities.

Activities in the project include multi-parameter airborne geophysical surveys, deposit studies and multi-partner (public-private) data compilation activities. Evaluations will use deposit model attributes based on type reference areas, discovery history, uranium mass balance and comparison of processes between established and frontier areas. Basin tectonic evolution, paleo-climate, mineral alteration, uranium sources, transport and traps are key process measures.



Glacially eroded granite, Melville Peninsula
COURTESY OF CNCO



Faulted BIF outcrop,
Melville Peninsula
COURTESY OF GN-EDT

Tri-Territorial Bedrock and Surficial Compilations (GEM Tri-T) Project: Nunavut Overview 2009

(M. St-Onge, C. Harrison, D. Kerr)

Within the partnered Geo-Mapping for Energy and Minerals (GEM) Program, the Tri-Territorial bedrock and surficial compilations (Tri-T) project is focusing on the digital capture and integration of geological spatial data to produce seamless geo-databases for the three territories, populated with source-map information from digitized paper maps and existing digital formats. Important derivative products will be internally-consistent surficial and bedrock geological compilation maps of the three territories. Once assembled, the two databases will be regularly updated and serve as an interpretative framework for mineral and energy resource exploration, land use planning and infrastructure development.

Within Nunavut, 239 surficial geology maps have been identified, with 112 in digital format. As an aid to ongoing and new GSC/CNGO surficial geology mapping projects in 2009/10, digitizing priority is focused on 15 maps (completed, in progress): Melville Peninsula (six), Cumberland Peninsula (one), Somerset/Prince of Wales/Boothia Peninsula (four) and Victoria Island (three).

For the bedrock component, digital geology maps are already compiled for all three territories at 1:5 million scale with most onshore areas available at 1:500,000 scale. Digital geology maps for large parts of Nunavut, NWT and all of the Yukon are already published at 1:250,000 scale. Priority is to populate these data with a consistent set of relevant map unit attributes including age, rock composition, tectonic setting, state of metamorphism (etc.), and to deliver a GIS-enabled tri-territorial compilation map at target 1:500,000 scale, where feasible.

For more information, please contact:

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Web-Based Data Delivery: www.NUNAVUTGEOSCIENCE.ca

(C. Gilbert, J. Rupert, B. Lau, S. Sharpe)

Publicly accessible geoscience information is a vital tool used by resource exploration companies working or planning to work in Nunavut. Public geoscience information held in government offices assists companies make strategic exploration and investment decisions. However, for geoscience information to have real value, it must be managed and web-disseminated to a global client base.

To disseminate Nunavut geoscience information through one authoritative website, the Nunavut-geoscience.ca project was initiated in October 2005. The project is a partnership between the CNGO, INAC, Natural Resources Canada (NRCan), Nunavut Tunngavik Inc. (NTI) and the Government of Nunavut (GN).

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Nunavutgeoscience.ca



Screen shots of
nunavutgeoscience.ca
COURTESY OF INAC

Nunavutgeoscience.ca went on-line in September 2006. It hosts the Nunavut minerals database, NUMIN and various web applications, including: Reference Query, for searching mineral publications; Gateway, for downloading publications; Showing Query, for searching mineral showings and overlaying them on regional data sets (e.g., bedrock geology, geological provinces, regional-scale aeromagnetic data); Mirage, for accessing Nunavut specific geoscience maps made available for download by the Geological Survey of Canada; and GEOSCAN, the bibliographic database for scientific publications

of the Earth Sciences Sector of NRCan. Users can also access CNGO information and GDR, the national Geoscience Data Repository hosted by NRCan.

In addition, nunavutgeoscience.ca contains a searchable version of *Nunavut Exploration Overview* covering years 2006 to 2008 (www.nunavutgeoscience.ca/eo/index_e.html). Along with an interactive map, exploration projects can be filtered by commodity group, project name, exploration company and Nunavut region. Projects are linked across years and project data can be downloaded. ■



Rocks of the Mesoproterozoic
Borden Basin, northern
Baffin Island
COURTESY OF CNGO

Kitikmeot Region



Junior mining companies have historically been the driving force behind much of the exploration activity in the territory, with senior companies progressively increasing their presence. In 2009, several companies working in the Kitikmeot region were the focus of mergers and takeovers. China Minmetals, through its Canadian subsidiary MMG Resources Inc., acquired the majority of OZ Minerals' assets in 2009. OZ Minerals Limited itself was formed in 2008 through the merger of Zinifex Limited and Oxiana Limited. Minmetals, through MMG Resources Inc., now owns numerous zinc and copper exploration projects in the western Kitikmeot region. Early in 2009, Dundee Precious Metals, owner of the Back River gold project and the Wishbone gold and base metal properties of the western Kitikmeot region, was taken over by Sabina Gold & Silver Corp. (formerly Sabina Silver Corporation).

The Kitikmeot region spans the western and northern mainland of Nunavut, parts of Victoria Island and all of Prince of Wales, King William and Somerset islands. Cambridge Bay and Kugluktuk are the largest communities and provide support and services to exploration projects in the region. Yellowknife is also an important logistical centre.

In 2009, exploration in the Kitikmeot region was not as robust compared to previous years, although there were more than 40 active mineral exploration projects. The region has diverse geology commodities being sought including base metals, diamonds, gold, lithium, the platinum group metals (PGM) and uranium.

Newmont Mining Corporation, one of the world's largest gold producers, continued with revising an exploration and development strategy for the Hope Bay greenstone belt. This shift in focus by Newmont followed on its acquisition of Miramar Mining Limited in 2008.

Sabina Gold & Silver Corp., owner of the silver-rich volcanogenic massive sulphide (VMS) deposits at Hackett River (western Kitikmeot), now owns most of the Hackett River volcanic belt. The George and Goose lakes gold deposits (Back River Project), east of the Hackett River property, are also owned by Sabina Gold & Silver, and were the focus of advanced exploration programs in 2009. The Hackett River belt also hosts the Yava and Musk base-metal deposits.

Advanced exploration in the Kitikmeot region includes the Gondor, High Lake, Hood, Izok Lake deposits and the Ulu gold deposit. All of these deposits, formerly owned by OZ Minerals, are now under the control of MMG Resources Inc.. Limited work was undertaken on Izok Lake and High Lake in 2009.

Active diamond exploration continued across the Boothia Peninsula and over areas south of Kugaaruk in the eastern Kitikmeot. Land also was held for diamond exploration over parts of the western mainland and Victoria Island.

Several nickel-copper-PGM and uranium exploration camps in the western Kitikmeot were put on care and maintenance by operators in 2009. No work was conducted on these properties but many companies are anticipating work in 2010. ■



Sulphide-rich outcrop over the main showing, Blue Caribou

COURTESY OF INAC

■ ANIALIK¹, CANOE LAKE²

Operator/Owner

North Arrow Minerals Inc.^{1,2}, MMG Resources Inc. (Minmetals)²

Commodities

Copper, Zinc¹;
Copper, Zinc, Silver, Gold²

NTS

76M/06, 76M/07, 76M/11, 76M/12¹;
76M/02²

Location

160 km southeast of Kugluktuk¹,
183 km southeast of Kugluktuk²

The Anialik base metals property comprises two projects, Rush and Run Lake. Historical exploration and drilling reports document that 70 holes were drilled in the High Lake greenstone belt in this area; 48 of these holes were drilled in the Run Lake volcanogenic massive sulphide (VMS) showing. Drillholes collared in felsic to mafic volcanic rocks returned anomalous copper and zinc values at both showings, and the mineralization is open to depth.

The Canoe Lake property covers 15,909 hectares (ha). In 2008, MMG Resources Inc. and North Arrow Minerals Inc. entered into an agreement for MMG to earn up to a 70 per cent interest in the property by having spent a minimum of \$1 million by December 1, 2008, and \$3 million by December 1, 2009. This option agreement is currently being amended to extend this deadline to December 2010.

■ BLUE CARIBOU

Operator/Owner

Mega Precious Metals Inc.

Commodities

Copper, Molybdenum, Silver, Gold,
Rhenium

NTS

76G/01, 76G/02, 76G/07

Location

191 km south of Bathurst Inlet

The Blue Caribou exploration project was owned and operated by Skybridge Development Corp. (Alyris Gold Corp), a wholly-owned subsidiary of Mega Silver Inc. In May 2009, Skybridge amalgamated with Mega Silver and in September, Mega Silver Inc. changed its name to Mega Precious Metals Inc.

The Blue Caribou project in western Kitikmeot is a property consisting of 27 claims covering 25,606 ha. In 2008, Skybridge drilled 37 diamond drill holes (totalling 3,615 metres [m]) on two exploration targets. The showings have been known since early 1980s.

Quartz breccia and sulphide- and quartz-rich boulders mark a feature termed the Blue Caribou structure. This feature, exposed in bedrock with a width up to 12 m, has a mapped strike-length of 1,500 m. Mineralization occurs in a main zone and several sub-zones (West Trench, Central Rotated, Legs-Elbow and Copper). Three late-stage north-south-striking faults offset all zones. Exploration targets in 2008 were the Blue Caribou Copper Zone (formerly referred to as the IRA Showing) and the Blue Caribou Deformation Zone (formerly referred to as the Echo Bay North and Echo Bay South

occurrences). Other work included drill-testing the grade and continuity of the showings, prospecting, geophysical surveys (horizontal loop EM; HLEM) and soil geochemistry.

Results suggest the mineral deposit environment is similar to an Iron Oxide Copper Gold (IOCG) deposit type. Copper mineralization was intersected in all drill holes and the shallowly-dipping deposit is open on-strike and down-dip. The best values intersected in drilling at a vertical depth of approximately 100 m were 4.35% Cu and 0.087% Mo (molybdenum) over four metres. Results from a step-out drillhole returned 4.2 m of 3.0% Cu, 0.06% Mo, 40.23 grams per tonne (g/t) Ag and 0.26 g/t Au at 700 m down-dip or 225 m below surface. These results extend the depth of the deposit to at least 225 m. Rhenium (Re), a rare-earth metal, was intersected in drill core and returned values up to 10 g/t. Given a common Mo-Re association, more detailed studies of this distribution are planned for the property. Drilling delineated an inferred mineral resource (43-101 compliant) of 2.77 million tonnes at weighted average grades of 2.82% Cu, 0.06% Mo, 31.26 g/t Ag and 0.20 g/t Au, using a 1% cut-off grade for copper and a minimum true width of two metres. The company speculates that gold and silver values increase to the west and east, respectively, and increase with depth. The host Blue Caribou structure is persistent and up to 13.2 m wide at the down-dip limit of drilling.

In 2010, metallurgical testing is planned, in addition to conducting a deep-seeking time domain electromagnetic or induced polarization/resistivity survey, to confirm continuity of the mineralization to depth. A property-scale, remote sensing alteration study is also planned.

■ GONDOR¹, HOOD²

Operator/Owner

MMG Resources Inc. (Minmetals)^{1,2},
Xstrata plc¹

Commodities

Copper, Lead, Zinc¹; Copper, Zinc²

NTS

76E/05, 76E/12, 86H/07, 86H/08,
86H/09¹; 86I/02²

Location

225 km southwest of Bathurst Inlet¹,
220 km south of Kugluktuk²

China Minmetals Nonferrous Metals Co. Ltd. — a subsidiary of the state-owned China Minmetals Corporation (CMM or Minmetals) — acquired the Gondor and Hood deposits from OZ Minerals in June 2009. The acquisition was coupled with the acquisition of other high-grade pre-feasibility-grade properties in Nunavut. Through its Canadian subsidiary MMG Resources Inc., Minmetals now also owns the zinc-copper-lead-silver Izok Lake property, the copper-zinc-gold High Lake project and the past-producing Lupin Gold Mine.

Gondor and Hood are known base metals systems have been explored for many years. OZ Minerals considered these deposits to be peripheral deposits to Izok Lake, and a possible additional source of base- and precious-metal ore to augment supply from a future Izok Lake Mine. The Gondor deposit hosts historical resources of 4.38 million tonnes at 0.1% Cu, 1.2% Pb, 9.7% Zn, 0.78 g/t Au and 64.6 g/t Ag, and remains open in all directions and at depth. The deposit is believed to offer significant potential and may be large enough to be developed as a stand-alone property. In 2009, before the properties' acquisition by CMM and MMG Resources Inc., OZ Minerals had completed analysis

of a regional airborne survey (flown in 2007 and 2008), and followed-up on geophysical targets using mapping, prospecting and ground geophysical surveys. Twenty-five electromagnetic targets were selected for follow-up evaluation and were identified for future drilling.

The Hood deposit is smaller than Gondor and comprises a series of multiple near-surface deposits in proximity to one another. Some of these deposits offer good base metal exploration potential. Further delineation and assessment work is required at this property.

Results from the 2009 season have not been released by MMG Resources Inc.

■ HACKETT RIVER

Operator/Owner

Sabina Gold & Silver Corp.

Commodities

Silver, Zinc, Gold, Copper, Lead

NTS

76F/15, 76F/16

Location

104 km south-southwest
of Bathurst Inlet

In 2009, Sabina Gold & Silver Corp. (formerly Sabina Silver Corporation) completed an extensive exploration and resource delineation program at its wholly-owned Hackett River silver-zinc property. Hackett River contains indicated resources totalling 43 million tonnes grading 144 g/t Ag, 4.65% Zn, 0.42% Cu, 0.64% Pb and 0.30 g/t Au. Additional inferred resource figures total 14.6 million tonnes grading 136 g/t Ag, 4.46% Zn, 0.31% Cu, 0.57% Pb and 0.31 g/t Au. The deposits are covered by surface Inuit Owned Land (IOL) and nine mining leases with an aggregate area of 12,250 ha.

This property hosts a VMS deposit that currently has three main ore zones — the Boot, East Cleaver Lake and the Main Zone. This latter body includes three zones — East, West and Keel. The mineralogy is broadly similar across the three zones, and includes coarse-grained pyrite, pyrrhotite, sphalerite, chalcopyrite, galena, freibergite, arsenopyrite and rare tetrahedrite. Secondary mineralization is reported at the nearby JO zone and several other unnamed exploration targets. All of the mineralized zones are located within a structural window two kilometres wide by five kilometres long that lies adjacent to the contact between felsic volcanic units and pelitic sediments.

Sabina completed two phases of drilling in 2009. Spring and summer drill programs of approximately 5,400 m and approximately 3,500 m, respectively, were used to test targets located by geophysical and ground surveying techniques. The spring drilling phase commenced in April and continued through May; the nature of the ground around Boot Lake and East Cleaver Lake required winter conditions to mount a successful drill program. A total of 28 holes were drilled in the spring and focused on near-surface extensions of the known mineralized zones. Exploratory drilling was completed at the Main Zone, Finger Lake, Bat Lake, Hungrat Lake and in the strongly mineralized JO Zone.

The JO Zone is located immediately south of the Main Zone. Drilling has indicated this zone has potential for a high-grade shallow deposit to be potentially used as a mine-starter pit. Drill intercept highlights from the 2009 work at the JO Zone include 26.2% Zn, 457 g/t Ag, 0.13% Cu, 2.51% Pb and 0.12 g/t Au over 8.8 m at a down-hole depth of 61.6 m. These values

include a zone 4.85 m in thickness having values of 40.92% Zn, 618 g/t Ag, 0.08% Cu, 3.70% Pb and 0.12 g/t Au. The company completed a reassessment of historical data, re-drilled a series of holes and confirmed mineralization of 5.55% Zn, 98 g/t Ag, 0.77% Cu and 0.11 g/t Au over 23.6 m, and 8.57% Zn, 436 g/t Ag, 0.26% Cu, 1.41% Pb and 0.44 g/t Au over 10 m. The latter interval had a one metre section containing 35.28% Zn, 1,770 g/t Ag, 0.23% Cu, 8.80% Pb and 0.59 g/t Au. Drilling has delineated the deposit to a depth of 200 m and it remains open.

East Cleaver Lake was delineation-drilled during the summer of 2009. Numerous historical holes dating back to the 1970s were reassessed, with some holes requiring re-drilling to confirm reported grades. Drilling was completed to assist in locating the proposed pit outline at East Cleaver, and to assess ore grade variability over the area. Several strongly mineralized layers were intersected and returned values including 691 g/t Ag, 0.13% Zn, 0.42% Pb and 1.90 g/t Au over an interval of 1.1 m at a down-hole depth of 176 m, and 124 g/t Ag, 4.12% Zn, 0.17% Pb, 0.08 g/t Au over 1.05 m at a hole-depth of 182.5 m. The East Cleaver system remains open to the west; further assay results are pending.

Until 2008, the Main Zone was considered to be one contiguous deposit. However, delineation drilling over the last two years has identified two separate zones, East and West, within this zone. The Main-West zone contains high-grade resources, with assay values almost twice as high as those found within the Main-East deposit. Mineralization lies near the surface and both zones could be accessed by an open-pit style operation.

In 2009, Hole SHR-09-39 was drilled at Main Zone West to the north of previous drilling and targeted an inferred structure identified in a previous resource model. The hole intersected 288 g/t Ag, 8.28% Zn, 0.90% Cu, 1.41% Pb and 1.29 g/t Au over 20.10 m; the mineralized zone was intersected 4.3 m below surface. Mineralization continued at depth; silver-bearing sphalerite and galena were intersected to a depth of 16.5 m, followed by a well-developed silver-rich chalcopyrite stringer zone down to 24.8 m. Below this mineralized zone was a 150 m-deep zone of intense alteration containing disseminated chalcopyrite. Three additional holes drilled to the north of Main Zone West also intersected copper stringer mineralization associated with similar alteration. Assay results for this zone have not been released.

In early 2007, Wardrop Engineering completed a preliminary economic assess-

ment report in accordance with NI 43-101 guidelines. The assessment outlined a mining operation that could produce an estimated 12.4 million ounces of Ag, 147,300 tonnes of Zn, 9,400 tonnes of Cu, 16,800 tonnes of Pb and 17,200 ounces of Au annually. Mine life was estimated to be 13.6 years, at a 10,000 tonnes per day milling rate. This assessment was recently upgraded, and all contained metal values were increased to include an additional 7.1 million ounces of Ag, 448,000 tonnes of Zn, 57,000 tonnes of Cu, 12,000 tonnes of Pb and 24,000 ounces of Au.

In September 2008, the Minister of Indian Affairs and Northern Development approved a Part 5 environmental assessment of the Hackett River project. In April 2009, the NIRB provided Sabina with the scope of the guidelines for preparation of its draft EIS. The mine application process is on-going.

Aerial photo of Wilberforce Falls
COURTESY OF SABINA GOLD & SILVER CORP.



■ HEPBURN

Operator/Owner
Diamonds North Resources Ltd.

Commodities
Copper, Silver

NTS
86J/01, 86J/02, 86J/05-86J/07,
86J/11-86J/13, 86K/09, 86K/10, 86K/15

Location
150 km southwest of Kugluktuk

Located on the border between Nunavut and the Northwest Territories (NT), the Hepburn Project covers 607,028 ha of the western Slave Craton. The majority of this property is located in the NT but some work conducted in recent field seasons was in Nunavut.

In 2009, Diamonds North reported re-evaluation of historical work on the Hepburn property. High copper and silver values were reported from drill core and trench samples. Historical drilling had intersected zones having 1% to 4% copper and silver values up to 203 g/t. Regional exploration also identified mineralization

in stratigraphically similar rocks 1.5 km south of the drill holes; this copper-silver mineralization occurs along strike for one kilometre. Additionally, five magnetic anomalies with copper-silver potential were identified over a 12.5 km-long area.

Mineralized grab samples collected by Diamonds North indicate that mineralization is more widespread than originally reported. Metal values from 20 of 24 samples range from 1% to more than 30% copper with 3 g/t to 1,129 g/t of silver. Two styles of mineralization have been observed on the property: copper-only zones and wider zones comprised of high-grade copper and silver. Copper minerals are mainly chalcopyrite and bornite with chalcocite. Native copper is also reported. Uranium mineralization is also reported in values up to 0.45% U_3O_8 .

Diamonds North planned to conduct further prospecting to determine the extent and continuity of the mineralized zones, and the results will be used to determine a future drill program.

■ HIGH LAKE¹, IZOK LAKE², HIGH LAKE EXPLORATION³

Operator/Owner
MMG Resources Inc. (Minmetals)

Commodities
Copper, Zinc, Silver, Gold¹;
Copper, Zinc, Lead, Silver²;
Copper, Zinc, Silver, Gold³

NTS
76M/07, 76M/10¹; 86H/10, 86H/11,
86H/14, 86H/15²; 76M/01, 76M/08,
76N/04, 76N/05³

Location
190 km east-southeast of Kugluktuk¹,
255 km southwest of Kugluktuk²,
225 km east-southeast of Kugluktuk³

The Izok Lake and High Lake properties are two undeveloped high-grade VMS deposits located between the communities of Bathurst Inlet and Kugluktuk. Reserve estimates for both deposits have to be confirmed, but resources at Izok Lake include 14.8 million tonnes grading 12.7% Zn, 2.5% Cu, 1.3% Pb and 70.5 g/t Ag; while High Lake contains resources of 17.3 million tonnes grading 17.3% Zn, 2.3% Cu, 0.3% Pb, 70.1 g/t Ag and 1.0 g/t Au. The High Lake property consists of 15 leases (1,710 ha) located mainly on IOL surface and subsurface parcels.

Ownership of these deposits has changed several times in recent years. At the beginning of 2009, they were 100 per cent owned by OZ Minerals Ltd., a public company based in Australia, and both were entering the pre-feasibility stage of development. In early 2009, the Chinese state mining company China Minmetals Corporation (CMM) and its 100 per cent owned subsidiary China Minmetals Non-



Non-mineralized drill core, High Lake Camp
COURTESY OF INAC

ferrous Metals Co. Ltd. attempted to acquire all outstanding shares in OZ Minerals. In June 2009, CMM (or Minmetals) succeeded in acquiring a significant portion of the OZ Minerals' assets. The Izok Lake and High Lake deposits are now owned by Minmetals through its Canadian subsidiary MMG Resources Inc. Izok Lake and High Lake deposits lie near to the surface, and are hosted in a series of felsic pyroclastic, dacitic and basaltic flows, sulphide-rich iron formation and turbiditic sedimentary rocks. Dacitic and gabbroic dykes, which feed overlying flows, intrude into the felsic volcanic sequences. The complex is Archean in age. Mapping, prospecting and detailed ground geophysics were completed at Izok Lake in 2009. Fifty-seven electromagnetic targets were selected for exploratory drilling. At High Lake, a regional exploration program was completed and drilling confirmed significant mineralization at nearby Sand Lake.

A pre-feasibility study was undertaken on Izok Lake. Due to the remoteness of this site, the study included assessment of transportation options and localities for building an all-weather road from the Arctic Ocean to the potential mine-site. Several port and road combination routes were examined, including: Grays Bay, Bathurst Inlet and east of Kugluktuk. After initial research, the Grays Bay option was favoured as this route would allow ore to be shipped to the Coronation Gulf and the Northwest Passage. The mine plan proposed both an open pit and underground operation, producing 4,000 tonnes per day for 10.5 years.

After completing economic assessment and pre-feasibility studies, the company concluded that the Izok Lake deposit in its

current form could not provide sufficient return on investment as a stand-alone project. Instead, a combination of several high-grade deposits (e.g. High Lake, Izok Lake, Gondor and Ulu) could make the region economical when extracted, shipped and processed together. During 2008, with the depression of the world markets and an increased debt load, OZ Minerals announced the postponement of the planned feasibility studies on the Izok and High Lake properties.

MMG Resources also intends to explore further the Izok Lake and High Lake properties using reconnaissance geological mapping and prospecting to expand the knowledge base of the properties and potentially discover additional base-metal showings. No work was completed at the Izok Lake site in 2009. At the High Lake site, a limited drill program plus care and maintenance work was undertaken. No information is available regarding future work, exploration or development plans for either site.



MUSK

Operator/Owner

Xstrata plc

Commodities

Copper, Zinc, Silver, Gold

NTS

76G/05

Location

430 km southeast of Kugluktuk

The Musk VMS deposit was discovered by Noranda Inc. in 1979 and is currently owned by Xstrata plc. The property is comprised of a single 221 ha mining lease as well as 21,000 ha of mineral claims and 8,558 ha of IOL. The deposit is hosted by Archean volcanic rocks of the Hackett River greenstone belt. A resource (pre NI 43-101 compliant) of 415,000 tonnes comprising 1.4 g/t Au, 324 g/t Ag, 1.1% Cu, 1.4% Pb and 9.8% Zn was outlined by Noranda in the 1980s. The deposit was defined along a strike length of 250 m and to a depth of 150 m. In 1994, a single drill hole by Metall Mining confirmed the presence of mineralization at a depth of 280 m.

■ SILVERTIP

Operator/Owner
Strongbow Exploration Inc.

Commodities
Gold, Silver, Lead, Zinc

NTS
76B/12, 76B/13, 76C/09, 76C/16

Location
453 km southeast of Kugluktuk

The Silvertip project comprises 11,332 ha, and the property covers the Pale, Minou and Silverhart silver, gold and base-metal showings — as well as more than 15 km of prospective volcanic stratigraphy. North Arrow Minerals Inc. was a partner in the project and drilled in 2008 (1,594 m; nine holes) with the intention of further defining the showing and reproduce historical drilling values. Mineralization was verified, although neither higher grades nor wider mineralized zones were intersected. The property was returned in 2009 to Strongbow Exploration Inc. who is re-evaluating the property.

The most significant showing, Pale, consists of quartz veining and locally significant sulphide mineralization hosted within a thick northwest-striking sequence

of variably silicified and carbonate-altered felsic volcanic rocks. Cominco Ltd. tested the Pale Showing in the late 1970s with 13 drill holes (2,541 m) and 12 of the holes intersected mineralization over a strike length of approximately 300 m and up to a depth of 200 m.

■ WISHBONE

Operator/Owner
Sabina Gold & Silver Corp.

Commodities
Copper, Silver, Zinc, Lead, Gold

NTS
76F/01, 76F/08-76F/10, 76F/15,
76F/16, 76G/02-76G/06, 76G/12,
76G/13, 76J/04, 76K/01, 76K/02

Location
415 km southeast of Kugluktuk

The Back River Project contains both the George and Goose Lake gold deposits, and the Wishbone gold and base-metal project in the western Kitikmeot region (see Hackett River section for further details). In June 2009, these projects were acquired by Sabina Gold & Silver Corp, formerly Sabina Silver Corporation, from former owners Dundee Precious Metals for \$7 million.

The Wishbone property comprises 95 mining claims and covers most of the Hackett River greenstone belt with an area of up to 50 km in length and up to 30 km in width. This area has received little exploration attention and Sabina views the property as highly prospective. In 2008, a 12,350 line-km VTEM survey was completed over the southern portion of the property; this survey area was also near the Yava and Musk base-metal deposits. This survey was successful and formed the basis of defining exploration targets for the 2009 program.

In 2009, surface mapping, prospecting, ground-checking of geophysical anomalies defined by the VTEM survey, and geophysics were all undertaken on the Wishbone property. This work located a new VMS deposit, designated the May Zone, lying approximately 15 km to the east of the Hackett River deposits and occurring within a similar setting. Fourteen drill holes were collared on the May Zone, and it was traced to a depth of 100 m over a 600 m strike-length that remains open at depth. The mineralized zone is made up of a series of massive to semi-massive sub-zones of sphalerite, chalcopyrite, galena and pyrite hosted within a series of cordierite-anthophyllite altered felsic volcanic rocks. Alteration associated with the May Zone has been traced to the southwest over a three kilometre by one kilometre area. Assay results from the first seven holes drilled on this target include: 10.60 m grading 73 g/t Ag, 10.86% Zn, 0.28% Cu, 1.15% Pb and 0.19 g/t Au; 8.10 m grading 45 g/t Ag, 15.08% Zn, 0.32% Cu, 0.59% Pb and 0.10 g/t Au; and 7.10 m grading 83 g/t Ag, 14.82% Zn, 0.36% Cu, 1.53% Pb and 0.13 g/t Au.

Mineralized drill core, High Lake
COURTESY OF INAC





Aerial photo of landscape, western Kitikmeot
COURTESY OF INAC

■ YAVA

Operator/Owner

Savant Explorations Ltd.

Commodities

Copper, Lead, Zinc, Silver, Gold

NTS

76F/09, 76F/16, 76G/12

Location

395 km southeast of Kugluktuk

The Yava base-metal property consists of one mining lease covering 1,304 ha and 16 claims covering 4,449 ha. The property is approximately 25 km along strike from Archean Hackett-Back River greenstone belt. Mineralization has been known since

the early 1970s and exploration was carried out on the property until 1975. In 2004, Expatriate Resources Ltd., later to become Pacifica Resources Ltd., conducted geophysical and geological surveys. In 2007, Pacifica transferred the property to a new company, Savant Explorations Ltd.

The Yava deposit is comprised of volcanic flows and fragmental rocks of mafic, intermediate and felsic composition. At the north end of the belt is the Hackett River deposit and at the southern end, the Musk deposit. There are four mineralized zones at Yava: Yava Main Zone, Yava North Zone, Yava Caribou Lake Zone and Yava South Zone. Only Yava Main Zone has been drilled and an inferred reserve was

suggested in 1976 of 1.3 million tonnes of 1.03% Cu, 1.60% Pb, 4.98% Zn, 3.42 ounces per tonne (oz/t) Ag and 0.0008 oz/t Au. This reserve calculation is historical and non-NI 43-101 compliant.

In late 2007, Savant reported positive results from a high-resolution time-domain electromagnetic/magnetic survey and preliminary ground follow-up work. The survey, which was flown at 100 m line spacing, located and verified historically identified conductors and also identified new anomalies. A conductor is also associated with a mineralized grab sample which assayed 3.45% Pb, 1.47% Zn, 1.17 g/t Au and 4,960 g/t Ag. It contained the mineral pyrrargyrite, a silver-arsenic sulfosalt.

Diamonds

AMARUK

Operator/Owner
Diamonds North Resources Ltd.

Commodities
Diamonds

NTS
56O/14, 56O/15, 57A/02-57A/07,
57A/13, 57D/02, 57D/04, 57D/06,
57D/11

Location
40 km southwest of Kugaaruk

The Amaruk property is located in the eastern Kitikmeot region. Since 2003, 25 kimberlites have been discovered; and 80 per cent of kimberlites on the property are diamondiferous. Amaruk covers approximately 1.5 million ha and hosts abundant kimberlite indicator minerals and kimberlite float occurrences spanning an area of approximately 80 square kilometres (km²).

The kimberlites include Beluga-1 through Beluga-3, Qavvik-1 through Qavvik-10, Tuktuk kimberlites (Tuktuk-1 through Tuktuk-10), C-27, Ptarmigan and Umingmak.

Work to date includes 128,000 line-km of airborne geophysics, completion of 567 ground-based magnetic surveys and 140 reverse circulation drill holes. In 2009, Diamonds North collected 6,780 kilograms (kg) of drilled kimberlite from the Beluga-3 kimberlite pipe. Diamond processing of this sample by dense media separation (DMS) is underway. The Beluga-3 kimberlite has a subtle magnetic signature. Initial results returned coarse diamonds including coarse diamond fragments.

The Kanguq kimberlite, located approximately 10 km north of the Beluga-3 kimberlite, was discovered in 2009 by drilling a geophysical target and is interpreted to represent a new area of kimber-

lite on the Amaruk property. A sample of 868 kg of Kanguq kimberlite was collected from one vertical drill hole for DMS processing.

BARROW

Operator/Owner
Indicator Minerals Inc.,
Hunter Exploration Group

Commodities
Diamonds

NTS
57A/02, 57A/07

Location
25 km southeast of Kugaaruk

The Barrow property covers 44 mineral claims (45,986 ha). In 2008, a six-week, \$1.3 million drilling program tested five geophysical targets but kimberlite was not intersected. Heavy-mineral sampling

Aerial view of the Amaruk camp
COURTESY OF INAC





returned concentrations of indicator minerals whose texture and chemistry suggest a local source. A 25.5 kg sample of a kimberlite boulder also believed to be from a local source returned 176 diamonds. Airborne geophysical surveys were flown over selected areas of the property. Indicator was anticipating a small reverse circulation drilling program in 2009 but no field work was undertaken.

◇ DARBY

Operator/Owner
Teck Resources Limited,
Indicator Minerals Inc.,
Hunter Exploration Group

Commodities
Diamonds

NTS
56M/01, 56M/08, 56N/02-56N/07,
56N/10-56N/14

Location
250 km southwest of Kugaaruk;
176 km southeast of Gjoa Haven

The Darby project comprises 273 mineral claims (280,242 ha). Teck Resources can earn a 51 per cent interest in the property by spending \$14 million before June 2010. Upon formation of a joint venture, Indicator Minerals Inc. has the right to have its remaining 29 per cent interest carried to production on a project loan basis. Hunter Exploration Group retains a 20 per cent interest in Darby.

Nine kimberlites have been discovered to date at Darby, five of which are diamondiferous, including the 'Iceberg' kimberlite. Work on the property involved prospecting, ground and airborne geophysics and heavy mineral sampling. Three distinct kimberlite clusters or fields have been identified at Darby. In 2009, there was no field program.

◇ GRAIL

Operator/Owner
Indicator Minerals Inc.,
Hunter Exploration Group

Commodities
Diamonds

NTS
57F/01, 57F/03-57F/06

Location
80 km northwest of Taloyoak

The Grail Project was recently expanded to cover an estimated 95,105 ha on the Boothia Peninsula. Indicator Minerals Inc. and Hunter Exploration Group hold the ground, with Indicator (the operator) on the project holding an 80 per cent interest in the diamond rights.

Indicator completed heavy mineral sampling and airborne geophysical surveys on the property. Kimberlite indicator minerals have been isolated to a part of the property and are thought to originate from diamond-bearing kimberlites. Work also returned positive diamond inclusion mineral chemistry and outlined airborne geophysical targets for follow-up. Indicator added to its land holdings in 2009 and preliminary plans for the 2010 exploration program include ground geophysics to delineate and confirm airborne targets. Pending results, this work will be followed by a drill program to test targets. Indicator is currently acquiring necessary approvals and permits in preparation of work.

◇ HAMMER

Operator/Owner
Stornoway Diamond Corporation,
North Arrow Minerals Inc.

Commodities
Diamonds

NTS
86I/15

Location
142 km southeast of Kugluktuk

The Hammer property, a new project, is partnered between Stornoway Diamond Corporation (the operator) and North Arrow Minerals Inc. Till sampling identified a KIM train to the north of an original claim; pyrope and eclogite garnets were identified in the train. In 2008, an additional claim was staked over a prominent topographic low, south of the KIM mineral train. The property covers an area of approximately 1,025 ha.

In July 2009, the companies announced that the Hammer kimberlite had been discovered on the property. The size of the kimberlite is not defined, although it is associated with a prominent topographic feature 225 m long and between 15 m to 100 m wide and has a surface expression of approximately one hectare. Numerous kimberlite boulders and fragments have been found on surface. Weathered kimberlite breccia was identified in bedrock. Future work is anticipated to include additional prospecting, kimberlite sampling, ground geophysics and drilling.

◆ HEPBURN

Operator/Owner

Diamonds North Resources Ltd.

Commodities

Diamonds

NTS

86J/01, 86J/02, 86J/05-86J/07,
86J/11-86J/13, 86K/09, 86K/10, 86K/15

Location

170 km south-southwest of Kugluktuk

Located on the border between Nunavut and the NT, the Hepburn Project covers 607,028 ha of the western Slave Craton. Most of the property is located within the NT. Work on the property includes airborne geophysics; numerous targets have been identified and surveyed. Limited drilling on geophysical targets has not intersected kimberlite although there are high-priority targets yet to be tested.

◆ JERICO

Operator/Owner

Benachee Resources Inc. (a subsidiary of Tahera Diamond Corporation)

Commodities

Diamonds

NTS

76E/13, 76E/14, 76L/03, 76L/04

Location

255 km south-southeast of Kugluktuk

In 2006, Tahera Diamond Corporation opened the Jericho Diamond Mine. Financial losses were incurred over the lifetime of the mine due to operational difficulties, a high Canadian dollar, high oil prices and an early closure of the ice-road in 2006. In mid-January 2008, Tahera filed an application for protection from creditors pursuant to the provisions of the *Companies' Creditors*



Bird's nest in drill core racks, Stornoway Coronation Gulf Project Eureka Camp, south of Kugluktuk
COURTESY OF INAC

Arrangement Act (CCAA). In February 2008, Tahera suspended its mining operations. At the time, options were explored for agreements to continue mining, but these efforts were not productive. In late 2008, INAC, following discussions with Tahera, intervened at the site under section 89 of the *Nunavut Waters and Nunavut Surface Rights Tribunal Act* (NWNSTRA). INAC took over care and maintenance of the site to ensure that appropriate steps would be taken to address potential adverse effects on the environment.

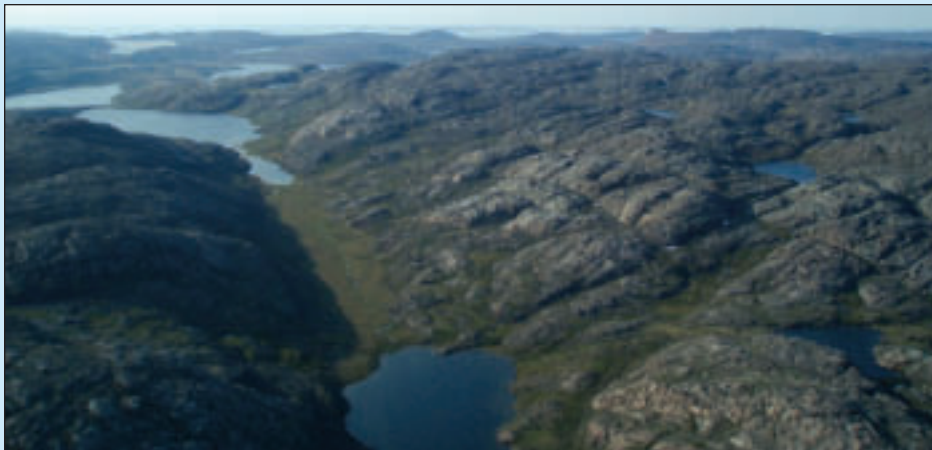
In early 2009, Tahera and Benachee Resources evaluated alternatives. In April,

an order was granted approving an agreement between the companies and AG Growth Income Funding to continue efforts to re-start the Jericho Mine. In September 2009, the Court granted an extension of the stay period to December 10, 2009. This extension allowed time for developing mining and business plans and potentially to complete a transaction to re-open the Jericho Mine.

The Jericho Mine site closed for the winter in September 2009. Regular security and environmental monitoring will occur over the winter.

Landscape in Coronation Gulf area, western Kitikmeot

COURTESY OF INAC



◇ VICTORIA ISLAND

Operator/Owner

Diamonds North Resources Ltd.

Commodities

Diamonds

NTS

77F/02, 77F/07, 77F/08, 77F/10,
77F/15, 77G/10

Location

240 km northwest of Cambridge Bay

Diamonds North Resources Ltd. holds a 100 per cent interest in central Victoria Island on its Victoria Island project. This property hosts a reported 39 kimberlite occurrences and covers ground both in the NT and Nunavut. The Nunavut land holdings cover approximately 127,071 ha.

Kimberlite occurrences and kimberlite trends identified include Galaxy, Jaeger, King Eider, Pintail, Sanderling, Sand Piper, Snow Bunting, Snowy Owl and Turnstone. The King Eider kimberlite exhibits significant potential; a 680 kg sample returned diamond values of 1.6 carats per tonne (cpt), including a 0.74 carat diamond. Other targets include the Snowy Owl kimberlite and the Southeast Galaxy trend. More than 80 per cent of the kimberlites identified are diamondiferous. Work in 2008 involved converting many of the Victoria Island claims to leases. Diamonds North continues to evaluate this property.

◇ SAKARI¹, SIKU², UALLIQ³

Operator/Owner

Diamonds North Resources Ltd.^{1,2,3},
Shear Minerals Ltd.¹,
Arctic Star Diamond Corp.²,
International Samuel Exploration Corp.³

Commodities

Diamonds

NTS

56N/05, 56N/10-56N/12¹;
56N/05-56N/07, 56N/10-56N/12²;
57A/04, 57A/05, 57A/07, 57A/11,
57A/12, 57A/14, 57B/08³

Location

150 km southeast of Gjoa Haven¹,
170 km southwest of Kugaaruk²,
67 km west of Kugaaruk³

surrounds the Darby project on three sides. The 184,132 ha property is owned and operated by Diamonds North with a 50 per cent option agreement with Arctic Star Diamond Corp. Results from till samples collected from the Siku property have yielded indicator minerals; these results suggest that the Darby kimberlite field may extend onto the property. Following airborne geophysical work, the companies planned an extensive field program including drill-testing of 15 to 30 targets in 2008 and further work in 2009. No results are available.

The Ualliq property covers 445,154 ha, is adjacent to Diamonds North's Amaruk project, and is owned and operated by Diamonds North with a 30 per cent option agreement with International Samuel Exploration. Numerous geophysical targets have been outlined on the property, although no kimberlite has been intersected to date. More than 300 targets remain untested. KIM trains have been identified on the property and currently have an unknown source.

Although no field work was undertaken on the Sakari, Siku or Ualliq properties in 2009, the companies maintained their land tenure on all projects.

The Sakari Project covers 19,977 ha adjacent to the Darby project operated by Teck Resources. Sakari is owned and operated by Diamonds North Resources Ltd. with a 50 per cent option agreement with Shear Minerals Ltd. Ten geophysical targets have been identified on the property following airborne magnetic surveying. No field work was undertaken on this project in 2009.

In the same area, the Siku Project is located within the southwest portion of Diamonds North's Amaruk project and

Energy Sources

* Uranium

* ASIAK RIVER¹, COPPERMINE², LAC ROUVIERE³

Operator/Owner
UNOR Inc.^{1,2,3}, Cameco Corporation³

Commodities
Uranium^{1,2,3}, Diamonds¹

NTS
86O/01, 86O/08, 86O/09¹; 86J/10-86J/15,
86K/16, 86N/01, 86O/03, 86O/04²;
86K/14, 86K/15, 86M/01, 86M/08,
86N/01-86N/06, 86N/12³

Location
64 km southeast of Kugluktuk¹,
110 km southwest of Kugluktuk²,
120 km southwest of Kugluktuk³

UNOR is the operator on several projects on 16 mineral claims and 39 mining leases covering 47,725 ha within the Hornby Bay Basin. These properties, known formerly as the Asiak River property, Coppermine

property and Lac Rouviere joint venture, are collectively referred to as the Coppermine project. The project is partnered with Cameco Corporation who owns 19.5 per cent of UNOR.

Uranium mineralization on the Coppermine property occurs along an unconformity in the Proterozoic sandstone Hornby Bay Basin. The occurrence is similar to that of Cameco's Eagle Point Deposit in the Athabasca Basin. This structural setting and style of mineralization at one main showing, Hot Creek, is analogous to that of the sandstone-hosted Mountain Lake Deposit (with an identified uranium resource) owned by Triex Minerals Corporation and Pitchstone Exploration Ltd. located 40 km to the west.

UNOR has operated in the Hornby Bay Basin since 1996. Work to date has involved 71 holes (19,233 m), geological and structural mapping, extensive airborne and ground geophysical surveys and ground prospecting.

All Coppermine properties were on care and maintenance in 2009. UNOR is maintaining its land tenure and continuing to evaluate these properties.

* BATHURST INLET

Operator/Owner
Northrock Resources Inc.
Commodities
Uranium, Gold, Selenium, Silver

NTS
76J/02, 76J/03, 76J/11, 76J/12, 76K/09

Location
85 km south of Bathurst Inlet

In the Bathurst Inlet area, Rockgate Capital Corp. acquired 155 contiguous mineral claims including 149 active and six pending claims, totalling 161,186 ha. In 2008,

Rockgate devolved these properties to Northrock Resources Inc., its former wholly-owned subsidiary. Northrock is primarily focused on the Turner Lake polymetallic properties; land tenure on the Bathurst Inlet uranium properties is currently being maintained.

Three known unconformity-type uranium ($\pm$ gold, selenium, silver) showings, Pomy, Upits and Von, are contained within these claims. The property is located within the Kilohigok Foreland Basin. Mineralization is concentrated primarily along the regional Bathurst Fault within basalts at basalt-sandstone contacts. No field work was conducted in 2009.

* BEAR VALLEY

Operator/Owner
5050 Nunavut Limited,
MIE Metals Corp.

Commodity
Uranium

NTS
86O/03-86O/06

Location
75 km southwest of Kugluktuk

In 2009, Adriana Resources Inc., the former owners of the nickel-copper-PGM project and uranium projects over the Muskox Intrusion in the western Kitikmeot region, sold the properties to 5050 Nunavut Limited and MIE Metals Corp. The Bear Valley Uranium Project covers 350 km² along the eastern edge of the Hornby Bay Basin. This program was part of a larger exploration program that included work on the company's MIE project and the UNAD joint venture project with UNOR Inc. Some of the permits and claims for the Bear Valley project are joint-ventured with UNOR. No work was done on the property in 2009.



Arctic Lupine
COURTESY OF INAC

*** DISMAL LAKE¹;
DISMAL LAKES WEST²
(SANDY CREEK);
KENDALL RIVER³;
MOUNTAIN LAKE⁴**

Operator/Owner

Triex Minerals Corporation,
Pitchstone Exploration Ltd.

Commodity

Uranium

NTS

86N/05, 86N/06, 86N/11, 86N/12¹;
86M/08²; 86N/01, 86N/02³; 86N/03,
86N/06, 86N/07⁴

Location

115 km west of Kugluktuk¹,
140 km west of Kugluktuk²,
100 km southwest of Kugluktuk³,
100 km west of Kugluktuk⁴

Triex Minerals Corporation and Pitchstone Exploration Ltd have a 50-50 joint venture agreement exploring four main properties in the Hornby Bay Basin: Mountain Lake, Dismal Lake, Dismal Lakes West (Sandy Creek) and Kendall River. The Mountain Lake property covers 6,647 ha and includes the Mountain Lake deposit discovered by Esso Resources in 1976. The deposit has an identified inferred uranium resource of 8.2 million pounds U_3O_8 , with an average grade of 0.23% U_3O_8 contained in 1.6 million tonnes of rock. The tabular, stratabound deposit is within 20 m of surface at its southwestern end and dips less than 10° (degrees) to the northeast.

Previous work on the properties involved prospecting, drilling and ground resistivity surveys completed on the Mountain Lake and Dismal Lake properties to extend previously existing grids. No field work occurred in 2009; the camp was under care and maintenance and land tenure was maintained.

*** NORTHERN HEPBURN**

Operator/Owner

Uranium North Resources Corp.,
Diamonds North Resources Ltd.

Commodity

Uranium

NTS

86J/12, 86J/13, 86K/09, 86K/10,
86K/15, 86K/16

Location

On the Nunavut/NT border,
130 km southwest of Kugluktuk

The Northern Hepburn project includes part of the Hornby Bay Basin. This project has land in both Nunavut and the NT. Diamonds North Resources Ltd. holds a 50 per cent interest on five claims of the project. Six uranium occurrences with up to 0.82% U_3O_8 have been previously identified. At BB Lake, lake sediments have returned uranium values ranging from 23.7 parts per million (ppm) to 115 ppm U_3O_8 . No work was reported on this property in 2009.

*** UNAD**

Operator/Owner

UNOR Inc., 5050 Nunavut Limited,
MIE Metals Corp.

Commodity

Uranium

NTS

86J/14, 86N/01, 86N/07, 86O/03,
86O/04

Location

90 km southwest of Kugluktuk

The UNAD project is a 50-50 joint venture between MIE Metals Corporation and UNOR Inc. on 29 mineral claims and one mining lease. The project covers an area of 24,648 ha. The majority of the claims lie to



the west, north and east of the UNOR's Coppermine Property and also adjoin MIE Metals' Bear Valley and MIE projects. Five of the claims are located in the Kendall River area and these claims include several historic uranium occurrences. UNOR is the operator of 10 mineral claims of the property, covering 10,451 ha, and owns 13 mineral claims and one mining lease of the joint venture covering 14,627 ha. No field work occurred in 2009; the companies operated care and maintenance programs and continued to maintain land tenure of the properties.

ANIALIK¹, CANOE LAKE²

Operator/Owner

North Arrow Minerals Inc.

Commodities

Gold

NTS

76M/06, 76M/07, 76M/11, 76M/12¹;
76M/02²

Location

150 km southeast of Kugluktuk¹,
186 km southeast of Kugluktuk²

The Anialik gold project hosts three showings. Gold mineralization occurs at the Frank, Felicia and Locanna showings. The Frank showing consists of gold-bearing pyritic gossans in discrete quartz veins. The Felicia showing is in gold-bearing quartz-chalcopyrite veinlets in carbonate-altered intermediate to mafic volcanic rocks. The Locanna gold prospect is characterized by deformed stockwork pyritic quartz veins that locally contain anomalous concentrations of gold. Mineralization occurs in a 300 m wide, 3,000 m-long corridor. Gold values include 44.2 g/t, 20.9 g/t and 14.2 g/t from grab samples.

The Canoe Lake Project (Bamako gold showing) is located approximately 1.7 km west of the Canoe Lake base-metal showings. Exploration has identified three sub-parallel, near-vertical gold-bearing mineralized horizons within a 300 m stratigraphic interval. Mineralization is dominated by pyrrhotite with lesser amounts of pyrite and chalcopyrite and is characterized by zones of sulphide enrichment, pervasively brecciated quartz flooding and silicification within sheared mafic metavolcanic rocks. Surface samples have returned assays up to 54.4 g/t Au. Time domain ground geophysics carried out by OZ Minerals (now Minmetals and MMG

Resources Inc.) in 2008 defined several targets. With the change of corporate ownership and changing focus for MMG Resources, no work occurred in 2009.

BACK RIVER PROJECT (GEORGE LAKE¹, GOOSE LAKE²)

Operator/Owner

Sabina Gold & Silver Corp.

Commodity

Gold

NTS

76G/09, 76G/10, 76G/13, 76G/14

Location

372 km southeast of Cambridge Bay¹,
400 km southeast of Cambridge Bay²

The Back River Project contains both the George and Goose Lake gold deposits, and the Wishbone gold and base-metal project in the western Kitikmeot region (see Hackett River and Wishbone sections for further details). In June 2009, these projects were acquired by Sabina Gold & Silver Corp. from then-owners Dundee Precious Metals. The George and Goose Lake gold deposits contain measured and indicated gold resources of 3.4 million tonnes grading 10.9 g/t Au for 1.19 million ounces of gold and inferred resources of 3.6 million tonnes grading 10.2 g/t Au for 1.16 million ounces of gold.

The 2009 program at Back River was focused on the Goose Lake claim group which hosts the Goose Lake deposit. Gold

mineralization is hosted within a thick, folded unit of iron formation. Indicated resources are 1.57 million tonnes grading 11.9 g/t Au for a contained indicated resource of 603,000 ounces of gold and an additional 1.83 million tonnes grading 9.2 g/t Au for a contained inferred resource of 295,000 ounces of gold. The Goose deposit contains more than 60 per cent of the known Back River resources.

Drilling focused on other exploration targets on the property consisting of folded iron formation located within a structurally complex zone containing synvolcanic intrusions. Drilling continued through September and results are pending. Geophysical surveys were conducted to prioritize the drill targets; some of this work resulted in the discovery of the Echo Zone deposit.

This new zone is approximately 2,000 m from the Goose Lake deposit. It forms a broad zone of highly altered and folded iron formation. The Echo Zone is approximately two to three kilometres in size. The area has not been drilled. Similar geology, structures and mineralization occur within this zone as at the Goose Lake deposit. A total of six holes were drilled and three holes returned grades of 8.57 g/t Au over 6.05 m, 5.22 g/t Au over 8.60 m including 8.29 g/t Au over 4.95 m, and 8.17 g/t Au over 15.15 m including 9.00 g/t Au over 13.20 m. The other three holes encountered similar mineralization and veining; assay



Sunset near the Hackett River camp

COURTESY OF SABINA GOLD & SILVER CORP.

results are pending. The zone remains open in all directions with all holes intersecting mineralization no deeper than 150 m from surface.

The results of this work are currently being compiled and are expected to form the core of a drill program in 2010 designed to expand the mineralized zone and test new targets on the Goose Lake property.

CHICAGO¹, TWIN PEAKS²

Operator/Owner
Newmont Mining Corporation,
Bear Lake Gold Ltd.

Commodity
Gold

NTS
76O/10¹, 76O/15²

Location
185 km south-southwest
of Cambridge Bay¹, 135 km south-
southwest of Cambridge Bay²

The claims are two separate groups totalling 114 km². Exploration work began in the summer of 2004. All work on this project has been conducted by Hope Bay Mining Ltd. under contract to the former Maximus Ventures Ltd. For the Twin Peaks-Discovery ground at the north end of the Hope Bay greenstone belt, numerous gold occurrences were found within zones of strong iron-carbonate alteration and/or silicification. Gold mineralization is accompanied by anomalous silver, copper, lead and zinc values. Mineralization is found within argillaceous sediments and conglomerates overlying volcanic rocks and syenitic intrusives adjacent to a major lineament. Twin Peaks has been interpreted as being similar to Newmont's gold-bearing Nartok-Madrid area. The Chicago ground located to the south

of Twin Peaks has potential for both gold and copper-zinc mineralization.

A 1,100 m drilling program was planned for 2009 to test gold mineralization in the Twin Peaks area. An additional 800 m of drilling was also planned for the Chicago showings. Bear Lake Gold is currently reviewing and re-evaluating its portfolio of mineral properties.

COMMITTEE BAY GOLD PROJECT (ANURI¹, INUK², RAVEN³, THREE BLUFFS⁴, WEST PLAINS⁵)

Operator/Owner
CBR Gold Corp.

Commodity
Gold

NTS
56K/02, 56K/07-56K/10¹;
56J/16, 56O/01, 56P/03-56P/07²;
56K/06, 56K/10, 56K/11³;
56J/10-56J/16⁴;
56K/03, 56K/04, 56K/06⁵

Location
265 km south of Kugaaruk¹,
135 km south of Kugaaruk²,
260 km southwest of Kugaaruk³,
220 km south of Kugaaruk⁴,
247 km northeast of Baker Lake⁵

The Committee Bay greenstone belt is more than 300 km long, five to 50 km wide and geologically similar to the greenstone belts that host the Meadowbank and Meliadine gold deposits. The Committee Bay belt hosts more than 40 high-grade gold occurrences. CBR Gold Corp., formerly Committee Bay Resources Ltd., holds greater than 360,000 ha of land with prospective geology and controls more than 85 per cent of the greenstone belt.

Significant mineralization has been outlined at Antler, Anuri, Inuk, Raven, Three Bluffs and West Plains. The Three

Bluffs Deposit, currently the most significant on the property, lies in central portion of the belt and is hosted within a folded iron formation. A new resource figure for Three Bluffs was estimated in 2009. The revised resource figures are: 508,000 indicated gold ounces (2.7 million tonnes at 5.85 g/t Au) and 244,000 inferred gold ounces (1.27 million tonnes at 5.98 g/t Au). These estimates represent an increase of 39,000 indicated gold ounces and 14,000 Inferred gold ounces over the 2008 resource estimate. This 2009 estimate was based on metallurgical test work and 15,673 m (89 holes) of drilling which includes 903 m in five holes drilled in 2008 on the deposit's western margin subsequent to the 2008 resource estimate. About 85 per cent of these resources are within 120 m of surface.

Following the revised resource estimate, CBR Gold initiated a scoping study to investigate the economic viability of the deposit. The deposit was modeled using three domains; a high-grade hinge zone, south limb and north limb. CBR Gold envisions the Three Bluffs deposit to be a low-tonnage, high-grade open-pit mine. Metallurgical testing has indicated a gold recovery rate of 93 per cent using gravity, flotation, cyanide leaching and a combination of these methods.

A limited exploration program in 2009 consisted of follow-up surface mapping and sampling of high-priority targets identified in earlier prospecting work. Mapping and sampling (rock, till) programs concentrated on areas such as Raven West, COP, Anuri South and Prospector where significant gold mineralization (3.5 g/t to 15 g/t) has been found. Results of the programs will be used to develop drill targets for 2010.

HOPE BAY PROJECT (BOSTON, DORIS, MADRID)

Operator/Owner
Newmont Mining Corporation

Commodity
Gold

NTS
76O/09, 76O/10, 76O/15, 76O/16,
77A/02, 77A/03, 77A/06, 77A/07, 77A/10

Location
130 km southwest of Cambridge Bay

The Hope Bay Gold Project covers the majority of the Hope Bay greenstone belt, one of the most prospective greenstone belts in Canada. Newmont Mining Corporation acquired the Hope Bay Project in early 2008 with the finalization of its acquisition of Miramar Mining Corporation. The project covers ground held by mineral claims, mineral leases and IOL exploration agreements for a combined total area of approximately 110,151 ha. The Hope Bay greenstone belt, 80 km long and seven to 20 km wide, lies in the Bathurst Block in the northeast Slave Province. The belt and its deposits are classified as Archean lode-gold type. The belt is isoclinally folded and contains belt-parallel shear zones. Gold deposits are associated with large-scale regional structures.

Significant gold deposits on the property include, from north to south, the Doris North, Madrid and Boston deposits. All deposits and showings occur within or proximal to a major shear zone. The estimated combined resource (indicated and inferred resources) for the Hope Bay deposits is more than 10 million ounces of gold.

The Doris deposits (Doris North, Doris Central and Doris Connector) occur in a steeply-dipping quartz-vein system in folded and metamorphosed pillow basalts.

At the north end of the system (Doris North deposit), the veins are folded into a doubly-plunging anticline with the high-grade hinge zone lying close to the surface. The Madrid deposit is comprised of the Rand, Naartok East, Naartok West and Suluk deposits, as these have been shown in recent years to be linked. The Madrid Trend extends north and south of the Madrid deposit, and hosts the Spur, Marianas, Patch 7 and Patch 14 zones. Gold mineralization is lithologically and structurally controlled and occurs adjacent to a complex, large-scale structural feature known as the Deformation Zone. Most resources lie within the northern two kilometres of this zone. The Boston deposit, located near the south end of the belt, is hosted by a tightly folded sequence of volcanic and sedimentary rocks. Four zones of mineralization have been identified at Boston.

In 2009, Newmont undertook a belt-scale study consisting of geological, geophysical and geochemical data compilation, re-interpretation and assessment of metamorphic anomalies. To compliment the study, a belt-wide prospectivity analysis was also completed. This analysis outlined targets for future work, including helicopter-supported gravity surveys and a geochemical sampling program, detailed geological mapping, IP surveying and diamond drill-testing on a number of regional exploration targets. Prospectivity analyses will be ongoing features of future regional exploration.

Newmont completed an aggressive drill program of infill and step-out drilling at Doris, with significant work also conducted at Madrid and particularly in the Patch 14 area. In 2009, a drill program totalling approximately 48,000 m was completed. Drilling comprised 7,000 m on regional targets, 15,000 m at Doris and 26,000 m

on the Madrid Trend. New geological models were constructed of Doris, Madrid Trend and Boston, providing improved control on drill targeting and resource definition.

Infrastructure development was also undertaken; during the year, a new core shack was built, a new 50-person camp was developed near the existing 118-person Doris camp, and new core-storage pads were constructed near the Doris airstrip. The project continues towards mine permitting.

LUPIN¹, ULU²

Operator/Owner
MMG Resources Inc. (Minmetals)

Commodity
Gold

NTS
76E/11, 76E/14¹; 76L/15²

Location
287 km south-southeast of Kugluktuk¹,
202 km southeast of Kugluktuk²

The Lupin gold deposit was discovered in 1961. Kinross Gold Corporation acquired Lupin, then an operating underground gold mine, from Echo Bay Mines in 2003 and operated it until closure in 2005. Over the life of the mine, Lupin produced more than 3.37 million ounces of gold at an average grade of 9.3 g/t. Upon closure of the mine, remaining resources were 1.1 million tonnes at 11.3 g/t Au. In 2009, MMG Resources Inc. (the Canadian subsidiary of China Minmetals) acquired the majority of OZ Minerals' assets, including the Lupin mine and the Ulu gold deposit. The Ulu deposit, located 160 km north of Lupin, was discovered by BHP in 1989, contains gold in a number of quartz-veined shear zones and may have the potential to supply additional reserves to feed the Lupin mill.

In 2008, OZ Minerals, the then-owner of the Lupin and Ulu deposits, completed a preliminary economic assessment of the Lupin gold mine with the option of milling and processing ore from High Lake and Izok Lake at the Lupin site. The company concluded that the combination of several high-grade deposits (e.g. High Lake, Izok Lake, Gondor and Ulu) could be economically extracted, shipped and processed at the Lupin mine site. However, with the current depressed market conditions and the corporate restructuring of OZ Minerals, now China Minmetals and MMG Resources Inc., further work on the Izok Lake and High Lake properties has been postponed. In 2009, both the Lupin and Ulu deposits remained under care and maintenance.

exploration expenditures totalling \$2 million and staged share payments to Kaminak by December 31, 2010.

In a NI 43-101 report produced in 2007, a two-phase exploration program was proposed in which drilling, ground geophysics and field work would be followed by a second phase of drilling on targets delineated by the initial work. Drilling completed in 2008 confirmed historical values on the property and also identified a new vein structure within 100 m of a mineralized boulder that returned significant gold (486 g/t Au). Drilling also tested a new style of mineralization in which zinc and lead were discovered, in addition to anomalous gold. TerraX continues to review the work.



Air Tindi float plane at the Main Camp Lake dock, Hackett River
COURTESY OF SABINA GOLD & SILVER CORP.

exposure of over 500 m and to be present to a depth of at least 100 m. Historical values (non NI 43-101 compliant) indicate 28.0 g/t Au over 4.75 m, 12.86 g/t Au over 8.87 m and 15.20 g/t Au over four metres. In 2008, Rockgate Capital Corp. devolved these properties to Northrock Resources Inc., its former wholly-owned subsidiary, and the claims were held in an agreement with Trade Winds Ventures Inc. In September 2009, Northrock Resources Inc. completed an agreement to acquire the remaining 25 per cent interest from Trade Wind Ventures.

In 2009, 1,187 m (nine holes) were drilled at the Main Gold Zone as two fences of holes were completed from the same drill pad. Visible gold was identified in eight of the nine holes; the most significant intersection was 13.21 g/t Au over 13.0 m. Elevated silver and bismuth concentrations are also found within mineralized zones. Gangue mineralogy includes arsenopyrite, pyrrhotite and minor chalcopyrite.

NEEDLE LAKE

Operator/Owner
TerraX Minerals Inc.,
Kaminak Gold Corporation
Commodity
Gold
NTS
76G/03
Location
455 km south-southwest of
Cambridge Bay

The Needle Lake Property consists of two claims covering 2,090 ha. The claims owned by Kaminak Gold Corporation, have numerous high-grade surface gold showings hosted by banded iron formation, a similar geological setting to the past-producing Lupin Mine. The property contains more than a dozen untested gold occurrences with historical assays greater than 10 g/t Au. TerraX can earn up to a 60 per cent interest in the property by incurring

TURNER LAKE

Operator/Owner
Northrock Resources Inc.
Commodities
Gold, Copper, Nickel, Platinum,
Palladium
NTS
76N/02
Location
57 km northwest of Bathurst Inlet

The Turner Lake Property covers four mineral claims covering an area of 1,012.5 ha, located near Bathurst Inlet. There are three known showings: Main Gold, Turner East Gold and Nickel Knob showings, all of Archean age. Significant gold mineralization occurs in meta-greywacke that is surrounded by an ultramafic unit. The Main Zone occurs along a metasedimentary-ultramafic contact with gold mineralization concentrated within the iron-rich, brecciated meta-greywacke. Exploration has determined the zone to have a surface

▼ Lithium

▼ TORP LAKE

Operator/Owner
North Arrow Minerals Inc.

Commodity
Lithium

NTS
76N/05, 76N/06

Location
245 km east-southeast of Kugluktuk

The Torp Lake lithium project covers two mineral claims (2,006.6 ha) and was staked to cover a known lithium-rich pegmatite.

Spodumene-bearing pegmatite was investigated by the Geological Survey of Canada in the early 1990s. The main dyke, the McAvoy, is described in historical work as being traceable for at least 200 m, potentially up to 400 m along strike, and attaining widths of 10 m to 15 m.

Spodumene, a lithium-bearing silicate mineral, occurs in the McAvoy pegmatite as columnar crystals up to 1.5 m in length. The mineral occurs over a 110 m interval. In the summer of 2009, the dyke was mapped and sampled and the property

was prospected for additional lithium-rich pegmatite. From the sampling program, values up to 3.5% Li₂O were returned. Spodumene characteristically contains a maximum lithium content of approximately 8.0% Li₂O and lithium-bearing pegmatite typically returns grades of 1.0% to 1.5% Li₂O. The 3.5% Li₂O reported for the McAvoy pegmatite, therefore, indicates the sampled area of the pegmatite contains approximately 40% to 50% spodumene.

North Arrow is planning a ground geophysical and drilling program for 2010.

+ Nickel–Copper–Platinum Group Metals (PGM)

+ MIE

Operator/Owner
5050 Nunavut Limited,
MIE Metals Corp.

Commodity
Nickel, Copper, Cobalt, Platinum,
Palladium, Gold

NTS
86J/14

Location
110 km south-southwest of Kugluktuk

In 2009, Adriana Resources Inc. sold its nickel-copper-PGM and uranium projects to 5050 Nunavut Limited and MIE Metals Corp. The MIE project is comprised of two properties covering more than 630 km². The economic potential of the Muskox Intrusion was first recognized in the 1950s by Inco Limited while exploring for native copper in the Coppermine River area. Since then, various companies have

explored over the intrusion and historically sampled along the walls of the body for high-grade copper, nickel and PGM occurrences.

The two properties held under the MIE project are the All Night Lake and McGregor Lake projects. The All Night Lake project covers the layered series and roof zone of the intrusion and is being explored for chromitite-PGM reef-style mineralization, similar to the reefs of the South African Bushveld complex.

The McGregor Lake Property occurs over part of the Muskox Intrusion where anomalous nickel-copper-PGM mineralization occurs in the wallrocks. Additionally, the southern part of the property is situated over a major northwest-trending structural corridor which intersects the base of the intrusion.

For 2009, with the changes in corporate ownership, the exploration camp and pro-

gram were put on care and maintenance. Research work involved data compilation and 3D-modelling of historical data.

+ MUSKOX

Operator/Owner
Platinex Inc.

Commodity
Nickel, Copper, Cobalt, Platinum,
Palladium, Gold

NTS
86O/05, 86O/06, 86O/11, 86O/12

Location
45 km southwest of Kugluktuk

Platinex Inc. acquired 38 mining claims (35,231 ha) on the Muskox Intrusion in 2007. These claims are on Crown land and surface IOL. The Muskox Reef, which contains up to 6.2 g/t PGM and gold, occurs in the upper portion of the ultramafic zone of the intrusion. Platinex is

conducting exploration work to the north of where the Muskox Intrusion is exposed. Platinex considers this area to be an untested down-dip extension of the main body. The mining claims are underlain by well-exposed basalt flows of the Coppermine River Formation which in turn are conformably underlain by the upper sequence of Middle Proterozoic sedimentary rocks of the Dismal Lakes Group. Platinex's exploration target for nickel, copper and platinum group metals lies at depth below the cover rocks.

In October 2008, Platinex released an NI 43-101 Qualifying Report in which a detailed analysis was made of the property. Recommendations made at that time were for a \$2.6 million program to geologically map the property and conduct ground geophysics to delineate targets for follow-up drilling.

+ TUNERQ

Operator/Owner
Diamonds North Resources Ltd.

Commodity
Nickel, Copper, Cobalt, Gold

NTS
56O/14, 56O/15, 57A/02-57A/07,
57A/13, 57D/02, 57D/04, 57D/06,
57D/11

Location
40 km southwest of Kugaaruk

In 2007, Diamonds North Resources Ltd. discovered nickel mineralization in an outcrop from the Tunerq showing on the Amaruk diamond property. Grab samples returned nickel-copper-cobalt-PGM mineral assays up to 1.36% Ni, 0.21% Cu and 0.07% Co. The mineralized outcrop is approximately 20 m to 30 m wide. Associated with this showing is a 700 m- to 1,500 m-long magnetic anomaly with estimated widths

ranging from 20 m to 65 m. Additional similar anomalies and oxidized sulphide zones exist in the area.

Exploration work and prospecting in 2008 and 2009 returned encouraging results for gold mineralization. A single grab sample taken from the Tunerq showing from a three to five metre-wide oxidized gossan zone exposed for 50 m returned 5.8 g/t Au. Numerous gold anomalies in till were also identified. In 2009, an 80 by 80 km area was identified in the central part of the Amaruk property and numerous gold anomalies were defined in this area. Mineralization occurs in an oxidized sulphide-bearing zone (100 m long and three metres to eight metres wide with local widths of up to 20 m) and within a quartz feldspar porphyry whose extent is unknown. The gold-bearing porphyry extends laterally tens of metres beyond the oxide zone. Four areas identified as PB1 to PB4 have returned assay values of greater than 1.0 g/t Au, seven areas have returned values of 100 parts per billion (ppb) to 1.0 g/t Au and 11 areas have elevated gold values of 20 ppb to 100 ppb. Each of these discrete areas anomalous in gold covers approximately 5 km² (square kilometres).

The PB1 prospect occurs along a 40 km-long structure. A continuous rock chip sample across an oxidized sulphide zone yielded 9.4 g/t Au over three metres. A nearby grab sample of un-oxidized altered porphyry with no apparent sulphide mineralization contained 24 g/t Au. PB2 was outlined from reverse circulation drill chips returned during initial drilling for kimberlite on Amaruk. The chips were sulphide-bearing and assay results yielded 1.4 g/t Au and 1.0 g/t Au over two separate 1.5 metre intervals. Additionally, a gold-in-till anomaly occurs two kilometres

up-ice from PB2 and a minor gold-in-till anomaly is found down-ice.

At PB3, four sulphide-bearing samples returned values of 1.2 g/t and 0.6 g/t Au, up to 49.5 g/t Ag and elevated base metal values (0.14% Cu, 0.57% Pb and 0.29% Zn). PB4 prospect has numerous sulphide-bearing boulders identified over an area approximately one square kilometre. The source of the boulders appears to be the contact area of a quartz diorite pluton intruding metasedimentary rocks. Five samples were collected for assay and one sample taken close to the contact returned a value of 1.0 g/t Au.

For 2010, Diamonds North is planning an extensive gold exploration program to begin in the first quarter of 2010. The focus will be drilling the PB1 gold showing, with emphasis placed on 21 other gold showings for mapping and prospecting followed by drilling. Other anomalous areas will be prospected.



Inactive Projects

A number of projects had no active exploration work undertaken in 2009 but the land is still held in good standing by companies.

On the **Corhill** uranium-gold-platinum project located on NTS map sheets 86K/14 and 86K/15 (145 km southwest of Kugluktuk, operator Xemplar Energy Corp.) kept the ground. Golden River Resources conducted no exploration work on its **Hood River** project located 165 km southeast of Kugluktuk on NTS map sheet 76L/13. This ground has been explored for gold and base metals in the Contwoyto Lake and Hood River area. On North Arrow's **Hope Bay** gold project (**Oro**), 125 km southwest of Cambridge Bay and located on NTS map sheet 77A/03, no exploration work was undertaken in 2009.

Stornoway Diamond Corporation holds varying interests (between 30 and 100 per cent) in nine different properties covering 177,252 ha in the Coronation Gulf area of western Kitikmeot. Stornoway is operator on all but two of the properties. A number

of companies acquired ground in the Coronation Gulf area following the discovery in 2001 of the Artemisia kimberlite pipe by Ashton Mining of Canada Inc., Stornoway's wholly-owned subsidiary. To date, 17 kimberlites are known to exist in the area. No work was conducted on any of the properties in 2009.

The **BR/SC** diamond property located north of Contwoyto Lake is owned by Western Standard Metals Ltd. (formerly Nordic Diamonds Ltd.). In 2008, Nordic drilled six targets on the property did not intersect kimberlite and evaluated options for the property. In 2009, Nordic was taken over by Western Standard Metals Ltd. No work was conducted on the ground.

Indicator Minerals Inc. and Hunter Exploration Group held prospecting permits and claims southwest of Kugaaruk. Reconnaissance exploration was conducted on this ground in 2008 for diamonds following positive results from heavy mineral sampling. These projects were termed **IME Grassroots**; no further work was done in 2009.

The **Muskox** property, operated by Silvermet Inc. and owned by Prize Mining Corporation, was being explored for nickel-copper-PGM over the Muskox Intrusive in the western Kikitmeot. Drilling work in 2007 intersected new mineralization, and further work in 2008 included ground geophysical surveys along the eastern and western margins of the Muskox Intrusion. Silvermet planned to transfer the Muskox Project into a newly formed company, Muskox Metals Inc., and retain the right of earning up to 70 per cent interest in the property. No work was undertaken in 2009.

Kaminak Gold Corporation and partner Mega Uranium Ltd. hold permitted ground on the **Washburn Uranium** property 125 km northwest of Cambridge Bay. This project covers portions of the Proterozoic Elu Basin located on southeastern Victoria Island. No exploration work was conducted on this project in 2009.

Helicopter coming in for a crew change, western Kitikmeot. COURTESY OF SABINA GOLD & SILVER CORP.



Kivalliq Region

The Kivalliq region includes Nunavut's eastern mainland, Southampton Island and several small islands in Hudson Bay. The communities of Rankin Inlet and Baker Lake provide logistical support for many exploration projects in the region.

The level of exploration activity in 2009 in the Kivalliq region was at reduced levels when compared to the previous three years. However, because of extensive field programs in 2007 and 2008, most companies have maintained their prospective ground without a field presence in 2009.

Rocks of the Archean-Proterozoic Western Churchill geological province underlie much of the Kivalliq region. Islands within Hudson Bay, including the southern portion of Southampton Island, are underlain by sedimentary rocks of the Paleozoic Hudson Platform. The Western Churchill Province spans a 1.5 billion year interval and, with its diverse geology, is host to a variety of mineral deposit types. Known mineral deposits, prospects and occurrences identified in the Kivalliq include: mafic to ultramafic-related magmatic nickel-copper-cobalt-Platinum Group Metals (PGM); orogenic (mesothermal) lode gold; volcanic massive sulphides; syngenetic and epigenetic uranium, quartz-carbonate veins containing precious metals, and diamonds associated with Phanerozoic kimberlite intrusions. Past-producing mines in the Kivalliq region are the North Rankin Nickel Mine at Rankin Inlet and the Cullaton/Shear Lake Gold Mine, north of Nuelin Lake.

The Meadowbank Gold Mine is scheduled to begin production in early 2010. Meadowbank is Nunavut's largest mineral development project. Mine development expenditures at Meadowbank hit \$600 million in 2009 as the company completed

construction of service buildings and the processing and power plants, and acquired additional operational equipment. Commissioning of the processing plant is scheduled for January 2010; half a million tonnes of ore from the Portage Deposit are currently ready for processing. Agnico-Eagle continued with additional exploration off the mine site, with further ground acquired near the Meadowbank mine trend.

Seventeen companies conducted field programs in the Kivalliq region in 2009. This translated into 26 active properties with land tenure maintained or consolidated on an additional 15 properties. Following the release of airborne magnetic survey and preliminary mapping data from the Southampton Island Integrated Geoscience Project, large blocks of ground were acquired through prospecting permits by Anglo American Exploration (Canada) Ltd. and Vale Inco Limited.

Comaplex Minerals continued to advance the Meliadine gold property, 25 kilometres (km) east of Rankin Inlet. With detailed knowledge from its underground program on the Tiriganiaq Deposit and a NI 43-101 resource estimate for the adjacent Discovery Deposit, an independent preliminary assessment was completed. The results indicate gold production from the Meliadine property is feasible under current and projected economic conditions.

In 2009, uranium exploration within the territory was limited to the Kivalliq region. The main area of interest remains the Proterozoic Thelon Basin and underlying Archean basement. The most



advanced uranium project, Kiggavik, is operated by AREVA Resources Canada Ltd. In late 2008, AREVA filed a project description with the Nunavut Impact Review Board for a combined open-pit and underground uranium mine operation and related infrastructure development. The company is awaiting a decision from the Minister of Indian Affairs and Northern Development on the next step in the regulatory process.

NTI signed its second exploration agreement with Forum Uranium Corp. This agreement covers uranium exploration on Inuit Owned Land (IOL) west of Baker Lake.

Diamond exploration efforts in 2009 were limited to prospecting and infill till sampling by two operators. ■

■ Base Metals

■ GREYHOUND LAKE

Operator/Owner

Aura Silver Resources Inc.

Commodities

Copper, Lead, Zinc, Silver, Gold

NTS

66A/08

Location

40 km north of Baker Lake

The Greyhound Lake project area comprises approximately 23,000 hectares (ha) in 25 minerals claims. Eight distinct targets have been identified: three gold and five base metal targets. Gold mineralization (up to 28 grams per tonne (g/t) Au) occurs in association with disseminated sulphides

(including arsenopyrite) and as sulphide replacements in iron formation.

Interpretation of 2008 airborne electromagnetic and magnetic survey data identified numerous anomalies over a strike-length of 25 km, with specific linear targets each at least 800 metres (m) in length. Distinct conductors are coincident with previously described geochemical anomalies and high-grade assays. These conductors include a series of discrete anomalies over a strike-length of more than five kilometres near Aura Lake. Anomalous zinc, copper and gold samples were collected from an iron-rich occurrence in this area.

The company has identified what it considers to be geochemical indicators of a

volcanogenic massive sulphide occurrence at Aura Lake. Among these indicators are sodium (Na_2O) depletion and manganese (MnO) enrichment in the footwall. Potassium (K_2O) is similarly enriched in the footwall sequence. The exhalite units are locally enriched in silver, zinc, thallium and europium, as well as manganese. Current interpretation suggests that there are two separate types of mineralization within the property; one a copper-lead-zinc-silver VMS system and the other an orogenic gold system.

In 2009, an 857 line-km helicopter-borne electromagnetic survey was carried out. Plans are underway to implement a drill program in 2010.

◆ Diamonds

◆ CHESTERFIELD INLET

Operator/Owner

Shear Minerals Ltd.,
Stornoway Diamond Corporation,
Kennecott Canada Exploration Inc.

Commodity

Diamonds

NTS

55O/05-55O/07

Location

15 km west of Chesterfield Inlet

In 2009, Kennecott Canada Exploration Inc. entered into an agreement with Shear Minerals and Stornoway Diamond Corporation on the Chesterfield Inlet Diamond Project. The project comprises approximately 28,330 ha located within

and near the indicator minerals dispersion train termed the North Corridor of the larger Churchill Diamond Project. Portions of the Chesterfield Inlet project area can be accessed by gravel road from the community of Chesterfield Inlet. Shear

and Stornoway have jointly granted Kennecott the right and option to acquire up to a 70 per cent interest, subject to existing underlying royalties, in the diamond rights to this project.

Banded sulphide mineralization found on the Greyhound Lake property COURTESY OF AURA SILVER RESOURCES INC.





◇ CHURCHILL, CHURCHILL WEST

Operator/Owner
Shear Minerals Ltd., Stornoway
Diamond Corporation

Commodity
Diamonds

NTS
55N/08, 55N/09, 55O/02-55O/07,
55O/11, 55O/12

Location
45 km north of Rankin Inlet

The Churchill Diamond Project (Churchill and Churchill West properties) covers 809,371 ha and was first explored in 2003. Since that time, a kimberlite field has been well-defined by operator Shear Minerals and its partners. The project area is underlain by the Churchill Province cratonic rocks. The Churchill kimberlites drilled to date range in age from 177 to 228 million years and are covered by a thin overburden layer.

Since 2003, 88 kimberlite occurrences have been discovered. Nine new kimberlites were discovered in 2008, including the Killiq and Kahuna Breccia kimberlites. The Killiq kimberlite is interpreted as a 1.1 km-long, north-south trending kimberlite estimated to be approximately 0.75 m wide, similar to another kimberlite dyke (PST003) found on the property. Macro diamonds have been recovered from the Kahuna Breccia and Killiq kimberlites.

Work in 2009 focused on continued exploration of new indicator mineral trains and geophysical anomalies. Additionally, evaluation continued of the system of diamond-bearing, vertically-emplaced kimberlite dykes.

◇ DIAMONDS NORTH PERMITS

Operator/Owner
Diamonds North Resources Ltd.

Commodity
Diamonds

NTS
56H/03-56H/06, 56A/13

Location
215 km southwest of Repulse Bay

Fourteen prospecting permits were acquired by Diamonds North in February 2008. In October 2009 the company staked 17 claims within two prospecting permits. No work has been publically reported.

◇ FERGUSON LAKE

Operator/Owner
Starfield Resources Inc.,
Thanda Resources Ltd.

Commodity
Diamonds

NTS
65I/09-65I/15, 65J/14, 65J/16, 65O/01,
65P/03, 65P/04

Location
160 km south of Baker Lake

Starfield Resources Inc. owns a 100 per cent stake in the property which is comprised of 264 mineral claims totalling 526,090 ha, making it one of the largest combined base metals and platinum group metals (PGM) projects in Nunavut. As the property covers a vast amount of ground, Starfield began to assess the potential for other commodities. In 2005, the company initiated a regional scale till sampling program which was completed during the 2006 field season. Results from this survey included one sample (Y Lake TDS5-125) that contained a significant number of kimberlitic indicator mineral

(KIM) grains and another sample (TDS5-126) containing a small micro-diamond.

To augment this survey, in 2009 Starfield completed a helicopter-borne geophysical survey in the Y Lake area. This detailed program comprised electromagnetic and horizontal magnetic gradiometer surveys totalling 4,729 line-km. Fourteen anomalies were identified; several of these displayed standard characteristics of kimberlitic bodies. Anomaly M4 was significant as it was located approximately 1.5 km up-ice of the diamond-bearing till sample TDS5-126.

In September 2009, Starfield signed a joint-venture agreement with Thanda Resources Inc. to develop the diamond potential on the Ferguson Lake property. The agreement gives Thanda the right to earn an initial 50 per cent participating interest by incurring cumulative exploration expenses of \$6.5 million over a three-year period. Starfield would continue to be the main operator with Thanda providing financial and diamond exploration expertise.

Starfield and Thanda conducted a limited diamond-drilling program at the Y Lake site in late 2009, targeting a series of geophysical targets interpreted as potential kimberlite bodies. Seven high-priority geophysical targets were identified for drill testing. Results of this exploration program are expected early in 2010.

Below: Inuksuk near Nanuq North camp
COURTESY OF INAC

◇ INDIGO

Operator/Owner
Indicator Minerals Inc.

Commodity
Diamonds

NTS
66G/16

Location
200 km northwest of Baker Lake

In February 2008, Indicator Minerals Inc. acquired 20 prospecting permits, 200 km southwest of its Darby Project. No work has been publically reported and only one permit remains in good standing.

◇ NANUQ

Operator/Owner
Peregrine Diamonds Ltd.

Commodity
Diamonds

NTS
56G/01-56G/03, 56G/06-56G/11

Location
225 km northeast of Baker Lake

Peregrine Diamonds holds a 100 per cent interest in the 314,000 ha Nanuq property subject to a two per cent gross overriding royalty payable to BHP Billiton.

In 2007, Peregrine discovered three kimberlites: Kayuu (Hawk), Naturalik (Eagle) and Tudlik (Sandpiper). Processing of drill core samples indicated all kimberlites were diamondiferous. Radiometric age dating of the Naturalik and Kayuu bodies indicated ages of 80 and 70 million years, respectively.

A \$1.5 million diamond exploration program was completed in 2009. Field work consisted of collecting approximately 1,300 heavy mineral samples, and evaluating 10 to 20 geophysical anomalies by prospecting and geophysical sampling. The goals of the 2009 program included increasing the kimberlite indicator mineral sample density, evaluating geophysical anomalies and collecting follow-up samples of unexplained kimberlite indicator mineral anomalies. Results from this program are expected to be received in late 2009 and early 2010. Interpretation of these results will assist in planning details of a drill program that is currently scheduled to commence in the spring of 2010.

◇ NANUQ NORTH

Operator/Owner
Indicator Minerals Inc.,
Peregrine Diamonds Ltd.,
Hunter Exploration Group

Commodity
Diamonds

NTS
56H/02, 56H/03

Location
300 km northeast of Baker Lake

Indicator Minerals Inc. and Peregrine Diamonds Ltd. have a joint venture on the 33,100 ha Nanuq North property, with Indicator as operator. Each company retains a 40 per cent interest in 16 core claims covering 13,900 ha with Hunter Exploration Group holding a 20 per cent



interest to be carried through to completion of a scoping study. Peregrine and Indicator each have an undivided 50 per cent interest in the remaining claims.

Exploration work in 2008 consisted of airborne and ground geophysical surveys, with a follow-up reverse circulation drilling campaign. One kimberlite was discovered, NQN-001. A total of 206 diamonds larger than the 0.075 millimetre (mm) sieve size was recovered by caustic fusion from a 152.75 kilogram (kg) sample of the NQN-001 kimberlite.

A dispute arose between the partners concerning the proposed 2009 program and no field work was implemented. Arbitration proceedings are currently scheduled for May 2010.

exploration using airborne geophysics (magnetic, electromagnetic and gravity surveying) together with property-wide till sampling, drilling and limited mini-bulk sampling. Eleven kimberlites were discovered as a result of BHP Billiton work; 10 were tested and all were diamondiferous. Stornoway optioned the property and took over as operator in 2006, and has subsequently discovered seven kimberlites (Naujaat 1 to Naujaat 7). These bodies, together with the 11 kimberlite pipes discovered by BHP Billiton, all lie within a 26 km-long belt.

Prospecting in the vicinity of other unsourced mineral trains on the property has yet to discover kimberlite; these anomalous areas remain unexplained. Additional till samples collected in 2008 will help to identify the source bodies. To date, no results have been released from this sampling program. During 2009, no field-work was completed at this locality as Stornoway concentrated its exploration efforts and expenditures on more advanced properties.

View south of Nanuq North camp
COURTESY OF INAC

◇ QILALUGAQ

Operator/Owner

Stornoway Diamond Corporation,
BHP Billiton Diamonds Inc.

Commodity

Diamonds

NTS

46L, 46M

Location

10 km north of Repulse Bay,
extending across the Rae Isthmus

The 420,870 ha Qilalugaq project is covered by an option agreement between Stornoway Diamond Corporation and BHP Billiton Diamonds Inc. Stornoway can earn a 50 per cent interest in the project from BHP by spending \$9 million before December 31, 2012.

The property hosts 18 known kimberlites, including the Q1-4 coalescing bodies that cover 14 ha. The initial permits were acquired by BHP Billiton in 2001. The project has undergone several phases of



Energy Sources

* Uranium

Below: Cameco's exploration camp
at Qamanaarjuk Lake
COURTESY OF INAC

* ABERDEEN, TURQAVIK

Operator/Owner
Cameco Corporation

Commodity
Uranium

NTS
66A/05, 66A/12, 66B/01, 66B/02,
66B/07-66B/10, 66B/13-66B/16, 66G/03

Location
85 km west of Baker Lake

The Aberdeen and Turqavik properties consist of more than 300 claims. In addition to these land holdings, Cameco Corporation holds 23 mining leases in the Deep Rose Lake area, northwest of Aberdeen Lake. The project areas are situated along the eastern margin of the Paleoproterozoic Thelon Basin near the Kiggavik and Sissons uranium deposits. The area is underlain by Archean to Paleoproterozoic granitoid gneiss, metasedimentary and metavolcanic rock and undeformed granite and syenite.

Exploration in 2008 consisted of diamond drilling, in-fill prospecting and sampling of outcrop and boulders and detailed mapping over selected outcrops. Semi-regional and detailed gravity surveys were also undertaken. Within the drill-holes, weak to moderate clay alteration and strong hematite alteration was intersected locally. Strong hematite alteration in one drillhole was identified to the end of the hole, a depth of 280 m. However, no mineralization was intersected in any of the 2008 drillholes. A single boulder of mafic volcanic rock with hematite alteration and sooty pitchblende mineralization was discovered during the ground prospecting and mapping program. The source of the boulder is unknown.

The 2009 field program at Aberdeen and Turqavik consisted of ground geophysical gravity work, followed by drilling, mapping and related sampling. This was the fourth year of field work in this area. A field program is expected in 2010.

* AMER LAKE

Operator/Owner
Uranium North Resources Corp.

Commodity
Uranium

NTS
66H/09, 66H/10

Location
135 km north-northwest of Baker Lake

Uranium North Resources Corp. acquired the ground as prospecting permits in 2006, converting its holdings to claims in 2008. The property is now comprised of 24 contiguous claims totalling 24,560 ha.

The area covered by the Amer Lake property was explored by Aquitaine Company of Canada, Uranerz Exploration and Cominco Ltd. between 1969 and 1981. The most significant work completed on the property during this period was by Aquitaine who drilled 37 holes in the project area. Aquitaine defined a resource of 7.4 million pounds at 0.10% U_3O_8 in 1970. In 1977 Cominco defined a 6.7 million pound resource at 0.07% U_3O_8 at the Amer Lake deposit, Main Zone. A number of other uranium showings including Faucon, Main East, A, B, C, D, E, Horned Lake and Split Lake were also identified within the property.

A laterally extensive (more than 25 km) shallowly south-dipping (20° (degrees) to 40°) sequence of sandstones, siltstones and minor dolostones of the Paleoproterozoic Amer Group underlies much of the property. The Main Zone appears to be a sandstone-hosted uranium deposit with possible localized higher grade, structurally controlled uranium mineralization. The main mineralized zone is hosted within a magnetic sandstone unit



that is geophysically traceable. Uranium occurs in a series of thin beds over a stratigraphic interval of 250 m and a strike-length of 1,500 m. Assay values range from 0.5% to 1.5% U_3O_8 over 0.2 m intervals with mineralization present in further surrounding intervals of 1.5m to 2.0 m thicknesses and grades up to 0.17% U_3O_8 .

Drilling by Uranium North in 2008 extended the Main Zone, intersecting uranium mineralization to the south and east along strike of the deposit. A total of 1,763 m of reverse circulation drilling was completed in 16 vertical holes.

A NI 43-101-compliant inferred mineral resource calculation was completed in 2009 for the deposit. Using the current industry standard cut-off of 0.01% U_3O_8 , an inferred resource of 19.3 million pounds U_3O_8 at a grade of 0.04% has been defined. Using a cut-off grade of 0.05% U_3O_8 , 9.7 million pounds U_3O_8 are inferred. This resource is confined to drilling undertaken within an area measuring 1,400 m in an east-west direction and 500 m in a northwest-southeast direction. Further geological and geophysical data suggests that the Main Zone deposit may additionally extend 1,200 m to the southeast. The NI 43-101 report concludes that the deposit remains open to the south and east and that resources and reserves can potentially be increased with continued drilling in these directions.

In addition to the expansion potential of the deposit, Uranium North has identified numerous other similar uranium-bearing zones within a 10 km radius of the deposit. The company is currently developing plans for an early 2010 drill program.



* ANGILAK (LAC CINQUANTE, YATHKYED [K])

Operator/Owner

Kivalliq Energy Corporation,
Nunavut Tunngavik Inc.

Commodity Uranium

NTS

65J/10, 65J/07, 65J/09-65J/11

Location

235 km southwest of Baker Lake

The combination of mineral tenure on Crown land (prospecting permits now converted to mineral claims) and IOL covers about 91,054 ha; these lands are now collectively called the Angilak Project. The Angilak project area is host to over 150 historic mineral occurrences, mostly discovered between 1975 and 1981. These showings have variable metal content and include significant uranium, silver, gold and/or copper.

A 600 line-km ground geophysical survey was conducted over the Lac Cinquante property early in 2009, covering an area measuring 14 by four kilometres and using 100 m line-spacing with more detailed surveying over selected areas. Results show a nine kilometre-long trend of parallel VLF-EM conductors; this trend is referred to as the Lac Cinquante trend. A VLF-EM conductor specifically associated with the Lac Cinquante deposit is traced in

a south-easterly direction for seven kilometres. The Lac Cinquante trend extends 1.6 km to the northwest, beyond the western margin of the historic uranium deposit. In addition, more than 20 significant uranium surface showings are related to electromagnetic anomalies within the trend.

In 2009, Kivalliq Energy completed 1,745 m of drilling in 16 holes. Fourteen holes evaluated the Lac Cinquante deposit; one tested an exploration target while another was not completed. Twelve holes drilled at the deposit intersected radioactive zones 0.6 m to 4.7 m in width, along 900 m of strike-length and to a depth of 125 m from surface. The deposit's main zone was historically described as a vein-type uranium deposit occurring within a near-vertical alteration and structural zone over a strike-length of one kilometre and to a depth of 250 m. Mineralized zones containing pitchblende veins and sulphides are hosted within the Archean basement rocks and associated with a hematite/carbonate/chlorite/graphite-altered tuff unit. Assays from the 2009 drilling reflect assay values returned on core recovered from nine historic drillholes. Both sets of assay data will be used by Kivalliq to improve the model for Lac Cinquante, to guide drilling in 2010 and to develop a NI 43-101 compliant resource for this deposit.



Kazan Falls, south of Baker Lake
COURTESY OF INAC

Below: Ptarmigan using walkway
at Kiggavik camp
COURTESY OF INAC

* BUGS

Operator/Owner

Ur-Energy Inc.

Commodity

Uranium

NTS

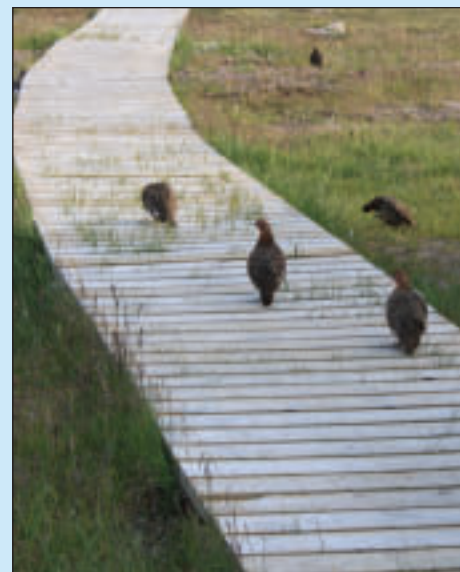
65K/03

Location

400 km west-northwest of Arviat

Historical work discovered two areas of boulders with assays ranging from 0.3% up to 7.3% uranium in lapilli tuffs. Recent work by UR-Energy confirmed the location of the high-grade boulders and their grades. However, extensive prospecting did not locate the source and the potential of this property remains unknown.

Uranium is concentrated in the tuffaceous and sedimentary members of the Christopher Island Formation. This mineralization is described as volcano-genic exhalative-type and exemplified by the HFB north and south occurrences. Evaluation is ongoing as part of the company's plan to prioritize future programs on all its properties.



* BAKER LAKE BASIN

Operator/Owner

Aurora Energy Resources Inc.,
Pacific Ridge Exploration Ltd.

Commodity

Uranium

NTS

55M/10 - 55M/15

Location

65 km south of Baker Lake

Historical exploration has identified sediment-hosted and intrusion-associated, near-surface uranium mineralization within and beneath the Baker Lake Basin.

Aurora Energy Resources Inc. entered into an agreement with Pacific Ridge in September 2008 whereby Aurora can earn an initial 50 per cent interest by spending \$15 million over three years (Kivalliq Energy Corporation will retain a back-in right). The 2008 program included a 603 m two-

hole drill program designed to further test the Lucky 7 zone. A 7,001 line-km, airborne magnetic, radiometric and broadband electromagnetic survey was completed in October. Concurrently, a 435 line-km ground magnetic survey, with 50 m spacing, was completed around the Lucky 7, Niner and 7-1 zones. Interpretation of these results indicates that mineralized structures are continuous on a kilometre scale. Geological mapping of mineralized zones and a comprehensive geochemical sampling program of the areas surrounding mineralization were also completed in 2008, in an effort to better characterize the alteration system associated with mineralization.

In April 2009, Aurora became a wholly owned subsidiary of Fronteer Development Group Inc. Results from the 2008 drill program were released in 2009. The best intercepts were 0.13% U_3O_8 over two metres and 0.22% U_3O_8 over 4.5 m.

Drill core from the Sissons property -
black uranium mineralization along fractures

COURTESY OF INAC



* CANADA URANIUM JOINT VENTURE (AMER EAST, AMER WEST¹, ITZA LAKE², PERMIT 1 AND PERMIT 2³)

Operator/Owner

Bayswater Uranium Corporation^{1,2,3},
Strongbow Exploration Inc.³

Commodity

Uranium

NTS

66F/01, 66F/02, 66F/15, 66F/16, 66G/07

Location

150 km northwest of Baker Lake

Bayswater Uranium Corporation holds varying interests in approximately 267,900 ha in the North Thelon region. Through the joint venture with Strongbow Exploration, Bayswater holds a 50 per cent interest in 15,520 ha and 100 per cent interest in the remaining 252,645 ha. The property consists of five blocks — Permit 1, Itza Lake, Permit 2, Amer West and Amer East. The exploration targets are unconformity-related uranium deposits and sediment hosted uranium deposits.

Portions of the ground in Permit 1 and Permit 2 were converted to 16 mineral claims in 2008. In 2009, Bayswater consolidated its land position over the properties but no field work was conducted.

* KIGGAVIK PROJECT (KIGGAVIK, SISSONS, ST. TROPEZ CLAIMS)

Operator/Owner

AREVA Resources Canada Inc.,
DAE Woo International Corporation,
JCU Exploration (Canada) Co. Ltd.

Commodity

Uranium

NTS

66A/05

Location

75 km west of Baker Lake

The Kiggavik property consists of 17 Crown mining leases totalling 3,972 ha. The Sissons site is situated approximately 17 km southwest of Kiggavik and consists of 22 mining leases totalling 14,730 ha. Eighteen mineral claims make up the St. Tropez block to the north of the Kiggavik property. Collectively these three property blocks form the Kiggavik Project.

Structurally, the Kiggavik area is located between two regional fault zones, the Thelon fault to the north and the Sissons fault to the south. Uranium mineralization is localized near structures at the Kiggavik, Andrew Lake and End Grid deposits.

The Kiggavik deposits (End, Center and Main) are located two kilometres south of the fault contact between the Thelon Sandstone and the basement metasedimentary units. Uranium mineralization occurs in altered metasediments and to a lesser extent in altered granite and intrusive rocks. Cross-cutting diabase dikes are not mineralized. Alteration associated with mineralization is characterized by desilification and conversion of feldspar and mica to illite and sericite. The two major uranium minerals are pitchblende and coffinite.

The Sissons deposits (Andrew Lake and End Grid) are proximal to a major

structure, oriented east-northeast at the Andrew Lake deposit and northeast at the End Grid deposit. Mineralization consists mainly of pitchblende in both deposits.

Within the Andrew Lake deposit, mineralization is controlled by the lithologies within steeply dipping shear zones. Higher grade mineralization is present as remobilized mineralization along fractures and tension faults. At End Grid, several subvertical faults have created horst and graben structures in the metasediments which control the location and extent of mineralized zones.

Geological resources are estimated for each deposit: Kiggavik contains 40.4 million pounds U₃O₈, Andrew Lake contains 59.10 million pounds U₃O₈ and End Grid contains 34.47 million pounds U₃O₈. Updated resource estimates are being determined using the drill results acquired since 2007. The potential for additional resources exists on the Bong and Granite grids, both in the vicinity of the Kiggavik site. Diamond-drill holes have intersected 33 m at 0.41% U and 14.6 m at 0.38% U at Bong and Granite, respectively.

In November 2008, AREVA submitted a proposal for developing open-pit and underground mining operations with milling facilities at the Kiggavik and Sissons sites.

The proposal received a positive conformity determination from NPC with respect to the Keewatin Land Use Plan. In 2009, NIRB recommended to the Minister of Indian Affairs and Northern Development that an environmental assessment of the proposal should be carried out. A decision from the Minister is pending. As part of the company's ongoing feasibility study, AREVA held

Late stage carbonate coated vugs in drill core from Sissons property
COURTESY OF INAC



two to three years later. Current resources will support a production rate of close to eight million pounds of uranium (as U_3O_8 yellowcake) over a mine-life of approximately 17 years.

✱ **NORTH THELON (UKALIQ, KIGGAVIK NORTH, KIGGAVIK SOUTH¹; JUDGE SISSONS, SCHULTZ LAKE²; TANQUERAY OPTION³)**

Operator/Owner

Forum Uranium Corp.^{1,2,3},
Agnico-Eagle Mines Limited²,
Tanqueray Resources Ltd.³

Commodity

Uranium

NTS

66A/02-66A/12, 66B/01, 66B/09

Location

50 km east of Baker Lake

community engagement sessions in the seven Kivalliq communities in 2009.

Throughout 2009, work continued at the Kiggavik site. The drilling program focused on testing geotechnical features within the End Grid, Andrew Lake and Main Zone deposits. A detailed airborne gravity survey was completed over the project area. Environmental baseline and engineering studies in support of the feasibility study continued.

AREVA has indicated that, if a positive decision for a Nunavut-led environmental assessment is made by the Minister in 2009, a draft environmental impact statement (EIS) could be submitted to the regulators by the end of 2010. Based on time lines estimated by the company, construction could begin five years after receipt of required permits and authorizations, with production commencing

Within the North Thelon project area, there are several historic occurrences, grading from 0.06% to 0.31% U_3O_8 , within hematized and brecciated quartzites, fault breccias and granites — the same units hosting the Kiggavik deposits.

The exploration program for 2008 included an airborne survey, ground gravity surveys, mapping, prospecting, till sampling and limited diamond drilling. The apparent resistivity airborne survey revealed several east-northeast structures and a major north-east structure that continues onto IOL (now part of the Ukaliq project). The north-east structure is of particular interest as it is parallel to the Kiggavik trend and has several associated uranium showings.

In March 2009, Forum Uranium Corp. entered into an Exploration Agreement with Nunavut Tunngavik Inc. whereby Forum can earn a 100 per cent interest in

all minerals on 27,344 ha of the northern half of IOL parcel BL-21. Forum can earn its interest by incurring minimum annual rental payments, minimum annual exploration expenditures and completing 2,500 m of diamond drilling within five years. This parcel of land is now termed the Ukaliq project.

Anomalous uranium in the Ukaliq area is known from new showings as well as from re-assessment of historical occurrences. Some samples returned anomalous rare earth element values. One sample in an outcrop of metasedimentary rocks returned 1.80% U_3O_8 with 672 parts per million (ppm) Cerium, 676 ppm Neodymium and 113 ppm Lanthanum. Exploration activities in 2009 identified uranium values grading from 1544 ppm U_3O_8 to 2.21% U_3O_8 .

✱ **NUELTIN LAKE**

Operator/Owner

Cameco Corporation

Commodity

Uranium

NTS

65B/04, 65C/01

Location

325 km west of Arviat

The project lies along the contact between the Wollaston Group metasedimentary rocks (pelite, semipelite, arkose and calc-silicate) to the southeast and the Hurwitz Group low-grade metasedimentary rocks (arkose, siltstone and carbonate) to the northwest. Historical work has identified uranium and gold occurrences in the area.

A program of drilling, prospecting and mapping was completed in 2008. Follow-up work in 2009 consisted of a short drilling program, ground geophysical surveys, mapping and sampling.

Drill core from Lucky 7 zone, hole L708-12,
Baker Project
COURTESY OF INAC

* RUBY HILL

Operator/Owner

Western Uranium Corporation

Commodity

Uranium

NTS

66F/01, 66F/06-66F/08, 66G/06,
66G/07

Location

200 km northwest of Baker Lake

The Ruby Hill property consists of 49 mineral claims along the northern edge of the Thelon Basin where it unconformably overlies the Amer Group. Exploration work examined the area for potential Kiggavik-style uranium mineralization, with particular attention paid to the Amer Fault Zone and Chantey Mylonite Zone.

Field work in 2008 consisted of scintillometer traverses and boulder and till prospecting. Follow-up work was done in areas which were selected based on anomalous 2007 soil geochemistry and ground geophysical survey results. No work was carried out in 2009.

* SOUTH BAKER (HAWK, JG, KAM, L1, SW HAWK), YATHKYED

Operator/Owner

Uranium North Resources Corp.

Commodity

Uranium

NTS

65K/04-65K/06, 65K/10, 65K/11,
65K/14, 65K/15

Location

440 km west of Rankin Inlet

The South Baker project covers more than 12 historic uranium prospects originally discovered as a result of boulder prospecting. Uranium North Resources Corp.



acquired prospecting permits covering the area in 2005 from its sister company Diamonds North Resources Ltd. The land holdings have now been converted to 48 minerals claims on specific areas of interest. Four prospects under evaluation are Hawk, SW Hawk, Kam, and L1. Other targets within the property include several boulder trains where sampling has returned values of 0.2% to 2.5% U_3O_8 and numerous showings with uranium mineralization at surface.

The 2008 drill program focused on two of the 12 known prospects: Kam and Hawk. Three drillholes were completed at Hawk. Three uranium mineralized zones were intersected in two drillholes to a depth of 144 m, confirming the presence of shallow U_3O_8 mineralization and significantly expanding the overall dimensions of the mineralized zone.

Mineralization at the Hawk prospect occurs in fractured and brecciated volcanic rocks of the Christopher Island Formation

and is commonly associated with chlorite, hematite and carbonate alteration. The 2008 drillholes intersected the formation to a depth of 200 m without encountering basement rocks. Based on regional work, Uranium North considers the basement rocks to represent another target for uranium on the property.

Of the 2008 drilling at the Hawk prospect, one vertical drillhole intersected an upper five metre zone grading 0.05% U_3O_8 , a middle zone of 16.8 m grading 0.07% U_3O_8 and a lower 14.3 m zone grading 0.16% U_3O_8 including six metres of 0.31% U_3O_8 . A second vertical drillhole, collared 30 m to the south, intersected three similar zones: an upper four metre zone grading 0.05% U_3O_8 , a middle three metre zone grading 0.08% U_3O_8 and a lower 12.5 m zone grading 0.15% U_3O_8 . The lower zone includes a two metre zone grading 0.31% U_3O_8 and an additional two metre interval with 0.29% U_3O_8 .

Five of six holes completed on the Kam prospect during 2008 intersected zones with anomalous radioactivity. Uranium mineralization was intersected along a 200 m zone with several significant mineralized intersections including grades up to 1.59% U_3O_8 . The drilling results significantly expand the size potential of the Kam prospect, as mineralization is open to the north, south and at depth. Surface exploration indicates additional uraniferous zones may exist to the west. Future work for Hawk and Kam includes modeling of all drill holes to better understand the orientation of the mineralization.

Results from a 2008 airborne radiometric and magnetic geophysical survey completed over the Yathkyed property were released in 2009. Fifty-six uranium anomalies were identified with two targets considered high-priority anomalies. The northern anomaly is located within 500 m of three historic uranium prospects. Trenching at these prospects returned 1.9% U_3O_8 and 0.46% Cu over 1.2 m and 0.28% U_3O_8 over 0.6 m and 0.85% Cu, respectively. A grab sample assayed 0.38% U_3O_8 and 0.16% Cu. The airborne anomaly does not appear to be coincident with these three occurrences but appears to be associated with north-south and east-west trending structures and is accompanied by multiple lesser uranium anomalies. It is believed that this northern anomaly may represent part of a larger overall zone of several hundred metres of uranium mineralization. A second anomaly, located six kilometres to the south, with similar intensity, also falls along north-south and east-west trending structures and is accompanied by multiple weaker anomalies. A historical grab sample collected near this airborne anomaly yielded 0.16% U_3O_8 .

* THELON BASIN

Operator/Owner
Titan Uranium Inc., Mega Uranium Ltd.

Commodity
Uranium

NTS
66B/15, 66G/01, 66G/02, 66G/08,
66H/05

Location
150 km northwest of Baker Lake

The property covers 988 square kilometres (km^2) (or 98,874 ha) and is subject to an option agreement between Mega Uranium Ltd. and Titan Uranium Inc. Titan has operated all field programs to date and Mega has fulfilled its earn-in obligations by contributing \$5 million in exploration expenditures in 2007 and 2008.

During 2008 a total of 1,244 m of diamond drilling was completed in 12 holes. Drilling tested six targets considered possible bedrock sources of glacially dispersed uranium-bearing boulders which form linear boulder trains. One drillhole intersected a 10.70 m interval of radio-

activity associated with a fracture zone developed in mudstone adjacent to quartzite. The best analytical result was 0.19% U_3O_8 over 0.40 m.

The 2008 drill program was augmented by prospecting which focused on claims acquired in 2007 as well as on boulder fields identified by prior exploration programs. Numerous boulders with anomalous radioactivity were identified and 62 samples were sent for analysis. The best results were from the RAD113 claim where four boulders were analyzed returning a high value of 0.24% U_3O_8 .

In 2009, Titan reported on results from its 2008 till program collected from 25 locations down-ice of magnetic features identified in a high-resolution magnetic survey. The features were identified as possible kimberlites and occurred in areas with no outcrop. Analyses of the samples showed no kimberlite indicator minerals. In 2009, all data from the exploration programs was compiled and interpreted in order to plan future work.

Camper at Kazan Falls
COURTESY OF INAC



Construction of foundations for
crusher at Meadowbank mine
COURTESY OF INAC

MEADOWBANK

Operator/Owner
Agnico-Eagle Mines Limited
Commodity
Gold
NTS
56E/04, 66H/01
Location
75 km north of Baker Lake

The Meadowbank property is made up of both Crown land mining leases (7,395 ha) and NTI land concessions (23,126 ha). The Meadowbank Deposit is comprised of Archean-aged gold deposits hosted within highly deformed rocks of the Woodburn Lake Group. This group forms part of the series of Archean supracrustal assemblages comprising the Western Churchill Super-group.

There are four main gold deposits defined on the Meadowbank property; they exist sequentially along a 25 km structural trend. The known gold resources all lie within 225 m of surface, making the project amenable to an open pit mining operation. Of the four deposits, only three are currently incorporated into the development of the mine plan, these being the Portage, Goose Island and Vault deposits.

The Portage deposit is defined over a 1.85 km strike-length and varies in thickness between 100 m and 230 m. The geometry consists of a north-northwest striking recumbent fold with limbs extending to the west. The high-grade mineralization in the lower limb of the fold is typically six to eight metres in true thickness and can attain thicknesses of up to 20 m in the hinge area. The Goose Island deposit is similar in its geometry and setting to the Portage deposit, but occurs in a northwest-trending fold and steeply westerly-dipping

CHURCHILL

Operator/Owner
Shear Minerals Ltd.,
Stornoway Diamond Corporation
Commodities
Gold, Nickel
NTS
55N/08, 55N/09, 55O/02-55O/07,
55O/11, 55O/12
Location
45 km north of Rankin Inlet

The Churchill property is underlain by a number of Archean greenstone belts which are favourable for high grade gold and nickel deposits. In October 2009, Shear Minerals Ltd. announced that it had acquired all of the non-diamond rights, and the related databases, to the Churchill Project from Kaminak Gold Corp. These non-diamond rights were originally acquired by Kaminak Gold Corp. from Shear in 2005. Kaminak will retain a 20 per cent back-in right to the non-diamond mineral rights of the Churchill property, exercisable at any time up to the completion of a feasibility study compliant with NI 43-101. Kaminak conducted a shallow five hole diamond drill program (457 m) in June 2006 that tested three geophysical and geochemical targets. No other gold or base metals exploration work has been completed on the property since 2006.

KIYUK

Operator/Owner
Evolving Gold Corp.,
Marcelle Hauseux,
Shawn Sumacz
Commodity
Gold
NTS
64B/05, 64B/12, 64C/08, 64C/09
Location
350 km west-southwest of Arviat

Kiyuk is an early-stage gold exploration property, located 50 km north of the Manitoba border on the northwest side of Nueltin Lake. Historic work by the Geological Survey of Canada and others identified numerous gossans, some with elevated gold and arsenic, in bedrock and multiple arsenic anomalies in lake sediment samples.

Newmont Mining Corporation optioned the property from vendors Hauseux and Sumacz and completed field programs during 2007 and 2008. In early 2009, Newmont elected not to pursue the project and the property was returned to the vendors. The property was then optioned to Evolving Gold Corp. who completed a small field program in 2009 consisting of re-logging and sampling of 2008 drill core, a limited geophysical program of IP surveys and prospecting traverses.

limbs. The deposit is currently defined over a 750 m strike-length and to a depth of 500 m, with true thicknesses of 10 m to 12 m. Both the Portage and Goose Island deposits are hosted in highly-deformed magnetite-rich iron formation, with the gold associated with quartz, pyrite and pyrrhotite. The Vault deposit is structurally different; it represents a shallowly-dipping planar body, with a defined strike-length of 1.1 km.

The Vault deposit is cut by two sets of normal faults lying perpendicular to each other. The east-west set has a moderate southeasterly dip, and the north-south set dips steeply to the east. The main lens has a true thickness of eight to 12 m. The Vault deposit is hosted within an intermediate volcanic assemblage, but displays the same gold-mineral association as Portage and Goose Island deposits. The three current deposits have probable gold reserves of 3.64 million ounces, indicated resources of 1.68 million ounces and inferred resources 0.45 million ounces.

Site construction is on schedule for an early 2010 commissioning of the mill. Components such as the power plant, mills and leach tanks have been installed, with final piping and electrical installations currently being completed. Development of the east dyke, which will allow the start of production from the Portage and Goose Island open pits, is also well-advanced. Waste material from the Portage pit was used as the main building material in the dikes around the site.

With the completion of dyke construction, the mine will become fully operational. The first gold produced from the Portage open pit is anticipated in early 2010. Approximately 66,500 tonnes of ore grading 3.0 g/t Au are stockpiled from this pit. The mine is expected to produce an average of 350,000 ounces of gold per year over an initial nine-year mine life. Extension of mine life is currently under examination with options such as underground mining being assessed.

The company initiated a scoping study to assess the possibility of increasing the proposed production rate at Meadowbank from 8,500 tonnes to 10,000 tonnes per day. The increased volume would initially come from accelerated development of the high-grade Goose Island and Portage open pits and later potentially from an underground operation on the southern end of the deposit. The company anticipates releasing the results of the expansion study shortly.

For 2009, Agnico-Eagle budgeted \$11 million for its exploration and drilling program; this budget allowed the continual use of five drill-rigs. The focus of the work was on upgrading the resource estimate and, by delineation drilling, refining the geological model of the Vault, Goose South and Portage zones.

The mine site program drilled a total of 27,400 m in more than 100 holes and tested near-surface extensions to the current open pit reserves (particularly in the Goose Island area). The drilling was designed to convert resources to potential underground reserves and to test for resource extensions along the Meadowbank mine trend. A cluster of holes (G-09-77, G-09-81 and G-09-87) returned gold values of up to 5.6 g/t over 6.8 m from an area that is relatively close to surface and within 100 m south of the currently planned Goose Island open pit. Drilling also defined a 'deep zone' to the south of the Goose Island pit; this zone is approximately 500 m long and 300 m deep (down to an actual subsurface depth of 500 m). The zone is open below this depth to both the north and south. Some of the better intercepts include hole G-09-20 with 8.33 g/t Au over five metres at a depth of approximately 200 m and hole G-09-11 with 8.9 g/t Au over three metres. A review



of the 2009 pit delineation drilling, exploratory drilling and the potential for underground operations will be included in a further Meadowbank expansion study.

Regional reconnaissance and ground exploration activities were carried out by Agnico-Eagle in early June, with exploration consisting of regional helicopter-supported geophysics, prospecting, geological mapping and exploratory diamond drilling using two drill-rigs. Approximately 20,500 m of diamond-drilling was completed on exploration targets.

Other activities on the Meadowbank property away from the Portage and Goose Island mine-sites included work completed on the Gosling Zone, the northeast gold trend (PDF deposit area), the southern extension of the Meadowbank trend and on the Vault South showing.

The Gosling Zone is a mineralized area lying 400 m south of the Goose Island open pit. A small drill campaign was conducted over the zone in an effort to trace near-surface gold mineralization along strike. The drillholes confirmed and better delineated this small deposit, and located a mineralized horizon 100 m deeper than expected. Some of the best results include 11.7 g/t Au over 2.8 m located almost at surface in hole G09-54, and 2.7 g/t Au over 8.9 m at a depth of approximately 75 m below surface in hole G09-57. This target zone remains open to the south and at depth.

The Meadowbank trend follows a structural corridor leading south away from the main pit location. A series of drillholes tested the continuation of the mineralization down to a depth of 200 m. Reported gold values intersected along the trend include drillhole GS-09-832 that returned 3.1 g/t over 5.8 m (including 4.1 g/t over 3.6 m), and hole GS-09-834 that

returned 6.2 g/t Au over 4.4 m (including 18 g/t Au over 1.4 m). These values, when assessed with results returned from the Gosling Zone, suggest that there is potential for significant gold mineralization suitable for open pit and underground development along the Meadowbank trend to the south of the mine site.

Delineation drilling was completed at the Vault and Vault South deposits. At Vault, over 10,000 m of diamond drilling was completed from 35 drillholes drilled both within and outside of the current extent of the Vault pit. Drillholes within the pit confirmed continuity and grade of mineralization; drilling intersection results may be used to upgrade the previously inferred resources into the indicated category. Values of gold intersected include 1.73 g/t over 55 m, 7.3 g/t over 3.0 m, 3.15 g/t g over 11.1 m and 1.67 g/t over 27.0 m. Additional holes drilled outside of the current pit were drilled to extend the gold trend to the east and south away from the main Vault site. Highlights included 3.1 g/t Au over 28.5 m and 10.1 g/t Au over 4.5 m.

Vault South was located during the 2008 drilling operations and lies approximately one kilometre to the southeast of the main Vault site. Mineralization is comparable to Vault, and eight drillholes (1,724 m) were completed in 2009. Currently, results (from south to north) include 2.6 g/t Au over 4.1 m, 2.4 g/t Au over 3.0 m, and 0.9 g/t Au over 22.0 m. Further exploration at this site is scheduled.

Results are pending from both the mine delineation work and the regional exploration drill programs. Once released, all data will be incorporated into updated year-end resource and reserve estimates; this research will also outline the potential for underground or open pit expansion.



MELIADINE EAST

Operator/Owner
Meliadine Resources Ltd.,
Comaplex Minerals Corp.

Commodity
Gold

NTS
55J/13, 55J/14

Location
25 km northeast of Rankin Inlet

In 2009, Meliadine Resources drilled 14 exploratory holes (approximately 2,400 m) into the Discovery Zone on the Meliadine East property. Highlights of the assay results include: gold intersects of 4.9 g/t over 21.8 m; 37.7 g/t over 2.4 m; 13.8 g/t over 2.3 m; and 6.8 g/t over 8.8 m. This drill program was further augmented by drilling 10 geotechnical holes (600 m) designed to delineate areas suitable for open pit development. Environmental and metallurgical studies were also completed on the Discovery Zone.

A NI 43-101 compliant report and an updated gold resource estimate are being compiled using all results from both the 2008 and 2009 drill programs. This work will build towards a full resource estimate for this deposit.

In late 2009, Comaplex Minerals completed a transaction with Perfora Investments S.a.r.l. (100 per cent owner of Meliadine Resources) to acquire 100 per cent interest in the Meliadine East property.



Folded iron formation at
Discovery Gold Zone outcrop,
Meliadine East
COURTESY OF INAC

MELIADINE WEST

Operator/Owner

Comaplex Minerals Corp.,
Meliadine Resources Ltd.

Commodity

Gold

NTS

55K/16, 55N/01, 55N/02, 55O/04

Location

25 km northwest of Rankin Inlet

The Meliadine West property consists of 37,751 ha with 34,131 ha on Crown land and 3,620 ha held as Nunavut Tunngavik Inc. subsurface concessions.

An updated NI 43-101 compliant resource estimate was released in 2009 for the Tiriganiaq and F Zone deposits. Using a 2.5 g/t Au cut-off grade, the Tiriganiaq deposit, a potential open-pit gold operation, has a measured resource of 122,800 tonnes at 8.5 g/t Au, an indicated resource of 2.11 million tonnes at 6.1 g/t Au, and an inferred resource of 581,600 tonnes at 3.7 g/t Au. The report also highlights the potential for expansion below the current mine development plan that considers a 70 m-deep open pit. If extracted using a 5.5g/t Au cut-off, the expansion plans would yield an additional measured resource of 126,900 tonnes at 16.8 g/t Au; an indicated resource of 4.64 million tonnes at 10.2 g/t Au; and an inferred resource of 3.2 million tonnes at 7.9 g/t Au.

At the F Zone deposit, development and economic plans envisage an initial 80 m-deep open pit using a 2.5 g/t Au cut-off grade. This plan would yield an indicated resource of 692,800 tonnes at 4.66 g/t Au and an inferred resource of 775,100 tonnes at 3.88 g/t Au. The potential underground gold resources below 80 m, using a 6.5 g/t Au cut-off grade, are: indicated resources of 27,000 tonnes at 8.31 g/t Au and inferred resources of 65,300 tonnes at 8.06 g/t Au.

In 2009, a total of 23,600 m of core from 110 drillholes was completed on the Meliadine West property. A total of 34 holes (2,712 m) were drilled in F Zone, 35 holes (16,732 m) drilled in Tiriganiaq, 16 holes (3,013 m) completed on reconnaissance targets and 25 holes (1,143 m) were drilled for geotechnical purposes. Highlights from holes in the main Tiriganiaq deposit include 12.2 g/t Au over 13.2 m and 15.2 g/t Au over 8.8 m. Other significant intersections are: 12.9 g/t Au over 14.4 m and 16.1 g/t Au over 4.5 m.

Exploratory drilling in the Western Deeps portion of the Tiriganiaq deposit targeted and delineated gold mineralization in a number of different lodes. Infill drilling on the 1,255 lode continued, while focused drilling of the 1,153 lode in the deeper parts of the deposit outlined a continuous zone of gold enrichment over 800 m. Analytical results indicate similarities between the mineralization of the 1,153 and the 1,255 lodes, with both bodies open down-plunge to the west. Multiple intersections were tested in the Western Deeps, with mineralized zones commonly reaching substantial widths and returning high gold grades.

A new zone of gold mineralization was intersected by holes 805 (28.5 g/t Au over

2.6 m), 830 (12.2 g/t Au over 13.2 m), 836 and 838. This new zone is interpreted to be similar to the 1,050 lode gold mineralization that is present in the upper levels of the deposit and now present at depth. These characteristics are typical of large shear-hosted mesothermal gold systems.

A total of 15 holes (3,013 m) were completed on a reconnaissance target in the Musket Bay area, the location of a previously recorded high-grade gold-bearing boulder train. Despite drilling and ground prospecting, the source of the boulder train was not located. Interpretation of the 2009 results is continuing in preparation for future work at this location.

In May 2009, Comaplex met with representatives of 19 federal and territorial regulatory groups involved in the permitting processes of the proposed mine. A preliminary project description and mine development application are being compiled by the company. Geotechnical, geochemical and environmental field work was also carried out at the Tiriganiaq and F Zone deposit sites throughout the year. Geotechnical drilling to aid in the mine application process was completed in each of the pits, in and around the proposed waste and ore piles, and in the proposed tailings and mill site areas. Environmental studies (fish, water, wildlife) were completed and geochemical work (including kinetic testing) on waste, overburden and ore is progressing. Additional metallurgical studies are underway and the results will be incorporated into any future feasibility study.

Comaplex consolidated its interests in the Meliadine area with its acquisition of the 22 per cent interest held by Meliadine Resources in the Meliadine West property.



MUSKOX

Operator/Owner
Agnico-Eagle Mines Limited

Commodity
Gold

NTS
56E/02, 56E/03

Location
95 km north-northeast of Baker Lake

Located 50 km east of the Meadowbank site, the nine claims of this property cover 9,234 ha. The area was selected based on target-generative studies by the exploration division of Agnico-Eagle Mines Limited in the Meadowbank area.

NAPAJUT

Operator/Owner
Shear Minerals Ltd., Exploratus Ltd.

Commodities
Gold, Diamonds

NTS
66A/06

Location
80 km west-northwest of Arviat

In November 2009, Shear Minerals Ltd. signed a letter of intent with Exploratus Ltd. in which Shear can earn an option in all mineral rights to the Napajut gold-diamond project. In 2004, Exploratus purchased the Napajut property from Phelps Dodge Corp. which retained a 2.5 per cent net smelter royalty. Phelps Dodge was acquired by Freeport-McMoran Copper and Gold Inc. in 2007. The bulk of the past exploration at Napajut was focused on its gold potential. The main showings are the Cliffside and North showings with additional potential from several unsourced gold-bearing boulder trains (up to 36 g/t Au) elsewhere on the property.

Exploratus conducted work in 2007 and 2008 completing a 2,541 line-km helicopter-borne magnetic-electromagnetic airborne geophysical survey over the property with the identification of several priority targets suggestive of kimberlites. A follow-up mapping, sampling and prospecting field program was completed by APEX Geoscience Ltd. in 2008. Shear has carried out an in-house desk-top compilation of all available data from known showings including geology, geophysics and all sample results. This work will be complimented by a 2010 prospecting program to follow up priority anomalies for both their gold and diamond potential.

PARKER LAKE

Operator/Owner
Agnico-Eagle Mines Limited

Commodity
Gold

NTS
56M/08, 56M/09

Location
130 km southeast of Baker Lake

These 21 claims were staked in November 2008 and cover approximately 19,635 ha, 60 km south of Chesterfield Inlet. Previous gold exploration in the area was conducted by Cumberland Resources Ltd. and Comaplex Minerals Corporation.

SY

Operator/Owner
Corsa Capital Ltd.,
Kaminak Gold Corporation

Commodity
Gold

NTS
65I/14, 65I/15

Location
250 km west of Whale Cove

The property consists of 44 mineral claims and covers approximately 101,170 ha of the Archean Yathkyed Lake greenstone belt. The mineral rights to the property do not include diamond rights; these diamond rights are held by Indicator Minerals Inc. and Hunter Exploration Group. There is a two per cent net smelter royalty and gross over-riding royalty payable to Hunter Exploration Group.

The geology of the Yathkyed Lake greenstone belt is similar to other gold-bearing greenstone belts in the Kivalliq region, including the Woodburn Lake belt and the Rankin Inlet belt. Limited historical exploration in the Yathkyed Lake belt resulted in the discovery of at least 20 individual high-grade gold occurrences over a strike-length of 30 km.

Corsa completed short exploration programs in 2007 and 2008. Assay results confirmed historic work done on the property by previous operators and identified several new gold and base metals targets.

Nickel–Copper–Platinum Group Metals (PGM)

Geologist on Southampton Island project
COURTESY OF INAC



pyrite is the main copper-bearing sulphide. Cobalt mineralization occurs as the cobalt-iron arsenic sulphide, glaucodot, which is typically fine-grained and included within the pyrrhotite. PGM mineralization varies across the deposit, but occurs ubiquitously throughout the massive sulphide mineralization. The PGM are also associated with a series of lower sulphide horizons or zones that occur several tens of metres below and in the footwall of the massive sulphide mineralization.

Previous drilling on the West Zone Extension, which is believed to represent the down-plunge western continuation of the West Zone, indicates that the massive sulphide lenses are considerably thicker than those present in the eastern half of the West Zone. To further evaluate this deeper mineralization, two holes (FL08-407 and FL08-410), totalling 2,005 m, were completed during the 2008 drill program. As in some of the previous drilling, FL08-407 encountered massive sulphide mineralization, with an intersection of 25.5 m grading 0.63% Ni, 1.18% Cu, 0.08% Co, 2.00 g/t Pd and 0.42 g/t Pt.

FERGUSON LAKE

Operator/Owner
Starfield Resources Inc.

Commodities
Nickel, Cobalt, Copper, Platinum,
Palladium

NTS
65I/09-65I/15, 65J/14, 65J/16, 65O/01,
65P/03, 65P/04

Location
160 km south of Baker Lake

The Ferguson Lake massive sulphide (copper-nickel-cobalt-PGM) deposit is hosted by an Archean less than 2.6 Ga east-west trending, possibly structurally controlled, igneous complex. These rocks are highly deformed and representative of a differentiated mafic intrusive body mainly composed of gabbros and amphibolites. Starfield Resources Inc. owns 100 per cent interest in the property, which is comprised of 264 mineral claims totalling 1.3 million acres — making it one of the largest combined base metal and PGM projects in Nunavut.

The company was active on the property over the last few years, conducting multiple platform geophysical surveys, geological

mapping, till sampling and drilling. During the 2008 drilling season, work focused on upgrading the West Zone resources from inferred to indicated status, as well as defining the associated low sulphide, high-grade PGM mineralization.

To date, drilling has defined massive sulphide mineralization within the hornblende horizon over a strike-length of more than 10 km. This known mineralization, which remains open along strike and at depth, comprises four main zones, referred to as the West Zone, West Zone Extension, Central (Lake) Zone and the East Zone. Within the hornblende horizon, massive sulphide mineralization (40 to 50 per cent total sulphides dominated by pyrrhotite) occurs as a series of irregular, north-dipping, stacked to coalescing lenses 1.5 m to 8.0 m thick. Pentlandite and minor violarite are the dominant nickel-bearing sulphides interfingering with pyrrhotite. Studies indicate that the nickel content of the Ferguson Lake deposit is similar to that found at the nickel-copper-PGM-rich Duluth Complex (north-eastern Minnesota to southern Canada), but less than nickel values in the Sudbury Complex. Chalco-

SOUTHAMPTON

Operator/Owner
Vale Inco Limited

Commodities
Nickel, Cobalt, Copper, Platinum,
Palladium

NTS
46B/10, 46B/15

Location
55 km north of Coral Harbour

In February 2009, Vale Inco acquired three prospecting permits on Southampton Island. No details on work during 2009 are available.

SOUTHAMPTON ISLAND

Operator/Owner

Anglo American Exploration
(Canada) Ltd.

Commodities

Nickel, Cobalt, Copper, Platinum,
Palladium

NTS

46B/11-46B/14, 46G/01

Location

85 km north-northwest and
55 km west of Coral Harbour

In February 2009, Anglo American Exploration (Canada) Ltd. acquired 19 prospecting permits on Southampton Island over an area covered in part by the CNGO Southampton Island Integrated

Geoscience Project. As part of this geoscience project, an airborne survey was flown and the data released as a series of GSC Open File Reports in 2008. The area covered by the permits is considered prospective for ultramafic hosted nickel-copper-PGM mineralization.

Following acquisition of the permits, Anglo American completed an airborne

geophysical survey using its proprietary Spectrum system covering approximately 13,500 line-km. A field program of prospecting selected geophysical targets, soil sampling and claim staking occurred over the summer. Additional work is dependent on results from the 2009 program.

Muskox in Meadowbank area
COURTESY OF AGNICO-EAGLE MINES LIMITED

Rare Earth Elements

NUTAAQ

Operator/Owner

Forum Uranium Corp.,
Agnico-Eagle Mines Limited

Commodity

Rare Earth Elements

NTS

66A/06

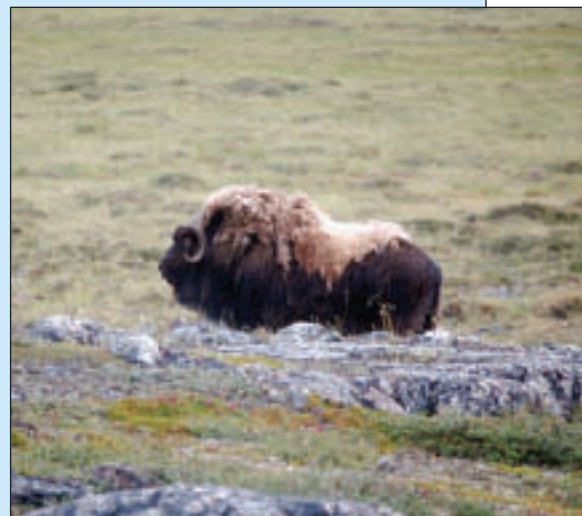
Location

65 km west of Baker Lake

Approximately 900 grab samples were collected from Forum Uranium Corp.'s North Thelon Project during the uranium exploration programs in 2007 and 2008. Of the 255 samples collected in the Nutaaq area of the Judge Sissons claim block, 155 samples grade from 0.1% to 3.8% total rare earth oxides. These rare earth elements are

accompanied by elevated levels of zirconium, niobium and tantalum.

During the 2009 field season, Forum conducted further geological mapping and sampling. An area of alkaline intrusive rocks occurring over a 10 km by 10 km area was identified. Fifty-five samples of representative rock types from the alkalic complex were collected for geochemical and whole rock analysis. Twenty-nine samples graded over 0.1% total rare earth oxide, with a peak of 2.7%. Representative hand specimens were also collected during the 2009 sampling program and sent for petrographic analysis. The Nutaaq host rock is an alkali-feldspar syenite and the rare earth element ore mineral monazite was identified. Also identified was a type of alteration that may be fenitization —



a metasomatic alteration characteristic of alkaline systems associated with rare earth element deposits. Additional studies are ongoing at the University of Saskatchewan's microprobe laboratory to better determine the rare earth element ore mineralogy as well as chemistry of those minerals. Further work on the property will be contingent upon completion of a full review of this new data.

Inactive Projects

Kerchoffer Falls, west of Coral Harbour

COURTESY OF INAC



The **Keewatin** property consists of 16 claims about 120 km southwest of Arviat. Tri Origin Exploration Ltd. has completed prospecting and airborne geophysical surveying, as well as preliminary shallow drilling on the property. In 2008, Tri Origin acquired 100 per cent interest in the property subject to underlying royalties to BHP Billiton Diamonds Inc. Tri Origin has been considering bringing in a partner to further explore the area.

Work by Tanquerary Resources Ltd on its **Baker Lake** project has identified six areas with precious metal potential (Ayak Gossan, Ayak Mouth, Jaegar North and South, Muskox Head and Sam Vein) and one area (Mum Claims) with nickel-copper potential. A drilling program was completed in 2008. Twelve holes tested precious metal occurrences (gold, silver) within quartz veins or iron formation and two holes tested nickel and copper mineralization within an ultramafic intrusion. Results of this program have not been announced.

The **Matrix Gold** property in south-central Kivalliq covers gold targets hosted in Proterozoic quartz-pebble conglomerates considered analogous to the goldfields of the Witwatersrand Basin in South Africa.

The property was under option to Newmont Mining Corporation from 2004 to 2006. Kaminak retains 100 per cent ownership of these claims.

Maze Lake is a grassroots gold exploration project consisting of five contiguous properties, Maze 1 to Maze 5 for a total area of 39,866 ha. Laurentian Goldfields Ltd. is acquiring an interest in the property through an agreement with Terrane Metals Corp. No work was conducted on the property in 2009.

Majescor Resources Inc. owns 100 per cent interest in the **Baker Lake** uranium property, located along the eastern margins of the Thelon Basin. Since completing a late season field program in 2008, no subsequent results or additional work have been reported.

The **Garry Lake** property consists of 355 mineral claims held by Uravan Minerals Inc. covering about 335,553 ha on the northern margin of the Thelon Basin in an area considered prospective for uranium. Uravan submitted a land use application in early 2008 for a proposed field program that included drilling and establishing a new camp. In February 2008, the NIRB recommended to the Minister of Indian

Affairs and Northern Development that the program be reviewed under Article 12, Part 5 of the Nunavut Land Claims Agreement. Shortly thereafter, the Minister accepted this recommendation.

In November 2008, a Public Scoping and Environmental Impact Statement Guideline Development Workshop was hosted by the NIRB in Baker Lake. Following the workshop, the NIRB submitted 'Draft Guidelines to the Preparation of an Environmental Impact Statement for Uravan Minerals Inc.'s Garry Lake Project' for comment by interested parties and Uravan. In early 2009, Uravan filed a response to the NIRB; no work was undertaken on the Garry Lake project this year.

The **Itza Lake** property is controlled by an agreement between Stornoway Diamonds Corporation and Bayswater Uranium Corporation, whereby Stornoway may earn up to an 80 per cent interest in the diamond rights to the property. In 2007, Stornoway completed ground geophysical surveys and collected surficial sediment samples. A planned field program for 2008 was not completed due to logistical considerations. No exploration program was undertaken on the property in 2009.

Qikiqtaaluk Region

The Qikiqtaaluk region is the largest in Nunavut, covering Baffin Island, islands of the High Arctic (e.g. Ellesmere, Devon, Axel Heiberg, Prince of Wales, Bathurst, Cornwallis), and northern Melville Peninsula.

The largest diamond project in Nunavut is located on southern Baffin Island northeast of Iqaluit. The Chidliak Property was the object of regional till geochemical surveys in 2005 and 2006, leading to the 2008 discovery of kimberlite outcrop by Peregrine Diamonds Ltd. Three diamond-bearing kimberlites were discovered in 2008 and 13 more this year. In 2009, Peregrine spent \$9.2 million at Chidliak, funded by partner BHP Billiton.

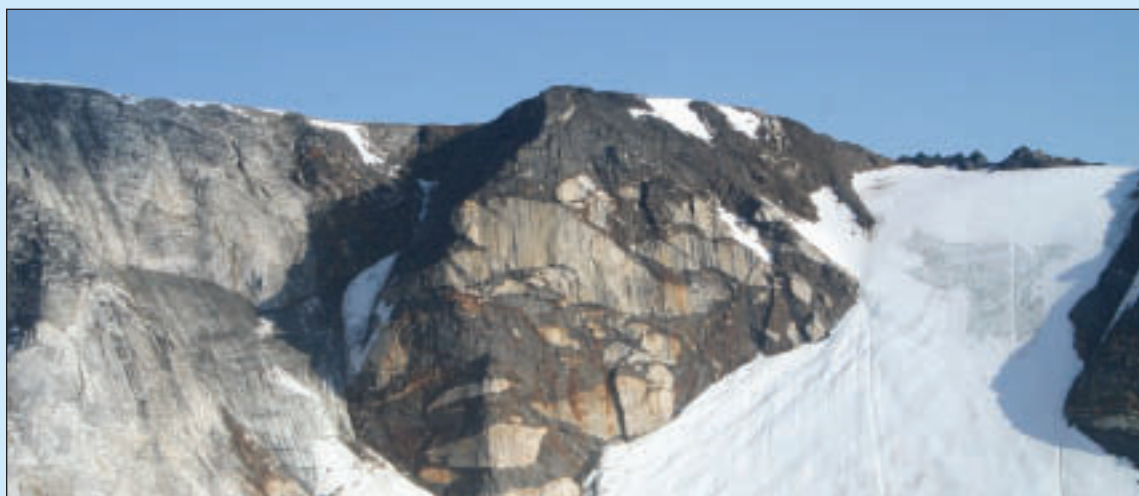
Diamond exploration programs on Baffin Island have also identified areas with significant anomalies indicative of uranium and other metals deposits. These results contributed, in part, to the Qikiqtaaluk region having the most new prospecting permit acquisitions in 2008 and again in 2009.

The Qikiqtaaluk region is host to Nunavut's largest mineral deposits, the Mary River hematite and magnetite deposits, owned by Baffinland Iron Mines Corporation. The main deposit, Deposit No.1, has proven reserves of 160 million tonnes (at 64.4% Fe) and probable reserves of 205 million tonnes (at 64.9% Fe). An intensive program in 2008 saw Baffinland complete its two-year bulk sample shipment, road construction from the site to the coast, expansion of the camp facilities and continued



geotechnical and geo-mechanical studies. In 2009, the program was generally reduced in scope, but activities included continued environmental baseline studies, metallurgical test work and delineation drilling of Deposit No.1.

For the central Baffin area, junior explorer Commander Resources Ltd. signed a Farm-in and Joint Venture Agreement with AngloGold Ashanti Holdings Plc, who will acquire a 51 per cent interest in Commander's Baffin Island gold project. An expanded multi-target drill campaign operated by Commander is planned for 2010.



Bedrock exposures in the mountains of southeast Baffin Island

COURTESY OF CNGO

■ Base Metals



Green copper mineralization in outcrop at Storm occurrence, Somerset Island

COURTESY OF COMMANDER RESOURCES LTD.

■ NANISIVIK MINE

Operator/Owner
Canzinc Ltd.
(Breakwater Resources Ltd.)

Commodities
Zinc, Silver

NTS
48C/01

Location
28 km east-northeast of Arctic Bay

The Nanisivik mine produced 932,635 tonnes of Zn, 15,208 tonnes of Pb and 7,564,206 ounces of Ag from 1986 to 2002. In its final year of production (to the end of September 2002), Nanisivik produced 516,544 tonnes of ore at a grade of 10.0% Zn and 42 grams per tonne (g/t) of Ag. Nanisivik ceased operations on September 30, 2002, due to low metal prices. Closure and remediation work was completed in 2006. The mine is currently in an environmental monitoring phase.

In 2007, the Government of Canada selected the Nanisivik port facility, originally built to support the mine, as the location for a strategic northern naval and coast-guard station for the Canadian Forces. With environmental studies and technical

assessment work completed in 2008, construction at the Nanisivik port site is expected to commence in the summer of 2010.

■ POLARIS MINE

Operator/Owner
Teck Resources Limited

Commodities
Lead, Zinc

NTS
68H/08

Location
Little Cornwallis Island,
95 km northwest of Resolute

The Polaris mine, once the world's most northerly mining operation, was decommissioned by owners Teck Resources Limited (formerly Teck Cominco) in 2002, after a mine-life of more than 20 years. The Polaris mine shut down on September 4, 2002, after exhausting its ore reserves and having produced 2.6 million tonnes of Zn and 666,000 tonnes of Pb concentrates. There are no current mining operations on-site; reclamation work has finished and monitoring work is scheduled to continue through 2011.

■ STORM

Operator/Owner
Commander Resources Ltd.

Commodities
Copper, Zinc, Silver

NTS
58C/10, 58C/11

Location
120 km south-southeast of Resolute Bay

Historical exploration work in the 1990s resulted in the discovery of the Seal and Storm base metal occurrences on north-western Somerset Island. The first zone, Seal, is a carbonate-hosted zinc-silver deposit located on Aston Bay. The second zone, Storm, is a carbonate-hosted copper body located 20 kilometres (km) inland of the Seal zone. In 2008, Commander Resources Ltd. acquired three prospecting permits covering the two zones. This property is 62,324 hectares (ha) in size.

In 2009, the company completed a National Instrument (NI) 43-101 compliant report which concentrated on the Storm copper deposit and included findings from the 2008 field program. The report confirmed that chalcocite-bornite mineralization is dominant and also confirmed high-grade copper mineralization over significant intervals. In particular, the 4100N Zone shows significant potential for expansion and exploration. No field-work was completed during 2009; however, Commander intends work on the property in 2010.

◆ AVIAT

Operator/Partners
Stornoway Diamond Corporation,
Hunter Exploration Group

Commodity
Diamonds

NTS
47C/01, 47C/08, 47D/03-47D/06

Location
72 km west-southwest of Igloolik

The 192,637 ha Aviat Project is a joint venture between Stornoway Diamonds Corporation as the operator (90 per cent) and Hunter Exploration Group (10 per cent). Twelve distinct kimberlite bodies have been identified on the Aviat property since 2002. The bodies range from small pipe-like intrusions to layered sheets, attaining widths of up to 16 m (metres). These shallowly-dipping (8° (degrees) to 20°) kimberlite bodies, and their associated zones of kimberlitic breccia, are thought to be part of a sequence of layered, horizontally stacked sheets. Each layer is vertically separated by 10 m to 30 m.

Results from a mini-bulk sample of 202 wet tonnes extracted from ES1 in 2008 were reported in 2009. A total of 89.55 carats of diamonds were recovered and represents an overall diamond recovery of 210 carats per tonne (cpt). The remaining 148 tonnes of kimberlite taken from a different exposure (previously known as AV2 outcrop) yielded 213.2 carats with the largest diamond weighing 3.99 carats, for a diamond content of 144 cpt. These samples collectively represent 302.7 carats from 190.9 (dry) tonnes of kimberlitic material and returned an overall diamond recovery of 159 cpt.

In 2009, Stornoway reviewed the potential mining methods and identified

the best exploration strategies for achieving a NI 43-101 compliant mineral resource estimate for the Eastern Sheet Complex. Valuation of diamonds recovered from ES1 complex, geological mapping, sampling and exploration geophysics are all expected to be carried out during the 2010 field season.

◆ BAFFIN ISLAND

Operator/Owner
Burnstone Ventures Inc.

Commodity
Diamonds

NTS
37F/12, 37F/13, 37G/04, 47E/09,
47E/16, 47H/01, 47H/08

Location
185 km north of Igloolik

In 2008, Pure Diamonds Exploration Inc. (now Burnstone Ventures Inc.) retained independent geological consultants, Apex Geoscience Ltd., to review results from exploration to date on this property. A number of target areas were identified for detailed exploration. Information known about the Amon-Aliguja kimberlite boulder trend was augmented and several areas containing anomalous kimberlite indicator minerals were isolated, both along and adjacent to the boulder trend. The initial field review of the property included detailed indicator mineral sampling, prospecting and geological mapping in 2008. Recommendations for further work included detailed drilling of the Amon-Aliguja trend to define the kimberlite and to identify areas for trenching and surface sampling. No results from this work have been reported.

Exposure of AV6 kimberlite, a flat lying sheet, and a green regolith present in overlying till

COURTESY OF INAC

◆ BORDEN DIAMOND

Operator/Partner
Indicator Minerals Inc.,
CBR Gold Corp.

Commodity
Diamonds

NTS
48A/05, 48A/06, 48A/11, 48A/12

Location
92 km southeast of Arctic Bay

The property consists of five prospecting permits and 37 mineral claims totalling more than 133,951 ha. Results from programs to date have been used to define an area believed to host kimberlites from which kimberlitic indicator mineral (KIM) grains found on the property may have been derived.

Preliminary interpretation of the 2008 geophysical survey data results showed several high-priority magnetic targets. Kimberlite float was found by prospecting over one of the geophysical anomalies. Indicator is currently acquiring the necessary permits for further work.





Prospecting mafic outcrops associated with EM anomalies
COURTESY OF INAC

Right: Helicopter at Chidliak camp
COURTESY OF INAC

The CH-4 kimberlite lies 1.5 km west of CH-1; this kimberlite, with an estimated surface expression of two hectares, was found by drilling two holes above a geophysical anomaly. The longest kimberlite intersections in each hole were 71 m and 60 m, respectively. The CH-4 kimberlite, displaying significantly olivine-rich petrology, is more altered than CH-1. A 201.6 kilogram (kg) sample of drill core and surface material was sent for microdiamond analyses and yielded 15 diamonds larger than the 0.075 mm sieve size, including one diamond larger than the 0.600 mm sieve size.

The CH-5 kimberlite, with an estimated geophysical surface expression of one to two hectares, lies approximately eight kilometres west of CH-4 and was found by prospecting over a magnetic high geophysical anomaly. Kimberlite CH-6 was located by drilling a magnetic low target — the first target of this type to be drilled on the property. This kimberlite is located 12 km north of CH-1 and has three distinct lithologies: an upper section (0 m to 70 m) of volcanoclastic kimberlite; a primary pyroclastic facies (70 m to 250 m depth); and another kimberlite, possibly magmatic in origin, below 250 m. The surface area is estimated from geophysical data at two hectares. Caustic of CH-6 drill core recovered 2.50 carats of +0.85 mm diamonds from a 398.8 kg sample. An additional 170.3 kg sample of drill core collected from a magmatic phase of CH-6 (CH-6C) has returned 2.08 carats of +0.85 mm diamonds. A total of 2,007 diamonds larger than the 0.075 mm sieve size, including 91 diamonds larger than the 0.600 mm sieve size, were recovered from the sample. The two largest diamonds recovered were a 0.420 carat white,

◆ CHIDLIAK

Operator/Partner

Peregrine Diamonds Ltd., BHP Billiton

Commodity Diamonds

NTS

25O/15, 25O/16, 25P/13, 26A/04,
26A/05, 26B/01-26B/03, 26B/06-26B/11

Location

115 km north-northeast of Iqaluit

The largest diamond program in Nunavut, Chidliak, is owned by Peregrine Diamonds Ltd. in partnership with BHP Billiton. In 2009, this property was the focus of a \$9.2 million exploration program. In 2006 and 2007, Peregrine discovered high KIM concentrations over the 980,000 ha property. A heliborne magnetic/electromagnetic survey was completed over selected target areas in 2008. Follow-up on this geophysical survey led to the collection of till samples containing high concentrations of KIM. Three diamond-bearing kimberlites (CH-1, CH-2 and CH-3) were discovered in 2008, with 13 more discovered in the 2009 exploration season using similar methodology.

A 2.28 tonne mini-bulk sample was hand-collected from the surface of CH-1 in the fall of 2008. A total of 168 micro-diamonds

greater than 0.425 millimetre (mm) sieve size were recovered from this sample, including 34 commercial-sized diamonds larger than 0.85 mm. One 2.01 carat, gem-quality, clear and colourless octahedron was also recovered from this sample.

In November 2008, BHP Billiton elected to exercise its earn-in rights for Chidliak and agreed to incur a total of \$22.3 million in exploration expenditures to acquire a 51 per cent stake in the property. Peregrine operated the 2009 exploration program, fully funded by BHP Billiton.

The 2009 program included drilling of selected geophysical targets, collection of a 50-tonne sample from CH-1, collection of 1,273 samples for heavy mineral analysis, ground magnetic and electromagnetic geophysical surveys, and the initiation of an environmental baseline study. Fifty-eight geophysical anomalies were evaluated by ground prospecting and geochemical sampling. Of the 13 new kimberlites discovered in 2009, seven (CH-4, CH-6, CH-10 and CH-13 through 16) were found by drilling geophysical targets and six found by prospecting and geological mapping. These new discoveries bring the total number of kimberlites on the Chidliak property to 16.



translucent aggregate and a 0.361 carat yellow, transparent distorted crystal. Further drilling is required to define CH-6 in greater detail.

Kimberlites CH-7, CH-8 and CH-9 were all discovered by ground prospecting over targets revealed by the airborne geophysical survey. The CH-7 target has an estimated area of 1.4 ha and is composed of magmatic kimberlite with abundant mantle xenoliths and indicator minerals. A 220.9 kg sample yielded 664 micro-diamonds larger than the 0.075 mm sieve size, including 11 diamonds larger than the 0.600 mm sieve size. A 0.64 carat translucent off-white diamond was recovered with this sample. CH-8 is located 1.5 km west of CH-7, and yielded 17 diamonds larger than the 0.075 mm sieve size from a 187.9 kg sample of drill core and surface material. CH-9, seven kilometres west of CH-1, coincides with a geophysical anomaly with target area of approximately one hectare; the discovery outcrop itself measures 5 m by 25 m. A 216.8 kg surface sample of CH-9 yielded two diamonds, one larger than the 0.075 mm sieve and one larger than the 0.106 mm sieve size.

Northwest of CH-6, Peregrine discovered the CH-10 kimberlite by drilling one of a number of linearly arranged magnetic lows. A 111.4 kg sample of drill core yielded 152 diamonds larger than the 0.075 mm sieve size, including two diamonds larger than the 0.600 mm sieve size. CH-11 and CH-12 kimberlites are each characterized by magnetic high anomalies measuring approximately 100 m by 50 m. Two different types of kimberlite were tentatively identified in the field at these sites. Both kimberlites are diamondiferous: a 210.0 kg surface sample from CH-11 yielded one 0.075 mm stone and a 251.7 kg surface sample from CH-12 yielded 270 diamonds larger than the 0.075 mm sieve size, including three diamonds larger than the 0.600 mm sieve size.

CH 13, CH-14, CH-15 and CH-16 were all discovered by drilling geophysical targets. CH-14 and CH-15 are represented by magnetic high anomalies and kimberlite was intersected over widths of 35 m and 45 m, respectively. CH-13 and CH-16 are defined by magnetic lows, and intersected 44 m and 35 m, respectively, of kimberlite. Diamond results for these kimberlites are pending.

Petrologic examination suggests that the CH-8, CH-10, CH-14 and CH-15 kimberlites are largely magmatic in origin, with CH-13 and CH-16 being dominated by pyroclastic material.

Also in 2009, a mini-bulk sample of approximately 50 tonnes was collected from an outcrop exposure of the CH-1 kimberlite; results from this sample are pending. Initial caustic fusion micro-diamond results from a 178.8 kg sample of CH-1 drill core yielded a total of 322 diamonds larger than the 0.075 mm sieve size, including five diamonds larger than the 0.600 mm sieve size.

Planning is underway for the 2010 program; work is currently scheduled to begin in April with the drilling of lake-based geophysical anomalies. Airborne and ground geophysical coverage will be expanded. An increased diamond-drilling program will test any new geophysical anomalies and further delineate the 2009 discoveries. Peregrine also plans to continue ground prospecting and mapping, and to collect additional samples for indicator mineral analyses.

◆ DORSET

Operator/Partner
Indicator Minerals Inc.

Commodity
Diamonds

NTS
36C/10, 36C/11, 36C/14, 36C/15,
36F/02, 36F/03

Location
60 km northwest of Cape Dorset

The Dorset property consists of nine prospecting permits, four of which were acquired in 2009, covering an area of 164,990 ha. In 2008, Indicator Minerals completed a limited till sampling program on the prospecting permits. Kimberlite indicator minerals, including pyrope garnet, were recovered from heavy mineral samples. The four new permits were selected to ensure that all potential KIM source areas were captured. A short field program was conducted on the property in 2009.

◆ FOXE BASIN¹, MIRAGE BAY²

Operator/Partner
Peregrine Diamonds Ltd., BHP Billiton

Commodity
Diamonds

NTS
37A/03-37A/06, 37A/11, 37A/12, 37B/01,
37B/08, 37B/13, 37B/14, 37C/03,
37C/04, 37C/06, 37C/11¹; 36P/08²

Location
220 km east of Hall Beach¹, covering islands in the Foxe Basin; 300 km west of Pangnirtung²

Peregrine and BHP Billiton have found KIM chemistries indicative of a proximal kimberlite source within the boundary of their Foxe Basin and Mirage Bay property areas. No work was reported by Peregrine on either property in 2009.

Pangnirtung Fiord, Nunavut
COURTESY OF CNGO



◆ QILAQ¹, TIMMIJUUAQ²

Operator/Owner
Peregrine Diamonds Ltd.

Commodity
Diamonds

NTS
25O/01, 25O/07-25O/10,
25P/03-25P/06, 25P/10-25P/15, 26A/03,
26A/04, 26A/06, 26A/11-26A/13,
26B/12-26B/16, 26G/03, 26G04¹;
25P/02, 25P/07, 25P/08²

Location
140 km east of Iqaluit¹;
193 km east-northeast of Iqaluit²

In February 2009, Peregrine Diamonds Ltd. was granted 86 prospecting permits (approximately 1.3 million ha) bordering the Chidliak property. This acquisition more than doubled the company's prospecting rights on Baffin Island. The Qilaq property is 100 per cent owned by Peregrine. With

its eastern boundary being the coastline, the Qilaq property surrounds Chidliak to the north, east and south. According to current geological interpretation, the same ancient Archean bedrock underlies both Qilaq and Chidliak. During the 2009 exploration season, geochemical till samples (approximately 600) were collected and are being analyzed for kimberlite indicator minerals; results are pending.

Prospecting permits for the Timmijuaq property located at the northern tip of the Hall Peninsula were originally acquired in 2006 as part of a six-property block that includes the Chidliak and Kimmirut properties. With the acquisition in 2009 of additional permits and claims, information resulting from work on the Timmijuaq project has been incorporated into the larger Qilaq property.

Energy Sources

Coal



* BACHE PENINSULA¹, FOSHEIM PENINSULA², STRATHCONA FIORD³

Operator/Owner
Canadian Sovereign Coal Corp.

Commodity
Coal

NTS
39H/03, 39H/04¹; 49G/16²;
49E/11, 49E/14³

Location
370 km north-northeast of Grise Fiord¹;
408 km north-northwest of Grise Fiord²;
262 km north of Grise Fiord³

In 2008 and 2009, Canadian Sovereign Coal Corp. (CSCC), a wholly-owned subsidiary of Weststar Resources Corp.,

was granted 13 coal exploration licenses that collectively cover 168,817 ha. The properties are Bache Peninsula with six licenses (60,506 ha), Fosheim Peninsula with four licenses (54,741 ha) and Strathcona Fiord with three licenses (37,628 ha).

The coal-bearing, late Cretaceous to Tertiary, Eureka Sound Group in the Fosheim Peninsula area consists of two informal units; a non-coal-bearing basal member 30 m thick and a coal-bearing upper member up to 3,200 m thick. Near the base of the section, individual coal seams reach a maximum of six metres thick but higher in the section, zones containing 50 per cent coal can achieve thicknesses of up to 20 m.

Preparing for field operations, Polar Continental Shelf Project, Resolute Bay, Nunavut
COURTESY OF CNGO

Lithologies present in the upper member include claystone, siltstone, unconsolidated sandstone and coal. Coal is the most indurated lithology and commonly forms ridges and hilltops, and can control creek drainage patterns. Structurally, the area is termed the Fosheim Synclinorium and consists of broad, open, gentle synclines and anticlines, and normal faults. Past workers have reported variations in coal rank within the Fosheim Peninsula area; coal near the top of the Eureka Sound Group is lignite in rank and coal near the base is high-volatile bituminous.

Energy Sources

* Uranium



* FLINT

Operator/Partner
Peregrine Diamonds Ltd.

Commodity
Uranium

NTS
37A/14, 37D/03, 37D/05, 37D/06,
37D/11, 37D/12

Location
260 km southwest of Clyde River

This 300,000 ha property represents 12 prospecting permits acquired by Peregrine Diamonds in February 2008. Uranium minerals, along with pyrite, chalcopryrite and gold grains, were recovered in till samples from several sites on the property.

In 2009, Peregrine concentrated much of its exploration efforts on other properties. However, desk-top research, planning and logistical exercises were undertaken in 2009 for this project in preparation for future field work.

Cross-beds in eolian Cambrian sandstone,
Roberson River Area
COURTESY OF UNOR INC.

* FURY-HECLA

Operator/Owner
Uranium North Resources Corp.

Commodity
Uranium

NTS
47E/04

Location
105 km northeast of Igloolik

Uranium North Resources Corp. acquired two prospecting permits in 2008 covering part of the Fury-Hecla Basin. Historical work has documented uranium enrichment in the basal sequence of the basin. No results on work have been publically reported by Uranium North.

* FURY-HECLA BASIN

Operator/Partner
UNOR Inc., Cameco Corporation

Commodity
Uranium

NTS
47F/01, 47F/08

Location
135 km west-northwest of Igloolik

Cameco Corporation acquired 12 prospecting permits in the Fury-Hecla Basin in February 2007. The permits were incorporated into a joint venture with UNOR Inc.. No results have been announced and no field activities were conducted on-site during 2009.

* KIMMIRUT

Operator/Owner
Peregrine Diamonds Ltd.

Commodity
Uranium

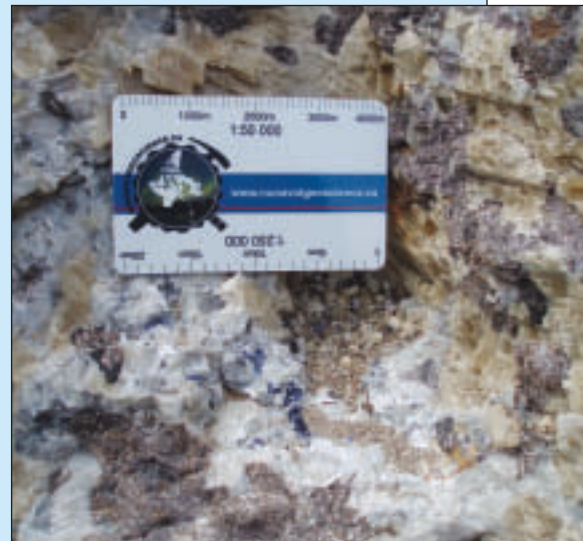
NTS
25M/07-25M/10, 25M/16, 25N/12,
25N/13

Location
75 km north of Kimmirut

In February 2008, Peregrine Diamonds was granted 39 prospecting permits on the Meta-Incognita Peninsula of Baffin Island. Field work was conducted in 2007 and 2008 and results identified anomalous amounts of the mineral series uraninite-thorianite. Exploration work anticipated for 2009 on this property was postponed to allow the company to focus on other properties, particularly Chidliak. However, a full exploration field season is expected on the Kimmirut property in 2010.

Gemstones

Blue sapphires with purple diopside, creamy beige scapolite, plagioclase, and altered nepheline from Beluga property COURTESY OF INAC



BELUGA¹, CROOKS INLET²

Operator/Owner
True North Gems Inc.

Commodity
Sapphires

NTS
25K/13¹; 25L/15²

Location
2.9 km south-southeast of Kimmirut¹,
45 km west of Kimmirut²

Gem-quality corundum mineralization (blue, pink and colourless), as the mineral sapphire, lies within a series of calc-silicate lenses at Kimmirut. They are hosted by

marble of the Lake Harbour Group. These marbles extend from Kimmirut along the southern Baffin Island coast toward Cape Dorset.

The 2009 field season involved a targeted program of sampling, minor trenching, delineation work and environmental baseline work. Collaborative research, as Ph.D. work, between True North Gems and the University of British Columbia is currently underway on sapphire samples from the Kimmirut property. Results from this study and the 2009 season are pending.

Gold

BRAVO LAKE, QIMMIQ

Operator/Partner
Commander Resources Ltd.,
AngloGold Ashanti Holdings Plc

Commodity
Gold

NTS
27B/11, 27B/12¹;
27B/12, 37A/07-37A/10²

Location
220 km south of Clyde River¹;
250 km south of Clyde River²

The Bravo Lake and Qimmiq occurrences were previously explored as Commander Resources Ltd.'s Baffin Gold Project. Since the discovery of the Hebert Prospect in 2007, the Hebert system is now recognized as being more than 3.5 km long in a gold-enriched structural corridor that is at least 10 km long. The mineralized corridor is structurally controlled and lies parallel to

an interpreted series of thrust faults. Gold mineralization is hosted within steeply-dipping quartz veins and minor stratabound semi-massive gold-bearing arsenopyrite gossans. Mineralized vein systems are hosted by a gently-dipping, interbedded sequence of greywacke and microconglomerate. Based on previous seasons' analytical results, a gold-silver-bismuth-lead association is apparent in this system. Gold was also discovered at the 'Frankie Showing' and 'Southeast Showing'; these showings occur in structures parallel and sub-parallel, respectively, to the main Hebert trend.

In December 2008, Commander Resources reported high-grade gold results from surface channel sampling and prospecting on the Hebert Prospect within the Qimmiq property. Forty per cent of channel samples taken from mineralized quartz veins and host rock returned values

in excess of two g/t Au. Thirty per cent of samples assayed in excess of five g/t Au and 17.5 per cent assayed in excess of 30 g/t Au. Rock chip and grab sampling of outcrop and boulders returned values of 1,388 g/t Au, 861 g/t Au, 720 g/t Au, 213.5 g/t Au and 660.3 g/t Au.

Work during the 2009 field season was aimed at defining the 'Hebert Zone'. As a result, the property was geologically mapped at regional and detailed scales, more than 650 channel and soil samples were taken and ground prospecting was completed over previously identified gold anomalies. A regional-scale till sampling program was conducted over the Bravo Lake Formation in an area previously not sampled and approximately 40 km west of the main Hebert trend. Hebert South, a new extension located one kilometre south of the central Hebert Zone, contains a number of significant arsenopyrite-



Geologic mapping, Borden Basin, northern Baffin Island COURTESY OF CNGO

bearing quartz veins. Channel samples from quartz veins returned values including 373.90 g/t gold over 0.25 m; 241.30 g/t gold over 0.25 m; 104.50 g/t gold over 0.30 m; 98.71 g/t gold over 0.25 m; and 48.64 g/t gold over 0.44 m. Rock chip and grab samples include gold values of 442 g/t, 252.90 g/t, 134.80 g/t, and 103.60 g/t.

A new showing, Traciane, discovered in 2008 lies 1.5 km northeast of the main zone. This showing lies within the same structural corridor as known showings and brings the total number of identified gold prospects to 18. Traciane consists of a series of gold-bearing quartz-arsenopyrite veins exposed over an area 100 m by 50 m, with individual mineralized veins attaining

widths of 0.3 m to 0.75 m. Channel sampling in 2009 returned values of 66.84 g/t Au over 0.38 m, and 31.49 g/t Au over 0.85 m. At Traciane North, 100 m to the north of Traciane, gold-bearing veins are also exposed and returned a value of 96.51 g/t Au over 0.20 m.

In 2009, Commander Resources completed its mobilization of fuel and supplies in anticipation of a full field season in 2010. The 2009 sampling program and its resulting analytical data will be used to define and target a 2010 drill program. Additionally, the company staked a further 34,500 ha of mineral claims; this increases the Baffin Gold Property to a size of approximately 780 square kilometres (km²).

During the fall of 2009, Commander signed a Farm-in and Joint Venture Agreement with AngloGold Ashanti Ltd's subsidiary, AngloGold Ashanti Holdings Plc. Under the agreement, AngloGold may earn a 51 per cent participating interest in the project by funding \$20 million over a six-year period and by completing a \$1.2 million private placement in shares of Commander. The agreement includes a commitment to fund \$5.5 million in exploration expenditures within the first two years and to diamond-drill a minimum of 3,000 m. The 2010 field work on this property will be fully funded by AngloGold Ashanti.

MARY RIVER

Operator/Owner

Baffinland Iron Mines Corporation

Commodity

Iron Ore

NTS

37G/05

Location

160 km south of Pond Inlet

The high-grade Mary River iron deposits occur in interbedded sequences of banded iron formation, iron silicate, greywacke, granite and hornblende gneiss. To date, five main deposits have been identified in the Mary River area. While Deposits No. 1 to 4 were previously known, Deposit No. 5 was discovered this year. This new deposit was sampled over a wide range of outcrop exposures containing hematite-dominant mineralization and returning assay grades ranging from 61% to 70% Fe.

Deposit No. 1 has proven reserves of 160 million tonnes at 64.4% Fe, and probable reserves of 205 million tonnes at 64.9% Fe. The combined resources (exclusive of reserves) from Deposits No. 2 and 3 are: measured resources of 0.4 million tonnes (at 65.4% Fe), indicated resources of 52.0 million tonnes (at 64.6% Fe) and inferred resources of 448.0 million tonnes (at 65.5% Fe).

In March 2008, Baffinland Iron Mines Corporation submitted a development proposal and associated mine-permitting applications which initiated a regulatory review of the project. The current proposal suggests a 21-year mine life based on known and well-defined iron ore reserves, with 18 million tonnes of iron ore shipped annually to European steel mills.

In early 2009, the Minister of Indian Affairs and Northern Development referred



Saxifrage getting a foothold on top of Deposit No. 1, Mary River

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the Mary River Project for a Part 5 review under Article 12 of the Nunavut Land Claims Agreement. This referral was made in response to recommendations of the NIRB following a positive conformity of the project to the North Baffin Regional Land Use Plan, as determined by the NPC. The environmental assessment guidelines were issued by the NIRB for the proposed project in November 2009. Based on these guidelines, Baffinland can now prepare an environmental impact statement

Results from the blast furnace tests of a 113,217 tonne bulk sample (shipped in 2008) conducted at several steel mills in Germany were released in 2009. Results from production tests indicated that high rates of blast furnace productivity can be achieved using the Mary River ore without degradation in the quality of the molten

materials. These results were a key step in determining commercial suitability of the iron ore.

Baffinland conducted a \$30 million multi-faceted field program at the Mary River site during the summer of 2009, primarily designed to delineate and provide further control on the resources and reserves currently lying within Deposit No. 1. The company completed 2,316 m of drilling. Other activities included reclamation and regulatory and environmental assessment work. The company also facilitated several Inuit training courses funded by both the federal government and Government of Nunavut initiatives.

Baffinland expects exploration in 2010 to focus on delineating Deposit No. 4 and Deposit No. 5, and to continue advancing through the regulatory process.



ROCHE BAY¹, TUKTU²

Operator/Partner

Advanced Explorations Inc.,
Roche Bay plc

Commodity

Iron Ore

NTS

47A/04-47A/06, 47B/02, 47B/07

Location

72 km southwest¹ and
70 km west-northwest² of Hall Beach

The Roche Bay Magnetite Project, owned by Advanced Exploration Inc. (AEI) and Roche Bay plc, includes five deposits of Algoma-type banded iron formation (BIF) known as Zones A (or Adler), B, C, D and E. These deposits are characterized by alternating bands of magnetite and silica occurring over strike lengths of 820 m to 4,200 m and widths of 120 m to 160 m. The zones are subsets of a larger, regional iron formation unit that extends from the southwest to the shores of Roche Bay, a distance of approximately 30 km.

A NI 43-101 compliant resource estimate was completed by Golder Associates Ltd. in 2009, using data from the 2007 and

2008 drill program over the iron-rich C-Zone. With a 25% Fe cut-off grade, Golder defined an inferred resource of 350 million tonnes at 28.07% Fe to a depth of 250 m from surface. Zones A, B and D represent future drill targets with an existing historical (non-NI 43-101 compliant) combined resource estimate of 700 million tonnes.

Results from a preliminary economic assessment were released in June 2009. This assessment assumes that if a mine were to open, a 20-year starter open-pit mine would be over C-Zone North with an initial ore production rate of 15,000 tonnes per day (5.0 million tonnes per year). The iron ore that crops out on surface (at a grade of 30% Fe) is expected to create a low initial waste-to-ore strip ratio of 0.5:1. According to the preliminary assessment, the main pit, stockpile and production facilities would be linked by an all-weather road to the natural deep-water harbour at Roche Bay.

In 2009, AEI continued with environmental impact assessment work and desktop metallurgical and engineering studies. Summer mapping and prospecting have

uncovered a mineralized magnetite-rich banded iron formation about 60 km northwest of the Roche Bay project and 45 km due west of Foxe Basin on the Melville Peninsula. Eleven claims were staked over the iron formation and the company refers to this area as the Tuktut property. The magnetite-rich banded iron formation can be traced for roughly 2,700 m in length, has a width of up to 700 m and is exposed vertically for over 60 m. Massive magnetite mineralization is exposed at surface. The down-dip extent of the mineralization is unknown, but field mapping has shown that the iron formation beds dip approximately 70° (degrees) to the southwest. Seventy-five rock samples from various lithologies were collected from this discovery area. Samples were analyzed for iron and other elements; analytical results returned grades of up to 34% Fe and with low levels of contaminate. A large portion of the iron formation samples graded 0.04% sulphur or less. The samples have been sent for metallurgical testing to determine if a high-grade (plus 63% Fe) iron product can be produced.

Nickel-Copper-Platinum Group Metals (PGM) +

+ AXEL HEIBERG

Operator/Owner

Vale Inco Limited

Commodity

Nickel, Copper, Platinum, Palladium

NTS

59G/09, 59G/10, 59G/G8, 59H/02, 59H/03, 59H/06

Location

370 km northwest of Grise Fiord

Vale Inco acquired 11 prospecting permits on Axel Heiberg Island in 2008. The property covers 158,086 ha considered prospective for Noril'sk type nickel-copper-PGM sulphide mineralization associated with the Cretaceous Strand Fiord Formation of the Sverdrup Basin.

+ CHIDLIAK

Operator/Partner

Peregrine Diamonds Ltd., BHP Billiton

Commodity

Platinum, Palladium, Lead, Zinc, Copper, Gold

NTS

25O/15, 25O/16, 25P/13, 26A/04, 26A/05, 26B/01-26B/03, 26B/06-26B/11

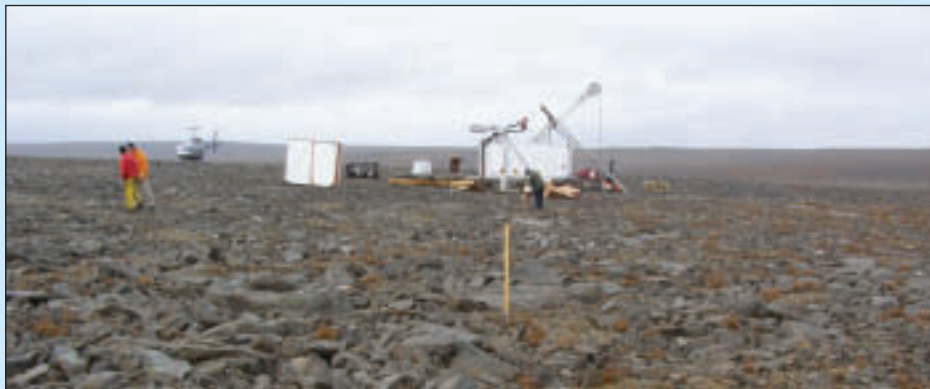
Location

115 km north-northeast of Iqaluit

The Chidliak property, although being explored primarily for diamonds, also has potential for several other commodities. Ground prospecting, mapping and sampling during 2007 and 2008 was augmented by an airborne geophysical survey flown over the entire property in 2008 and 2009. Results of this work identified and outlined three anomalous zones with geochemical signatures unrelated to the presence of kimberlite and diamonds.

The Sperrylite Anomaly covers an area of approximately 10 km². Of the 44 till

Drill testing the Ch-6 target on Chidliak property COURTESY OF COURTESY OF PEREGRINE DIAMONDS LTD.



samples collected across the anomalous area, 17 contained elevated levels of the mineral sperrylite. This mineral is most commonly associated with platinum, palladium and nickel mineralization. Several grains of sperrylite and many grains of the mineral goethite were recovered outside of the main platinum group metals-enriched area.

The potential for metamorphic-type massive sulphide deposits on the property is supported by the recovery of anomalous levels of gahnite, the primary indicator mineral for lead-zinc-silver-copper systems. This Gahnite Anomaly is approximately 2.5 km² in area. Ninety per cent of the soil samples collected over the anomaly contained highly elevated levels (47 to 1,600 grains per sample) of gahnite. A large geochemical anomaly measuring 15 km by 20 km was also identified and termed the Chalcopyrite Anomaly. Within this area are anomalous concentrations of chalcopyrite mineralization that are suggestive of several metallic deposit types.

In 2009, exploration work continued on the entire Chidliak claim block. Further assessment of the platinum group metals potential of this property is expected during the 2010 season in addition to the diamond exploration activities on the property. Full geochemical results from the 2009 season are pending.

+ DOME PROJECTS

Operator/Owner

Saulnier

Commodity

Platinum, Palladium, Lead, Zinc, Copper, Gold

NTS

69E/07, 69E/10, 69F/02, 69F/06, 69F/09, 69F/10, 69F/13-69F/15, 69G/02, 69G/03

Location

Ellef Ringnes Island, Amund Ringnes Island; 490 km north-northwest of Resolute Bay

Twelve permits were acquired to explore for platinum and palladium (+/- gold, lead, zinc and copper) in gabbroic rocks on Ellef Ringnes and Amund Ringnes islands in the High Arctic. Altered and magnetite-bearing gabbro has intruded into the basal evaporate layer of piercement domes, the main landforms in the area, within Sverdrup Basin sediments. Exploration work in 2007 was undertaken on the Malloch Dome, South Fiord Dome, Amund Ringnes Piercement Dome and on the Christopher Peninsula. This work involved collecting rock samples and conducting ground magnetic surveys. No work was conducted recently; the land tenure is being maintained.

Inactive Projects

Patrician Diamonds Ltd., the predecessor company to Diamond Exploration Inc., staked mineral claims for diamond exploration on the **Borden Peninsula** (NTS map sheets 48A, 48B; located 90 km southeast of Arctic Bay) in 2004. Patrician entered into an agreement at the time with Mountain Province Diamonds to acquire its database on the area. A brief prospecting and reconnaissance survey was initially implemented and recovered a 0.31 carat diamond of good quality from a small sample of kimberlite rubble collected from a stream bed in the Falls Area. Collective work in the area has identified eight kimberlites in outcrop and an additional five areas of unsourced kimberlite rubble in glacial drift. No activity has been reported on the property since 2006.

The **Brodeur** property is located 100 km northwest of Arctic Bay and comprises 85.37 ha covering 82 claims (NTS map sheets 48B/02 through 48B/04, 48C/04 through 48C/06, 48C/11, 48G/11 through 48G/14, 48H/08, 48H/09 and 58D/06). The property hosts three known diamond-bearing kimberlite bodies: Tuwawi, Nanuk and Kuuriaq. Diamondex Resources Inc. earned 100 per cent interest in the property, subject to an underlying property acquisition agreement with Kennecott Canada Exploration Inc. Due to poor market conditions, none of the planned field activities were carried out in 2009.

The Brodeur cluster of kimberlite pipes is located 12 km east of tidewater on the Brodeur Peninsula (north-westernmost

Baffin Island). The **Brodeur Diamond** project, formerly known as the **Jackson Inlet Project** and operated by Altanta Gold Inc., is centered 3.3 km south of Jackson River on NTS map sheets 58D/01 and 58D/08, 100 km west of Arctic Bay. The Freightrain and Cargo 1 kimberlites occur within the property. An independent technical review completed in 2006 identified 12 targets as priorities for follow-up drilling. No work has been reported since 2006; however, the land tenure has been maintained.

Inactive site at Brodeur property, Diamondex
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5050 Nunavut Limited

Bear Valley (32)
MIE (38)
UNAD (33)

Advanced Explorations Inc.

Roche Bay (72)
Tuktu (72)

Agnico-Eagle Mines Ltd.

Meadowbank (53)
Muskox (57)
North Thelon Project (52)
(Judge Sissons and Schultz Lake) (50)
Nutaq (59)
Parker Lake (57)

Anglo American Exploration (Canada) Ltd.

Southampton Island (59)

AngloGold Ashanti Holdings Plc

Bravo Lake (69)
Qimmiq (69)

Arctic Star Diamond Corp.

Siku (31)

AREVA Resources Canada Inc.

Kiggavik Project (Kiggavik, Sissons,
St. Tropez Claims) (49)

Aura Silver Resources Inc.

Greyhound Lake (42)

Aurora Energy Resources Inc.

Baker Lake Basin (48)

Baffinland Iron Mines Corporation

Mary River (71)

Bayswater Uranium Corporation

Canada Uranium Joint Venture
(Amer East, Amer West Itza Lake,
Permit 1, Permit 2) (49)

Bear Lake Gold Ltd.

Chicago (35)
Twin Peaks (35)

Benachee Resources Inc.

Jericho (30)

BHP Billiton

Chidliak (diamonds) (64)
Chidliak (Ni-Cu-PGM) (73)
Foxe Basin (66)
Mirage Bay (66)

BHP Billiton Diamonds Inc.

Qilalugaq (45)

Burnstone Ventures Inc.

Baffin Island (63)

CBR Gold Corp.

Committee Bay Gold Project (Anuri, Inuk,
Raven, Three Bluffs, West Plains) (35)
Borden Diamond (63)

Cameco Corporation

Aberdeen (46)
Fury-Hecla Basin (68)
Lac Rouviere (32)
Nueltin Lake (50)
Turqavik (46)

Canadian Sovereign Coal Corp.

Bache Peninsula (67)
Fosheim Peninsula (67)
Strathcona Fiord (67)

Canzinc Ltd. (Breakwater Resources Ltd.)

Nanisivik (62)

Comaplex Minerals Corp.

Meliadine East (55)
Meliadine West (56)

Commander Resources Ltd.

Bravo Lake (69)
Qimmiq (69)
Storm (62)

Corsa Capital Ltd.

SY (57)

Daewoo International Corp.

Kiggavik Project (Kiggavik, Sissons,
St. Tropez Claims) (49)

Diamonds North Resources Ltd.

Amaruk (27)
Diamonds North Permits (43)
Hepburn (base metals) (24)
Hepburn (diamonds) (30)
Northern Hepburn (33)
Sakari (31)
Siku (31)
Tunerq (39)
Ualliq (31)
Victoria Island (31)

Evolving Gold Corp.

Kiyuk (53)

Exploratus Ltd.

Napajut (57)

Forum Uranium Corp.

North Thelon
(Ukaliq, Kiggavik North, Kiggavik
South, Judge Sissons, Schultz Lake
and Tanqueray Option) (50)
Nutaq (59)

Hunter Exploration Group

Aviat (63)
Barrow (28)
Darby (29)
Grail (29)
Nanuq North (44)

Indicator Minerals Inc.

Barrow (28)
Borden Diamond (63)
Darby (29)
Dorset (66)
Grail (29)
Indigo (44)
Nanuq North (44)

International Samuel Exploration Corp.

Ualliq (31)

JCU Exploration (Canada) Co. Ltd.

Kiggavik (Kiggavik, Sissons, St. Tropez
Claims) (49)

Kaminak Gold Corporation

Needle Lake (37)
SY (57)

Kennecott Canada Exploration Inc.

Chesterfield Inlet (42)

Kivalliq Energy Corporation

Angilak (Lac Cinquante, Yathkyed [K]) (47)

MMG Resources Inc. (Minmetals)

Canoe Lake (base metals) (21)
Gondor (22)
High Lake (24)
High Lake Exploration (24)
Izok Lake (24)
Hood (22)
Lupin (36)
Ulu (base metals) (36)

Marcelle Hausaux

Kiyuk (53)

Mega Precious Metals Inc.

Blue Caribou (21)

Mega Uranium Ltd.

Thelon Basin (52)

Meliadine Resources Ltd.

Meliadine East (55)
Meliadine West (56)

MIE Metals Corp

Bear Valley (32)
MIE (38)
UNAD (33)

Newmont Mining Corporation

Chicago (35)
Twin Peaks (35)
Hope Bay Project
(Doris, Madrid, Boston) (36)

North Arrow Minerals Inc.

Anialik (base metals) (21)
Anialik (gold) (34)
Canoe Lake (base metals) (21)
Canoe Lake (gold) (34)
Hammer (29)
Torp Lake (38)

Northrock Resources Inc.

Bathurst Inlet (37)
Turner Lake (37)

Nunavut Tunngavik Inc.

Angilak (Lac Cinquante, Yathkyed) (47)

Pacific Ridge Exploration Ltd.

Baker Lake Basin (48)

Peregrine Diamonds Ltd.

Chidliak (diamonds) (64)
Chidliak (Ni-Cu-PGM) (73)
Flint (68)
Foxe Basin (66)
Kimmirut (68)
Mirage Bay (66)
Nanuq (44)
Nanuq North (44)
Qilaq (66)
Timmijuuq (66)

Pitchstone Exploration Ltd.

Dismal Lake (33)
Dismal Lakes West (Sandy Creek) (33)
Kendall River (33)
Mountain Lake (33)

Platinex Inc.

Muskox (38)

Roche Bay plc

Roche Bay (72)
Tuktu (72)

Sabina Gold & Silver Corp.

Back River Project
(George Lake, Goose Lake) (34)
Hackett River (22)
Wishbone (26)

Saulnier

Dome Projects (73)

Savant Explorations Ltd.

Yava (27)

Shawn Sumacz

Kiyuk (53)

Shear Minerals Ltd.

Chesterfield Inlet (42)
Churchill (gold) (53)
Churchill (diamonds) (43)
Churchill West (diamonds) (43)
Napajut (57)
Sakari (31)

Starfield Resources Inc.

Ferguson Lake (diamonds) (43)
Ferguson Lake (Ni-Cu-PGM) (58)

Stornoway Diamond Corporation

Aviat (63)
Chesterfield Inlet (42)
Churchill (gold) (53)
Churchill (diamonds) (43)
Churchill West (diamonds) (43)
Hammer (29)
Qilalugaq (45)

Strongbow Exploration Inc.

Canada Uranium Joint Venture
(Amer East, Amer West, Itza Lake,
Permit 1, Permit 2) (49)
Silvertip (26)

Tanqueray Resources Ltd.

North Thelon Project
(Tanqueray Option) (50)

Teck Resources Limited

Darby (29)
Polaris Mine (62)

TerraX Minerals Inc.

Needle Lake (37)

Titan Uranium Inc.

Thelon Basin (52)

Thanda Resources Ltd.

Ferguson Lake (diamonds) (43)

Triex Minerals Corporation

Dismal Lake (33)
Dismal Lakes West (Sandy Creek) (33)
Kendall River (33)
Mountain Lake (33)

True North Gems Inc.

Beluga (69)
Crooks Inlet (69)

UNOR Inc.

Asiak River (32)
Coppermine (32)
Fury-Hecla Basin (68)
Lac Rouviere (32)
UNAD (33)

Ur-Energy Inc.

Bugs (48)

Uranium North Resources Corp.

Amer Lake (46)
Fury-Hecla (68)
Northern Hepburn (33)
South Baker
(Hawk, JG, Kam, L1, SW Hawk) (51)
Yathkyed (51)

Vale Inco

Axel Heiberg (73)
Southampton (58)

Western Uranium Corporation

Ruby Hill (51)

Xstrata plc

Gondor (22)
Musk (25)

Mineral Exploration, Mining and Geoscience

