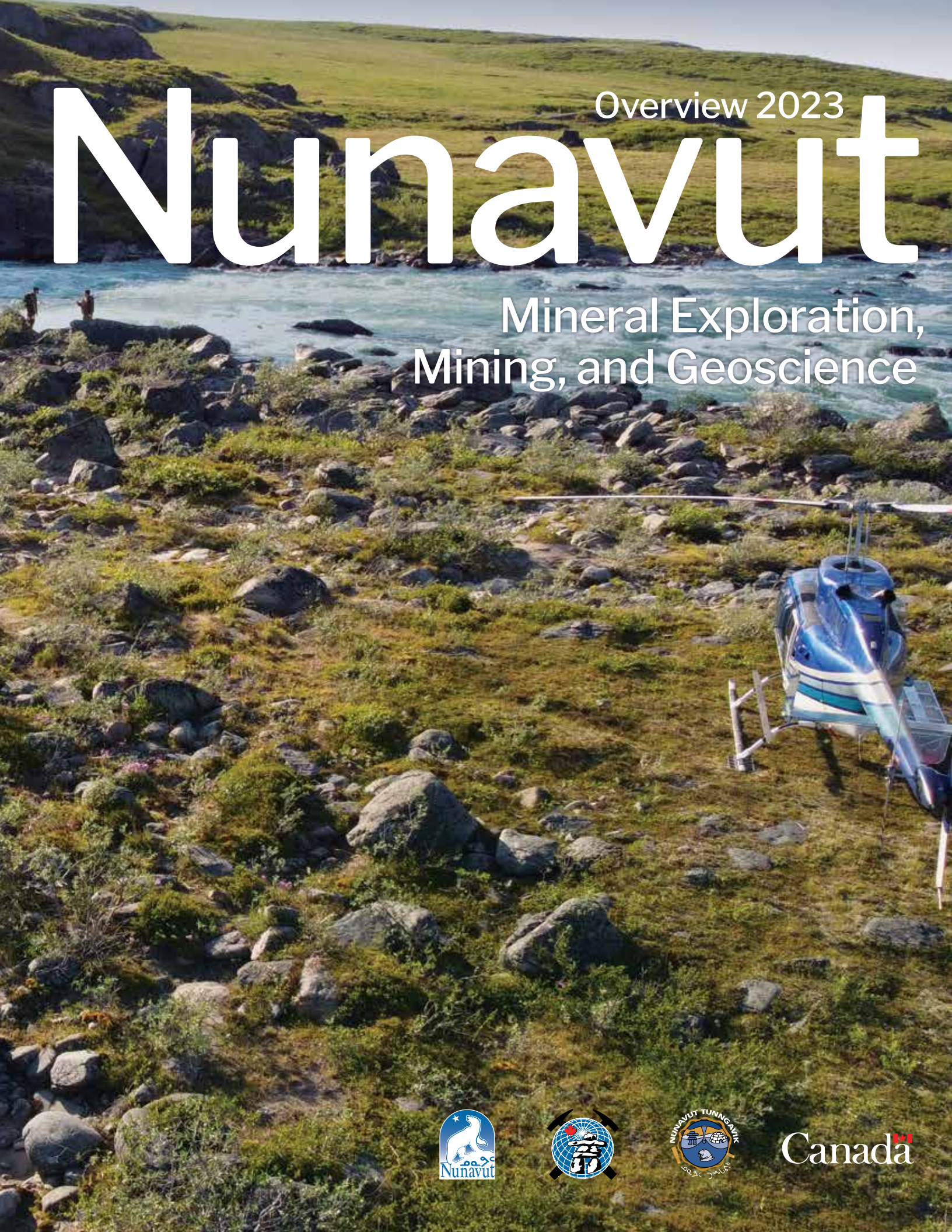


Overview 2023

Nunavut

Mineral Exploration, Mining, and Geoscience

Nunavut

NUNAVUT TUNNGAVIK

Canada

Contents

About *Nunavut: Mineral Exploration, Mining, and Geoscience Overview 2023*

This publication is a combined effort of four partners: Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC), Government of Nunavut (GN), Nunavut Tunngavik Incorporated (NTI), and Canada-Nunavut Geoscience Office (CNGO). The intent is to capture information on exploration and mining activities in 2023 and to make this information available to the public and industry stakeholders.

We thank the many contributors who submitted data and photos for this edition. Prospectors and exploration and mining companies are welcome to submit information on and photos of their programs for inclusion in next year's publication. Feedback and comments are always appreciated.

Note to Readers

This document has been prepared based on 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 the Canadian Securities Administrators (CSA) through SEDAR+ (https://www.sedarplus.ca/). Readers are directed to individual company websites for details on the reporting standards used. The authors make no guarantee 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.

Information regarding exploration and mining projects in this publication was researched prior to December 2023. Projects with active status had exploration work completed and reported during 2022 or 2023. Projects with inactive status had exploration work last completed on them in 2020 or 2021, but have active mineral tenure, and may have valid CIRNAC land use permits and/or Nunavut Water Board water licences.

The term National Instrument 43-101 (NI 43-101) refers to the standard for disclosure of scientific and technical information about mineral projects. This standard is supervised by the Canadian Securities Administrators (CSA), the regulatory body which oversees stock market and investment practices, and is intended to ensure that misleading, erroneous, or fraudulent information relating to mineral properties is not published and promoted to investors on the stock exchanges overseen by the CSA. Resource estimates reported by mineral exploration companies that are listed on Canadian stock exchanges must be NI 43-101 compliant.

Acknowledgements

This publication was written by the Mineral Resources Division at CIRNAC's Nunavut Regional Office: Matthew Senkow, Alia Bigio, Samuel de Beer, Kimberly Ferguson and Steve Sharpe, who provided cartography. Contributions were received from Danny Wright and colleagues at the CNGO, Jorgan Aitaok at NTI, and Paul Budkewitsch at the GN. Technical editing was provided by Linda Ham.

Cover photo: *Blue Star Gold exploring the Kitikmeot region of Nunavut near Hood River. Courtesy of Blue Star Gold Corp.*

For information regarding reproduction rights, please contact: communicationspublications@sac-isc.gc.ca

www.canada.ca/crown-indigenous-relations-northern-affairs
1-800-567-9604
TTY only 1-866-553-0554

Catalogue: R71-39E
ISSN 2292-7751

© His Majesty the King in Right of Canada, as represented by the Minister of Crown-Indigenous Relations and Northern Affairs Canada, 2023.

This publication is also available in French under the title: Aperçu 2023 : Nunavut Activités d'exploration minérale, d'exploitation minière, et de géoscience

Land Tenure in Nunavut

Spanning two million square kilometres (km²), Nunavut has 25 communities and an estimated population of 40,718. Inuit represent 84 per cent of the residents, creating the foundation of the territory's culture and values. With the exception of Baker Lake, communities are located on coasts, where hunting and fishing traditionally sustained Inuit. There is no road access to Nunavut, nor are there roads connecting communities within the territory. Access is mainly by air with ships delivering supplies during the open water season.

As a modern day treaty, the *Nunavut Agreement* provides certainty and clarity of rights to ownership and use of lands and resources within Nunavut. Under the Agreement, Inuit have fee simple title to 356,000 km² of land, making it the largest Indigenous land settlement in Canadian history. There are 944 parcels of Inuit Owned Land (IOL) where Inuit hold surface title only. The Crown retains the mineral rights to these lands. Inuit also hold fee simple title including mineral rights to 150 parcels of IOL, which totals 38,000 km² and represent approximately two per cent of the territory. Surface title to all IOL is held in each of the three regions (Kitikmeot, Kivalliq, and Qikiqtani) by the respective Regional Inuit Association (RIA) while title to subsurface IOL is held and administered by Nunavut Tunngavik Incorporated (NTI). Exploration agreements and mineral production leases are negotiated by NTI on land where it owns the subsurface rights, while access permission and land use licences are granted by RIAs on all IOL.

The Government of Canada administers sub-surface rights for the remaining 98 per cent of Nunavut. Mineral claims and mining leases are issued pursuant to the Nunavut Mining Regulations by Crown-Indigenous Relations and Northern Affairs Canada's (CIRNAC) Nunavut Regional Office. Surface rights for Crown land are administered according to the *Territorial Lands Act* and its regulations.

For more information on the location of IOL and Crown land in the territory, refer to the Nunavut Mineral Exploration, Mining, and Geoscience Projects 2023 Map. For details on mineral tenure, visit the Nunavut Map Viewer at https://services.aadnc-aandc.gc.ca/nms2-scn/gv/index.html. The table on page 4 displays the number of prospecting permits, mineral claims,

Preserved wave ripple marks in a Paleoproterozoic-age quartz arenite sandstone on the Rankin Inlet shoreline. Courtesy of CNGO.

and mineral leases held in good standing as of November 2023 and the accompanying figure illustrates the location and extent of this mineral tenure.

The Nunavut Planning Commission (NPC) is responsible for land use planning in Nunavut and is the entry point to the regulatory system. There are two approved land use plans covering portions of Nunavut: the Keewatin Regional Land Use Plan and the North Baffin Region Land Use Plan. NPC is developing a territory-wide plan to guide and direct resource use and development in Nunavut. The Nunavut Land Use Plan is a legislative requirement under the *Nunavut Agreement* and a key piece of Nunavut's regulatory system as it's meant to function under the *Nunavut Planning and Project Assessment Act*. Once in place, it will increase investor confidence and streamline Nunavut's regulatory system. The Recommended Nunavut Land Use Plan was submitted to the approving parties, the Government of Canada, the Government of Nunavut, and Nunavut Tunngavik Incorporated, in June 2023 for consideration for approval. Should the plan be approved, it will replace both existing regional plans.

Mineral Tenure in Good Standing in Nunavut

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Prospecting Permits	110	132	124	78	147	137	129	112	90	24
Claims	4,278	4,279	3,335	3,699	2,855	2,588	2,454	2,373	2,508	3,054
Leases	492	461	477	487	470	519	519	568	565	566

Source: CIRNAC

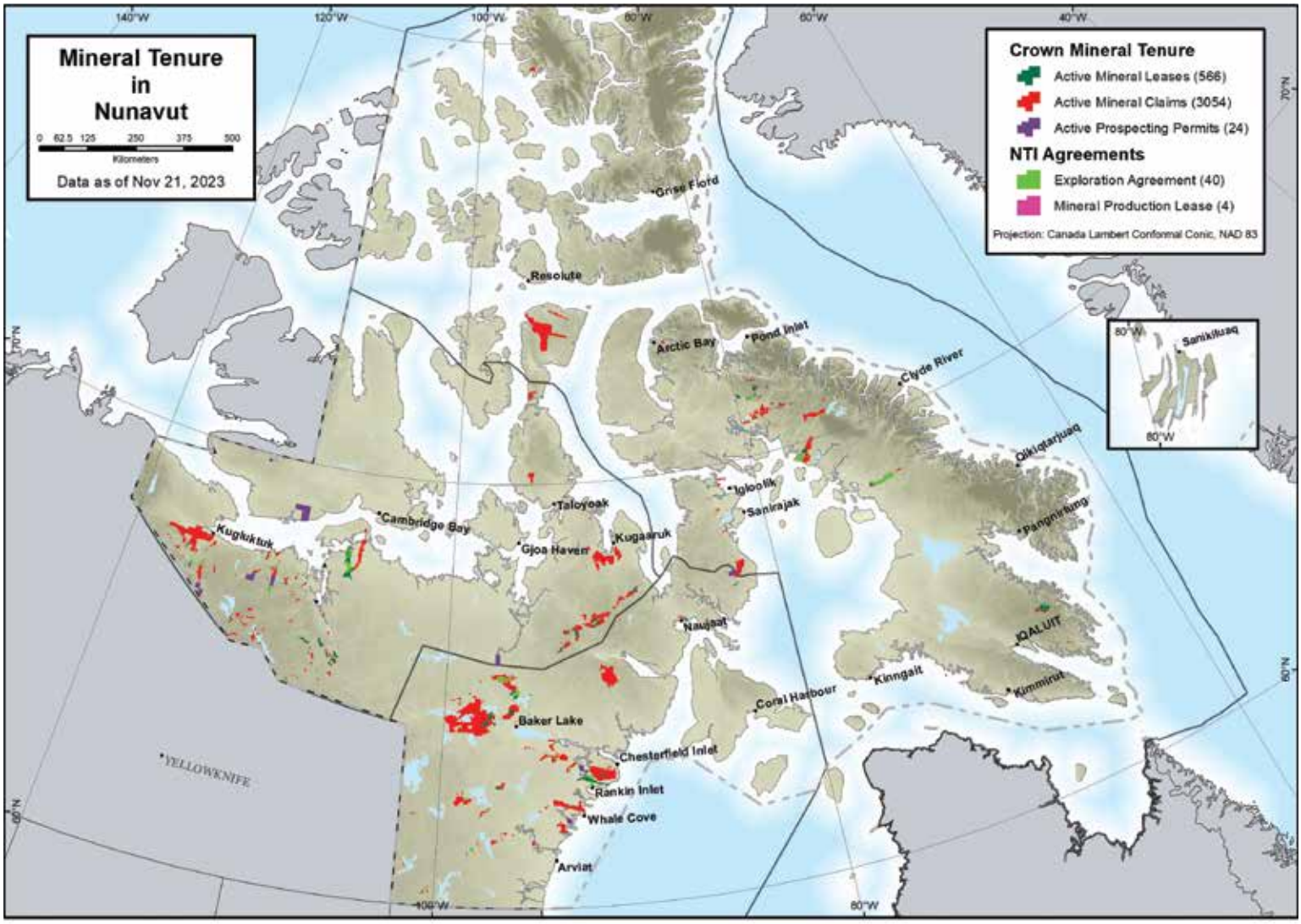
Exploration and Deposit Appraisal Expenditures in Nunavut

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023*
Juniors (Millions $)	73.6	42.5	35.6	61.0	60.1	20.0	31.4	44.0	111.2	37.5
Seniors (Millions $)	84.4	172.5	168.9	116.0	95.5	96.4	39.3	75.2	144.2	123.8
Total	**158.0**	**215.0**	**204.5**	**177.0**	**155.6**	**116.4**	**70.7**	**119.2**	**255.4**	**161.3**

Source: Natural Resources Canada

**Revised spending intentions current to September 2023*

Geologists at a surface exploration drill at Agnico Eagle's Meliadine mine. Courtesy of Agnico Eagle Mines Ltd.


Mineral Tenure in Nunavut
0 62.5 125 250 375 500
Kilometers
Data as of Nov 21, 2023
Crown Mineral Tenure
Active Mineral Leases (566)
Active Mineral Claims (3054)
Active Prospecting Permits (24)
NTI Agreements
Exploration Agreement (40)
Mineral Production Lease (4)
Projection: Canada Lambert Conformal Conic, NAD 83
140°W
120°W
100°W
80°W
60°W
40°W
70°N
60°N
Grise Fiord
Resolute
Arctic Bay
Pond Inlet
Clyde River
Sanikiluaq
Qikiqtarjuaq
Igloolik
Sanirajak
Pangnirtung
Taloyoak
Cambridge Bay
Kugluktuk
Gjoa Haven
Kugaaruk
Naujaat
IQALUIT
Kinngait
Kimmirut
Coral Harbour
Baker Lake
Chesterfield Inlet
Rankin Inlet
Whale Cove
Arviat
YELLOWKNIFE

Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC)

Representing one-fifth of Canada's land mass, Nunavut has tremendous resource potential and is a place of significant opportunity for Inuit, Northerners, and all Canadians. Statistics released by Natural Resources Canada indicate that in 2023 mineral expenditure and deposit appraisal spending decreased by 37% from the previous year. This drop can be largely attributed to decreased activity from junior explorers, and decreased exploration for precious metals. By comparison, interest in critical mineral exploration has remained strong along with significant claim acquisitions that may translate into further exploration in 2024.

CIRNAC's mandate related to mineral resource development in Nunavut includes the implementation of the *Nunavut Agreement*, the administration of surface and subsurface rights on Crown land, and the stewardship of land and water resources.

Implementation of the *Nunavut Agreement*

Signed in 1993, the *Nunavut Agreement* guarantees the right of Inuit to participate in decision-making concerning the use, management, and conservation of land, water, and resources. To support this, the *Nunavut Agreement* created five institutions of public government:

- Nunavut Planning Commission (NPC) prepares and assesses compliance with land use plans;
- Nunavut Impact Review Board (NIRB) conducts environmental impact assessments;
- Nunavut Water Board (NWB) manages fresh water resources;
- Nunavut Surface Rights Tribunal manages disputes related to surface rights; and
- Nunavut Wildlife Management Board manages wildlife.

Above: Panoramic view of the sunset at Whale Cove Gold's Pistol Bay camp. Courtesy of Whale Cove Gold Corp.

Administration of Surface and Subsurface Rights

Nunavut Devolution of Lands and Resources Management

Nunavut is the last jurisdiction in Canada where the Government of Canada, rather than the province or territory, administers federal Crown land. On August 15, 2019, the Minister of Crown-Indigenous Relations and Northern Affairs Canada, the Premier of Nunavut, and the President of Nunavut Tunngavik Incorporated (the Parties) signed an Agreement-in-Principle for the devolution of land, rights in respect of waters, and natural resource management in Nunavut. Since 2019, the Parties have been negotiating toward a final Devolution Agreement in 2023, which will place decision-making power over lands and resources into the hands of Nunavut residents, while ensuring that economic and other benefits of resource development in the region are shared with the people of Nunavut. Devolution in Nunavut is an essential step in the political and economic development of the territory and will fulfill public comments by the Parties. Once the Final Devolution Agreement is in place, collaborative work will continue towards the transfer date, targeted for April 1, 2027. Until such time, the Government of Canada continues to lead the administration of lands and resources in the territory (as described below) as per respective departmental authorities.

Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC)'s Nunavut Regional Office

The Mining Recorder's Office administers subsurface rights on Crown land in the territory. As of November 2023, there are 24 active prospecting permits, 3,054 mineral claims, and 566 mineral leases, covering a combined area of 4.39 million hectares. There was a notable increase in claim acquisition in 2023, with 657 claims covering 908,509 hectares having been acquired as of November; this compares with 87 claims covering 88,569 hectares for the full 2022 year.

The Mineral Resources Division reviews annual work reports that, under the Nunavut Mining Regulations, mineral rights-holders must file to show that they have met minimum annual

work requirements. The reports are confidential for a period of three years, after which they are released to the public through NunavutGeoscience.ca (https://nunavutgeoscience.ca/en/). Technical issues with the Nunavut Geoscience website have prevented the upload of reports in 2023, but 35 reports documenting $25.93 million worth of work have been readied for release when that situation is resolved, and are available on request. No further reports will be available for release until mid-2025, owing to an 18 month period from November, 2020 through April, 2022 during which no reports were received, relating to Nunavut Map Selection implementation and COVID-19 restrictions.

Several divisions of CIRNAC's Nunavut Regional Office are involved in the stewardship of land and water resources. This includes participating in the regulatory process, the issuance of surface rights, enforcing authorizations and licences issued by Institutions of Public Government or CIRNAC, enabling water quality and quantity monitoring that informs decision-making, and co-development of water management strategies.

The Impact Assessment Division and the Regional Socio-economic Analyst participate in the Nunavut Impact Review Board (NIRB)-led impact assessment processes that are administered pursuant to Article 12 of the *Nunavut Agreement* and Part 3 or 4 of the *Nunavut Planning and Project Assessment Act*. In 2023, the Impact Assessment Division and the Regional Socio-economic Analyst provided environmental eco-systemic and socio-economic expertise and technical review comments to the NIRB, in the form of written intervention and participation in technical meetings and public hearings related to three major project proposals and 55 smaller proposals. Five annual monitoring reports, submitted by proponents of major projects, were also reviewed to ensure compliance with terms and conditions of existing NIRB project certificates and project monitoring programs.

The Water Resources Division participates in the co-management of fresh water resources across Nunavut through support and engagement on: (a) The protection and responsible use of freshwater resources in Nunavut; (b) Water allocation and waste management under the Nunavut Water Board's water licence processes; (c) Water quality and quantity monitoring; (d) Water information management and outreach.

The Water Resources Division provides technical advice and comment to the Nunavut Water Board processes on water licence applications, amendments, renewals, cancellations, management plans, and annual report reviews for major mining projects, municipal and other Type A and B Water licenses.

The Water Resources Division also works in partnership with Federal and local partners to support freshwater management across Nunavut including;

- Environment and Climate Change Canada to monitor water quantity through hydrometric stations across Nunavut;
- The Kivalliq Inuit Association to monitor and review and participate in water quality monitoring initiatives around mining and exploration activities in the Kivalliq Region;
- The City of Iqaluit, through water sampling and analysis within the city boundaries; and,
- Collaborative initiatives between CIRNAC's Water Resources Division, NGMP, the Kivalliq Inuit Association, and the Nunavut Water Board for the study of cumulative effects water monitoring for the Baker Lake Basin through a program termed Inuu'tuti.

The Water Resources Division is also supporting the co-development of a Nunavut Water Management Strategy through collaboration with the Nunavut Water Board, Nunavut Tunngavik Incorporated, Government of Nunavut, Nunavut Planning Commission and Nunavummiut.

The Field Operations Division ensures that project proponents of all types are in compliance with the *Nunavut Waters and Nunavut Surface Rights Tribunal Act*, the *Territorial Lands Act*, the *Nunavut Planning and Project Assessment Act*, aspects of the *Arctic Waters Pollution Prevention Act*, and related regulations. Field Operations staff also conduct inspections of sites holding land use permits, leases, and water licences to ensure compliance with the terms and conditions contained in these authorizations. The division also works closely with the Contaminated Sites Directorate to provide recommendations on closures of those sites. Field Operations inspectors respond to any and all spills reported in the territory and ensure that remediation is undertaken by licensees and proponents.

The Land Administration division is responsible for the issuance and management of surface rights on Crown land under the authority of the *Territorial Lands Act* and its Regulations. They also support the licensing and environmental assessment processes by incorporating terms and conditions of project certificates screening decisions issued by the Nunavut Impact Review Board into the authorizations they issue.

In addition to the monitoring noted above, CIRNAC hosts the Nunavut General Monitoring Plan (NGMP) Secretariat. NGMP is mandated under Article 12.7.6 of the *Nunavut Agreement* and the *Nunavut Project Planning Assessment Act* to monitor socio-economic and eco-systemic conditions within the Nunavut Settlement Area and to periodically report on findings. NGMP funds research initiatives that either complement or build on existing knowledge and priorities, through targeted investments into research initiatives submitted via a periodic call for proposals. The purpose of this monitoring is to increase public access to important eco-systemic and socio-economic information and to inform decision-making. The NGMP is a partnership overseen by a Steering Committee comprised of CIRNAC (on behalf of the Government of Canada), the Nunavut Planning Commission, the Government of Nunavut, and Nunavut Tunngavik Incorporated.

CONTACTS

Nunavut Regional Office
969 Sivumugiaq St.
Iqaluit, NU
X0A 3H0
Telephone: 867 975 4500
Web: https://www.rcaanc-cirnac.gc.ca/eng/1100100027774/1613925314659

Lands Directorate
Erik Allain, Director
Telephone: 867 975 4295
E-mail: Erik.Allain@rcaanc-cirnac.gc.ca

Land Administration
E-mail: landsmining@rcaanc-cirnac.gc.ca

Tracey McCaie, Manager
Telephone: 867 975 4280
E-mail: Tracey.McCaie@rcaanc-cirnac.gc.ca

Mineral Resources
E-mail: minerauxnu-mineralsnu@rcaanc-cirnac.gc.ca

Matthew Senkow, Manager
Telephone: 867 975 4290
E-mail: Matthew.Senkow@rcaanc-cirnac.gc.ca

Adamie Sakeeta, Senior Mining Recorder
Telephone: 867 975 4281
E-mail: Adamie.Sakeeta@rcaanc-cirnac.gc.ca

Alia Bigio, District Geologist
Telephone: 867 975 4292
E-mail: Alia.Bigio@rcaanc-cirnac.gc.ca

Samuel de Beer, District Geologist
Telephone : 867 975 4569
E-mail: Samuel.deBeer@rcaanc-cirnac.gc.ca

Geoscience Archive
Telephone: 867 975 4279
E-mail: minerauxnu-mineralsnu@rcaanc-cirnac.gc.ca

Field Operations (Inspections, Compliance and Enforcement)
Jeremy Fraser, Manager
Telephone: 867 975 4553
E-mail: Jeremy.Fraser@rcaanc-cirnac.gc.ca

Resource Management Directorate
Spencer Dewar, Director
Telephone: 867 975 4657
E-mail: Spencer.Dewar@rcaanc-cirnac.gc.ca

Water Resources
Andrew Keim, Manager
Telephone: 867 975 4550
E-mail: Andrew.Keim@rcaanc-cirnac.gc.ca

Impact Assessment
Contact Spencer Dewar (above)

Nunavut General Monitoring Plan
Marcus Bermann, Manager
Telephone: 867 975 4731
E-mail: Marcus.Bermann@rcaanc-cirnac.gc.ca
www.ngmp.ca

Government of Nunavut

The Government of Nunavut (GN) is committed to supporting a strong and diversified minerals industry based on best practices of responsible development and partnerships between Nunavummiut and industry. Mining projects contribute significantly to the economy of Nunavut, provide good, stable employment opportunities for Inuit, and enable other businesses to benefit, all of which are important for ensuring long-term prosperity for Nunavummiut.

The Meadowbank and Meliadine gold mines, and the Mary River iron ore mine are year-round operations. Mineral production in the Kivalliq and Qikiqtani regions are enabling Nunavummiut from across the territory to gain employment, learn new trades and skills, and develop careers. The GN is committed to support increased participation of Nunavummiut as new projects emerge, such as B2Gold Nunavut's Back River gold project in the Kitikmeot.

The GN Department of Economic Development and Transportation (EDT) provides guidance and economic support to prospectors, the junior exploration sector, and the mining industry. Programs through the Minerals and Petroleum Resources (MPR) Division prioritises good resource management, prospector skills development, mine related training, geoscience information, building community education and awareness, as well as investor confidence, and socio-economic monitoring. The MPR Division has its headquarters in Iqaluit, with offices in Arviat and Cambridge Bay. EDT also has regional offices in Kugluktuk, Rankin Inlet, Pond Inlet, and Pangnirtung.

Department Strategies

Parnautit: A foundation for the future (2007) and Ingirrasiliqta: Let's Get Moving (2009), are two key strategies outlining the priorities for the GN in support of natural resource development that contribute to improving the quality of life for Nunavummiut.

The Department has commenced discussion and engagement with the private sector and Nunavummiut on a revised Mineral Exploration and Mining Strategy for the territory. It is intended to succeed *Parnautit: A foundation for the future* released in 2007. The principles and values in the mineral exploration and mining strategy continue to remain important, however we anticipate that revisions will bring into focus priorities which have risen to greater prominence over the past decade. Building upon the shared priorities of mining-related industry associations, community leaders, Nunavut Tunngavik Incorporated, and the Government of Canada, the GN's new Strategy will aim to foster conditions that create an attractive investment environment for the mineral sector to work in Nunavut.

A consultation guide is in development and will be released through the department's website. Inquiries and input are welcome at any time and may be communicated through email at minerals@gov.nu.ca.

Ingirrasiliqta, Nunavut's Transportation Strategy, guides projects that focus on developing new infrastructure across the north. EDT is advancing several important projects covering air, land, and marine transportation modes. The Iqaluit deep water port project is operational and wrapped up its first full year of operation in November 2023. The new facility has reduced cargo offloading times by more than 50% and allows for safer and more efficient offloading of fuel. Besides a deep water wharf, the facility also incorporates a deep water ramp and a greatly expanded marshalling and laydown area. Funding has been secured and design is underway for a deep water port at Qikiqtarjuaq.

Above: Aerial view of the new deep sea port and marine laydown area in Iqaluit. Courtesy of Government of Nunavut.

Construction is underway for air terminal building replacements in Kugluktuk, Naujaat, Chesterfield Inlet, Whale Cove, Kimmirut, and Rankin Inlet.

The department is undertaking a major study on route selection, engineering, and environmental assessment for an intercommunity road network in the Kivalliq region, connecting Arviat, Whale Cove, Rankin Inlet, Chesterfield Inlet and Baker Lake. Community and stakeholder consultations are scheduled for January/February 2024, with most other project components already complete.

Impact Assessment and Monitoring

EDT is the lead department for the GN on the assessment and management of socio-economic impacts and benefits associated with mineral development. EDT participates in environmental assessment processes for the GN through the Environmental Assessment Review Team (EART). Since the inception of the EART in 2012, the GN has participated in all NIRB processes for the review of major development projects. In addition to responsibilities for impact assessment, EDT assumes a leading role in ongoing socio-economic monitoring of approved projects with the support of three regional socio-economic monitoring committees in Nunavut. The Qikiqtani committee met in May 2023. The Kivalliq committee is planning to meet in November 2023 and the Kitikmeot committee meeting is planned for March 2024 (at time of writing).

Each regional committee monitors the socio-economic impacts and benefits associated with major resource development projects and determine if they are performing according to forecasts in the environmental impact statement for the project. In addition to the impact assessment process facilitated by the NIRB, the monitoring committees provide a venue for stakeholders to take part in meaningful discussions surrounding resource development.

Land Use Planning

In 2023, the Nunavut Planning Commission released its Recommended Nunavut Land Use Plan and its Options and Recommendations document for review and consideration by the three signatories: Nunavut Tunngavik Inc. (NTI), the responsible Federal Minister (Northern Affairs), and the responsible Territorial Minister (Environment). Under the *Nunavut Planning and Project Assessment Act*, s.54(1), the signatories must "as soon as practicable", "accept it jointly or reject it with written reasons and return it to the Commission." The GN departments are currently reviewing of the plan through the GN's internal Land Use Planning Working Group coordinated by the Department of Environment. In addition, all Nunavut regulatory review system decisions go through a separate, well-established internal review structure, which informs government decisions. The GN has been meeting regularly with the other signatories (Government of Canada and NTI) and this engagement is ongoing.

Discover, Invest, Grow Program

In recent years, EDT created two exploration support programs. Discover, Invest, Grow (DIG) is a contribution program to assist advancing mineral exploration projects with the high costs associated with diamond drilling or bulk sampling in Nunavut. In the second year of the program, five exploration companies were successful with project applications for a total of $1.1 million being awarded. A maximum $250,000 per year, per project may be applied for, with a maximum of $500,000 over the life of the project. Up to $1.9 million in total combined funding is available annually from the DIG and Community Engagement Support programs.

For further information about the program or to apply for 2024-2025, please visit the program website: https://gov.nu.ca/en/dig or email to minerals@gov.nu.ca.

Field participants on the Introduction to Prospecting Course, Resolute Bay, August 2023. Courtesy of the Government of Nunavut.

Community Engagement Support Program

The Community Engagement Support Program (CESP) is a contribution program designed to support exploration and junior mining companies with the early phases of project development to complete community engagement and consultation work. Effective stakeholder engagement is key for earning community support and buy-in can lead to increased valuations for junior mining and exploration companies, making the territory a more economically viable and attractive jurisdiction in which to operate.

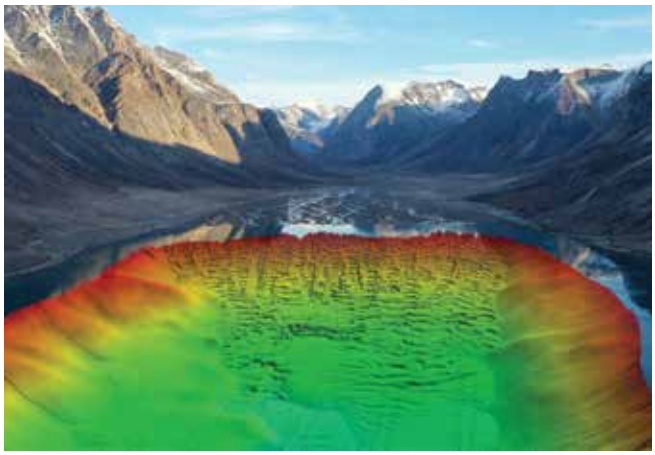
Under the program, companies or community organizations are eligible to apply for up to $100,000 in funding annually to support engagement activities. Eligible expenses under the program include costs associated with direct engagement activities, such as travel, document preparation, translation services, facility rentals, as well as salaries to hire a project liaison in the local community. To qualify for funding, the applicant must provide a draft Community Engagement Plan that considers the community or communities closest to the project location, identifies potential concerns and benefits, and endeavours to meaningfully engage communities in

project planning, monitoring, and reporting. Additionally, the applicant must have a signed authorization from a community organization indicating that the organization has reviewed and approved of the plan.

For application materials and further information, please visit the program website: https://gov.nu.ca/en/industry-business-and-entrepreneurship/community-engagement-support-program.

Prospector Development

Since 1999, EDT geologists have offered evening classes over one week as an introduction to prospecting to interested residents across Nunavut. Over the past 23 years, more than 1,300 participants have completed the Introduction to Prospecting Course (IPC). In all, the course has been delivered over 130 times, reaching every community throughout the territory. Only one course was given this year in Resolute Bay due to reduced department staff and logistical issues with travel and scheduling. IPC outlines basic principles of geology, how to identify significant ore minerals, and some practical field skills to encourage an interest in prospecting and to apply Inuit Qaujimajatuangit of the land to mineral exploration.



Perspective seafloor image of bathymetry revealed from RV Nuliajuk survey data in Pangnirtung Fjord. Courtesy of Natural Resources Canada, Public Safety Geoscience Program.

Nunavut Prospectors Program

The Nunavut Prospectors Program (NPP) provides support to individuals to encourage exploration and prospecting for minerals in Nunavut. Applicants must be a resident of Nunavut, hold a valid Prospector's License, and have demonstrated prospecting experience or completion of the IPC. Successful applicants qualify for a financial contribution of up to $8,000 (per recipient, per year) towards expenses for prospecting activities on the land. Many participants who successfully completed the IPC have received funding from the NPP for their own projects Contributions are awarded based on a sound project proposal. In 2023, one project was awarded funding through the program.

Education and Training

EDT works with various stakeholders, such as the Department of Education, Nunavut Arctic College, Government of Canada, regional Inuit associations and industry partners to coordinate mining-related education and training programs and provides support to partners in community engagement activities. The Nunavut Mine Training Fund provides our training partners with leverage funding to develop, coordinate and execute mining training programs for Nunavummiut that will give them specific skills needed by mining companies and leading to employment opportunities. EDT contributes up to $200,000 per year and an external panel, the Nunavut Mine Training Roundtable, review applications and recommends funding.

The Science Education Enabling Program (SEEP) provides grants and awards to Nunavut students interested in science, technology, engineering, and mathematics. The two components of SEEP are the Math and Science Awards Fund and the Independent Science Programs for Youth. EDT recognizes that a solid foundation in math and science helps Nunavummiut to pursue further education in science and technology related fields.

Nunavut Geoscience

The GN remains strongly committed to improving public geoscience as a means of sustaining exploration investment. EDT, together with partners at Natural Resources Canada (NRCan) and Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC) provide core funding and additional program support for geological work carried out by the Canada-Nunavut Geoscience Office (CNGO).

Uranium Policy Statement

In 2012, the GN released a uranium policy statement (https://gov.nu.ca/sites/default/files/policies-legislations/2023-03/Government_of_Nunavut_Uranium_Policy_Statement.pdf) to highlight the importance of safe and responsible development of uranium mineral resources. Uranium mined in Nunavut shall be used only for peaceful and environmentally responsible purposes and be subject to international agreements and national law; however, any proposed mine must also have the support of Nunavummiut, especially in communities close to development projects. The GN supports the mandate and responsibilities of the Canadian Nuclear Safety Commission and recognizes the jurisdiction and important roles of the Nunavut Impact Review Board and the Nunavut Water Board as established by the Nunavut Land Claims Agreement in the regulation of uranium exploration and mining.

Petroleum Resources

The GN regards oil and gas development as important potential sources of revenue for the territory. In addition to employment and training opportunities, economic benefits from oil and gas could generate significant investments in health care services,

housing, education, and infrastructure for Nunavut. Nunavut's petroleum potential is believed to be significant. Estimates of undiscovered and discovered conventional resources from the Geological Survey of Canada range from 18 to 267 billion barrels of oil and 180 to 1,228 trillion cubic feet of gas. Extensive exploration activity is required to assess more accurately Nunavut's oil and gas potential.

In 2016, the federal government introduced a moratorium on offshore oil and gas leasing in Canada's Arctic waters. In 2021, the GN requested the Government of Canada to lift the moratorium to retain a certain level of decision-making authority, and to allow Nunavut to evaluate options for cleaner sources such as natural gas and hydrogen. In February 2023, the Federal Government of Canada made the decision to maintain the offshore moratorium pending the next 5-year climate and marine science-based assessment. The GN is currently working with NTI and CIRNAC on the ongoing assessment.

RV Nuliajuk

The RV (Research Vessel) Nuliajuk is a Canadian-built, state-of-the-art, research vessel. Completed in 2011, it is owned and operated by the Government of Nunavut. The vessel conducts fisheries, oceanographic, hydrographic, environmental, and other scientific research in the Arctic which benefits communities with their involvement and through creating future economic opportunities. For researchers, it serves as a built-for-purpose platform for Arctic research. The vessel boasts a wide variety of scientific equipment, an experienced crew, and many safety features.

This year, in partnership with the Geological Survey of Canada (Atlantic Division, part of NRCan), the vessel supported seabed mapping in the Qikiqtani region of Nunavut. The Nuliajuk carried out detailed mapping in the fjords of Pangnirtung and Grise Fiord (Ausuittuq). The main goal of this work is to assess the presence and distribution of coastal and marine geological hazards in Nunavut. Geological hazards include landslides, both on land and underwater, which can have consequences on coastal and marine infrastructure (ports, undersea cables). Highlights included the identification of up to 200 small underwater landslides in Pangnirtung Fjord. Some larger slides were also discovered in both survey areas which could be more than 2,000 years old.

For more information about the GN's research vessel please visit: https://gov.nu.ca/en/environment-and-wildlife/nuliajuk-research-vessel.

CONTACTS

Minerals and Petroleum Resources Division of EDT
https://gov.nu.ca/en/department-economic-development-and-transportation

Headquarters (Iqaluit)
E-mail: minerals@gov.nu.ca

Annie Cyr-Parent, Director
Telephone: 867 975 7827
E-mail: acyr-parent@gov.nu.ca

Paul Budkewitsch, Manager, Mineral Resources
Telephone: 867 975 7809
E-mail: pbudkewitsch@gov.nu.ca

Patricia Fuentes, Regional Socio-Economic Monitoring Coordinator
Telephone: 867 975 7833
E-mail: pfuentes2@gov.nu.ca

Maryam Abdullahi, Sr. Advisor, Petroleum
Telephone: 867 975 7834
E-mail: mabdullahi@gov.nu.ca

Jonas Azonaha, Project Manager, Impact Assessment
Telephone: 867 975 7839
E-mail: jazonaha2@gov.nu.ca

Arviat Office
E-mail: minerals@gov.nu.ca

Anne Renee Napayok, Manager, Community Mining Engagement
Telephone: 867 857 3164
E-mail: arangalik@gov.nu.ca

Jolene Karetak, Community Mining Advisor
Telephone: 867 857 3166
E-mail: jkaretak@gov.nu.ca

Nuatii Nukapiak, Project Manager, Industry Agreements
Telephone: 867 857 3195
E-mail: akablutsiak1@gov.nu.ca

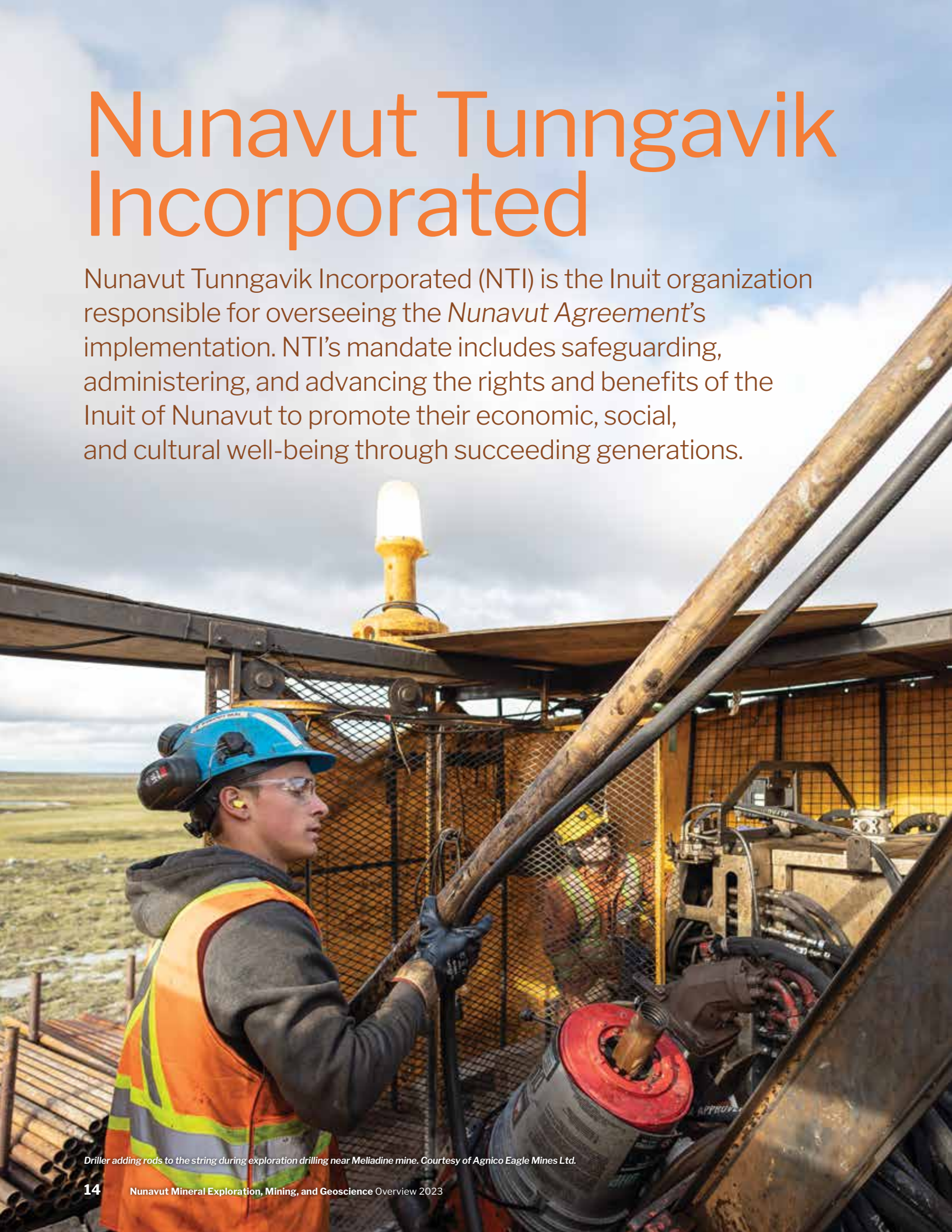
Resident Geologist, position vacant
(Mike Beauregard, retired)

Cambridge Bay Office
E-mail: minerals@gov.nu.ca

Resident Geologist, position vacant
(Hugh MacIsaac, retired)

Nunavut Tunngavik Incorporated

Nunavut Tunngavik Incorporated (NTI) is the Inuit organization responsible for overseeing the *Nunavut Agreement*'s implementation. 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.



Driller adding rods to the string during exploration drilling near Meliadine mine. Courtesy of Agnico Eagle Mines Ltd.

As a modern-day treaty, the *Nunavut Agreement* provides certainty and clarity of rights to ownership and use of lands and resources within Nunavut. It gave Inuit fee simple title to 356,528 km² of land, making the *Nunavut Agreement* the largest Indigenous land settlement in Canadian history. There are 950 parcels of Inuit Owned Land (IOL) where Inuit hold surface title only. The Crown retains the mineral rights to these lands. Inuit also hold fee simple title, including mineral rights to 152 parcels of IOL, which totals 37,646 km² and represents approximately two percent of the Nunavut Territory.

NTI's Department of Lands and Resources, in cooperation with the three Regional Inuit Associations (RIAs) – the **Kitikmeot**, **Kivalliq**, and **Qikiqtani**, who are the surface owners of the IOL parcels – is responsible for the implementation of Inuit responsibilities related to the management of IOL, minerals, oil and gas.

NTI holds the title to the minerals in, on, or under IOL. The Land Title (surface) and Mineral Title (sub-surface) are severed and co-managed between NTI and the three Regional Inuit Associations in Nunavut. Each RIA holds the land title to all IOL in their respective region.

For these minerals, NTI issues mineral rights through a negotiated Mineral Exploration Agreement (MEA) that provides a holder with the right, if it meets the terms of the MEA, to receive a mineral production lease that allows for mining a discovered resource.

The respective Regional Inuit Association is the holder of the Inuit Owned Lands including all specified substances and excluding the mines and minerals that may be found to exist within, upon or under such lands, together with the right to work the same (as per *Nunavut Agreement*, 2018). RIAs issue land use permits, licenses, rights of way, and leases (including quarry permits and concessions). They collect the appropriate application fees and set or negotiate land rental and Quarry royalty.

NTI only enters into Mineral Exploration Agreements (MEAs) with companies, where the IOL have been opened to exploration and mining by the appropriate RIA in writing, after consultation with their Community Lands and Resources Committee (CLARC) or Community Beneficiary Committee (CBC). NTI also obtains approval or the RIA's consent before entering into an MEA with a company.

NTI cannot enter a Land Access Agreement that grants surface (land use) access. For land use access to IOL, a land-use right must be obtained from the respective RIA.

NTI uses a map staking process for the acquisition of mineral rights. Interested parties submit to NTI an expression of interest, including a map of the proposed exploration area. Expressions of Interest and subsequent correspondence and negotiation are kept confidential by NTI and the applicable RIA until required to be made public, typically upon signing an MEA between NTI and the applicant.

Under the standard terms, successful applicants—upon executing the MEA and submitting the first year's annual fees—will be granted the exclusive right to explore for minerals throughout the exploration area. However, to gain access to the land, the applicant must first obtain a surface right, such as an RIA land-use license.

Holders of MEAs are required to submit annual exploration work reports to NTI that remain confidential for a period of up to three years.

Although the process described above normally applies, NTI, as a private organization, has complete discretion as to whether it will issue an MEA (or other agreement), what the process will be to obtain an agreement, as well as the terms of the agreement. The terms may include, for example, NTI holding a direct interest option in a project or additional benefits such as shares or milestone payments.

Nunavut Senator Dennis Patterson, addressing delegates at NTI's event at the 2023 Prospectors and Developers Association of Canada convention. Courtesy of Nunavut Tunngavik Inc.

The Department of Lands and Resources staff in Cambridge Bay promotes Inuit Owned Land by attending annual events in Yellowknife (**Geoscience Forum**), Vancouver (**Mineral Exploration Roundup**), Toronto (**Prospectors and Developers Association of Canada - PDAC**), and Iqaluit (**Nunavut Mining Symposium**). NTI also invites members from each RIA to PDAC promoting themselves in the NTI booth space at one of the largest and longest-running mining conferences in the world. This co-management system on display to all conference delegates illustrates NTI Lands' staff and RIA representatives availability to interact with attendees, be it industry representatives, politicians, educators, students, potential investors, and to anyone with an interest in Nunavut.

NTI believes that we garner the most interest in Inuit Owned Lands when everyone involved works together to find common ground. Together, we can forge a prosperous future.

Uranium, Mining and Reclamation Policies

NTI has developed a series of policies applicable to exploration and mining, specifically a general Mining Policy, a Uranium Policy, and a Reclamation Policy. The policies specify that NTI will support exploration and mining provided that:

- there are minimal negative environmental and socio-economic impacts;
- Inuit cultural and social needs are respected;
- investment in Nunavut is encouraged;
- land-use conflicts are resolved equitably; and
- Inuit economic opportunities are maximized.

The texts of all the policies are available from NTI.

Projects on Inuit Owned Lands (IOL)

Many of the advanced exploration projects in Nunavut fall on IOL parcels for which NTI is the mineral title owner. The table summarizes the current active MEAs and their locations.

Grandfathered Leases are Mineral Leases established on Crown land that became IOL after the *Nunavut Agreement* was signed. The leases continue to be managed by the Crown, although the leases' rental fees and royalty are transferred to NTI.

Geologist taking a sample during surface exploration near the Amaruq mine at the Meadowbank Complex. Courtesy of Agnico Eagle Mines Ltd.

Projects on Subsurface Inuit Owned Land

Kitikmeot Region	
High Lake[1]	MMG Canada Ltd.
Hope Bay[2]	Agnico Eagle Mines Limited
Hood River	Inukshuk Exploration Incorporated
WestKit-0001	West Kitikmeot Gold Corp.
Roma	Blue Star Gold Corp.
Goose	Sabina Gold & Silver Corp.
Pistol Lake	Leeward Capital Corp
Muskox Reef	Bathurst Metals Corp.
Kivalliq Region	
Sanaji	ValOre Metals Corp.
Amaruk	Agnico-Eagle Mines Limited
Meadowbank[3]	Agnico-Eagle Mines Limited
Meliadine[4]	Agnico-Eagle Mines Limited
Huckleberry-0001[6]	Agnico-Eagle Mines Limited
Peter Lake	Meliadine Gold Ltd.
Huckleberry-0002	1233719 B.C. Ltd.
Heninga Lake	1293314 B.C. Ltd.
Duc	StrategX Elements Corp.
Qikiqtani Region	
Foxe	ValOre Metals Corp.
Baffin Gold	Commander Resources Ltd.
Haig Inlet Iron	Hemlo Explorers Inc.
Mary River[5]	Baffinland Iron Mines Corporation
EQE Bay	Baffinland Iron Mines Corporation

1. The project involves Crown land and land held under NTI MEAs and grandfathered leases.
2. The Boston deposit is located on surface IOL, while the Doris, Madrid, South Patch, Naartok and Suluk deposits are on subsurface IOL, distributed among grandfathered leases and NTI MEAs. A potential extension of the Boston deposit down-dip or along strike to the north will also be on subsurface IOL.
3. The project involves land held under NTI MEAs, grandfathered leases, and the Vault Mineral Production Lease issued by NTI.
4. The project involves land held under NTI MEAs as well as grandfathered claims and leases.
5. The Mary River mine is located on a grandfathered lease. Additional showings and deposits in the area are located on a mixture of subsurface IOL and Crown land.
6. John Tugak was the first Inuit Prospector to acquire IOL Subsurface.

CONTACTS

NTI Department of Lands and Resources
PO Box 1269
Cambridge Bay NU X0B 0C0
Telephone: 867 983 5600
Fax: 867 983 5624

Websites
https://ntilands.tunngavik.com/
Department of Lands and Resources

https://www.tunngavik.com
Nunavut Tunngavik Incorporated

Carson Gillis, Director of Lands and Resource
Email: cgillis@tunngavik.com

Jorgan Aitaok, Senior Advisor, Minerals, Oil and Gas Management
Email: jaitaok@tunngavik.com

Chris Kalluk, Senior Advisor, Lands Administration Planning and Management
Email: ckalluk@tunngavik.com

Collecting a water sample for environmental baseline monitoring at the Ulu project. Courtesy of Blue Star Gold Corp.

Canada-Nunavut Geoscience Office

Since 1999, when the Canada-Nunavut Geoscience Office (CNGO) was established in Iqaluit, it has served as Nunavut's 'de-facto' Geological Survey. The CNGO mandate is to provide accessible geoscience information and expertise in Nunavut to support: 1) responsible resource exploration and development; 2) responsible infrastructure development; 3) geoscience capacity building; 4) education and training; and 5) awareness and outreach. Over the last 24 years, in striving to fulfil its mandate it has been successful in improving public geoscience knowledge and capacity in Nunavut.

The CNGO is co-funded and co-managed by Natural Resources Canada – Lands and Mineral Sector – Geological Survey of Canada (NRCan-LMS-GSC), the Government of Nunavut's Department of Economic Development and Transportation (GN-EDT), and Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC). Representatives from these three government partners in addition with an ex-officio representative from Nunavut Tunngavik Incorporated (NTI) form a CNGO Management Board which provides scientific and operational oversight to the Office. The three government partners provide the core funding to the CNGO that covers salary, operations, and maintenance. An operating agreement outlines and governs the operational and funding framework of the CNGO. On April 1, 2023, this agreement was renewed until 2026.

The office is comprised of five professional staff including the Chief Geologist, a Paleozoic stratigrapher, surficial geoscientist, Precambrian bedrock mapper and GIS Specialist. It is noted that Linda Ham, serving as the Chief Geologist for over 8 years at the CNGO, retired in June. She is thanked for her unwavering commitment to the CNGO to ensure excellence in geoscience that benefitted Nunavut, her unmitigated support of the staff, and wished a full and happy retirement. Dr. Danny Wright from the Geological Survey of Canada, Northern Division is the Acting Chief Geologist until a staffing competition is completed to fill the position.

Geologists taking structural measurements of Paleoproterozoic sedimentary rocks on the Rankin Inlet shoreline. Courtesy of CNGO.

Karen Nutarak, MLA for Tununiq, and elder Joanna Nutarak with a lit qulliq, addressing community members at the Geodiversity Day event in Pond Inlet. Courtesy of CNGO.

International Geodiversity Day

The Canada-Nunavut Geoscience Office spearheaded the celebration of UNESCO's Geodiversity Day. Collaborating partners included the Government of Nunavut, Parks Canada, and Baffinland Iron Mines. International Geodiversity Day was approved in 2021 by UNESCO to celebrate the natural non-living aspects of the Earth including mountains, rocks, minerals, water bodies, landscapes, and more. What better place to celebrate geodiversity and the culture that surrounds it than Nunavut, a territory whose flag represents the Inuksuk – a landmark made of rock – and the colours of blue and gold, representing the land, sea, and sky?

The Geodiversity Day celebration was held in Pond Inlet, Nunavut on Saturday October 7th, 2023. This was a fun-filled day with family activities, rock collection displays from across Nunavut, presentations, and culture with a qulliq lighting ceremony by a local Elder and a local carver displaying

techniques of soapstone carving. The event went a long way in improving people's awareness of the importance of geodiversity in providing many important services we depend on as a society and that geodiversity is the foundation of all biodiversity. It also helped in raising the awareness of the community to the CNGO and its role in providing geoscience information to Nunavut. A special thanks to Lorraine Lebeau from the CNGO who went above and beyond to coordinate bringing together a diverse group of organizations from government, private sector, and the local community to make this an excellent day for everyone.

CNGO Science

Paleozoic stratigraphy: Research continued by Dr. Shunxin Zhang on Paleozoic stratigraphy in 2023 includes:

1. **The Paleozoic stratigraphy on south-western Boothia Peninsula**

   Following her previous work in refining the upper Cambrian and Lower Ordovician stratigraphy in the structurally undisturbed area on the south-western Boothia Peninsula, Dr. Zhang has focused on the Lower and Upper Ordovician conodont biostratigraphy and revising lithostratigraphy in the fault and fold zones of the Boothia Uplift, south-western Boothia Peninsula in 2023. This resulted in a publication on the Canadian Journal of Earth Sciences.

2. **The Ordovician conodont biostratigraphy on northwestern Baffin Island (the NTS map areas 37F and 37C) and the age and diachronism of the Ship Point Formation in Foxe Basin**

   Based on the key conodont microfossils, Dr. Zhang recognised a stratigraphic gap related to the lower Middle Ordovician within the formation, and identified the diachronism of the Ship Point Formation in Foxe Basin for the first time in the history of studying Paleozoic geology in the region. A manuscript resulted from this project has been accepted by the Canadian Journal of Earth Science for publication.

3. **International Geological Time Scale**

   Dr. Zhang has joined a GEM-3 project to make a contribution to the International Geological Time Scale. Her contribution includes the Upper Cambrian through Ordovician to upper Silurian conodont biostratigraphic data from Hudson Bay Basin (Hudson Bay offshore area and Southampton Island), Foxe Basin (Melville Peninsula, Southern Baffin Island, Northern Baffin Island), Hudson Strait Basin (Akpatok Island), Arctic islands (Boothia Peninsula, Cornwallis Island, Devon Island, and Ellesmere Island), and southern Canada (Southern Ontario and Anticosti Island, Quebec).

Surficial Geology: Tommy Tremblay (Surficial geologist) continues to develop and increase the regional surficial geology knowledge in areas of Nunavut. His work focussed on two principal projects.

1. Geochemistry and mineralogy of surficial sediments database. By compiling the geochemical and mineralogical surficial data for Nunavut, the locations and brief descriptions of surficial sediment geochemical and mineralogical samples were published in CNGO's Summary of Activities 2021. An initial phase in the compilation of the geochemical data is currently underway for a selected method of analysis (ICP-MS with aqua regia dissolution). The database allows database requests, and additionally contains a complete set of metadata (e.g., method of analysis, dissolution and grain size) associated with each analysis.
2. Glacial transport and erosion modelling. Conducting mineral exploration using glacial sediments requires a good understanding of the sequence of ice flows that affected the glacial transport of the sediments. A new numerical modelling project is being undertaken that attempts to model the path of eroded material during its transport by Quaternary continental ice sheets. The result from this effort is a model called GO-GTM – a glacial erosion and transport model that is constrained by ice flow patterns and chronology, glacial transport distances, and erosion rates as determined from cosmogenic isotopes. This model is now ready for validation in different glaciated settings in Nunavut and other parts in Canada.

Bedrock Mapping: Lorraine Lebeau (Regional Precambrian Bedrock Mapping geologist) concentrated on two mapping projects.

1. The Angikuni targeted structural and stratigraphy project is a collaborative geoscience effort among the Canada-Nunavut Geoscience Office, the Geological Survey of Canada, Simon Frasier University and the University of Regina. This project encompasses bedrock mapping, stratigraphic and structural analysis, and geochronological studies of the Angikuni Lake area, Kivalliq, Nunavut. Previously, field work was to be conducted in the summers of 2023-2024, however, the project was postponed to the summers of 2024 and 2025. Additional work was completed this summer (2023) by resampling archived samples that were collected in this area in the 1960's during a Geological Survey of Canada campaign. Currently, efforts are focused on archived samples by university graduate students, permit amendments, the Polar Continental Shelf application and community engagement strategies.
2. The Canada-Nunavut Geoscience Office in partnership with the Geological Survey of Canada completed a short week-long field survey and community field trip in Rankin Inlet this July-August 2023. The field survey encompassed

sedimentological, structural, and stratigraphic mapping of the community with the intention of publishing Open File reports and eventually a detailed geological map of the community. The field trip was led by Dr. Sally Pehrsson from the Geological Survey of Canada and had a dozen participants. A formal brochure of this geological tour is planned for publication by the GSC and CNGO.

Public Data Dissemination

Making geoscience data available to the public is a priority for the CNGO. The CNGO manages and disseminates data (including selected CIRNAC data and publications) through two websites: cngo-bgcn.ca and nunavutgeoscience.ca. In the first half of 2023 some technical issues with the cngo.ca website developed that have led to ongoing challenges for the public to access the information. It is also recognized that NunavutGeoscience.ca is continually evolving. Currently, led by the CNGO, the partners (GN and CIRNAC) are in the process of revising and updating the website to ensure there will be an improved user interface and access to public geoscience data.

CNGO Publications

Geological Survey of Canada, 2023. Surficial geology, Arrowsmith River south, Nunavut, NTS 56-O south; Geological Survey of Canada, Canadian Geoscience Map 397 (Surficial Data Model v.2.3.14 conversion of OF4281); Canada-Nunavut Geoscience Office, Open File Map 2023-01, scale 1:100 000. https://doi.org/10.4095/314543

Kelley, S.E., McKillop, R., Ross, M. and Tremblay, T. 2023: Surficial geology, Coral Harbour, Southampton Island, Nunavut, NTS 46B; Canada-Nunavut Geoscience Office, Open File Map 2023-02, scale 1:125 000

Kelley, S.E., Ross, M. and Tremblay, T. 2023: Surficial geology, Smyth Harbour area, Southampton Island, Nunavut, NTS 46G/3 and 4; Canada-Nunavut Geoscience Office, Open File Map 2023-03, scale 1:50 000

Shunxin Zhang, 2023. Lower and Upper Ordovician conodont biostratigraphy and revised lithostratigraphy in the fault and fold zones of the Boothia Uplift, south-western Boothia Peninsula, Nunavut. Canadian Journal of Earth Sciences https://doi.org/10.1139/cjes-2022-0134

Steenkamp, H.M., Wodicka, N., Lawley, C.J.M., Peterson, T., Garrison, W., Therriault, I., Kendrick, J., Weller, O.M., and Tschirhart, V., 2023. Bedrock geology, Daly Bay area, Kivalliq, Nunavut, NTS 56-A, 46-D west, 46-E southwest, and 56-H south; Geological Survey of Canada, Canadian Geoscience Map 458; Canada-Nunavut Geoscience Office, Open File 2023-04, scale 1:150 000. https://doi.org/10.4095/331888

Steenkamp, H.M., Wodicka, N., Lawley, C.J.M., Peterson, T., Weller, O.M., Kendrick, J., and Tschirhart, V., 2023. Bedrock geology, Armit Lake area, Kivalliq, Nunavut, NTS 56-B and 56-C east; Geological Survey of Canada, Canadian Geoscience Map 459; Canada-Nunavut Geoscience Office, Open File 2023-05, scale 1:150 000. https://doi.org/10.4095/331889

Steenkamp, H.M., Wodicka, N., Weller, O.M., Kendrick, J., Therriault, I., Peterson, T., Lawley, C.J.M., and Tschirhart, V., 2023. Bedrock geology, Wager Bay area, Kivalliq, Nunavut, parts of NTS 56-F, G; Geological Survey of Canada, Canadian Geoscience Map 460; Canada-Nunavut Geoscience Office, Open File 2023-06, scale 1:150 000. https://doi.org/10.4095/331890

Submitted for publication:

Guyot-Messier, L., Lebeau, L.E., Knox, B., and Saumur, B.M. 2023 (accepted): Izok Lake targeted volcanogenic massive-sulphide (VMS) mineralization in the Slave craton project, western Nunavut: a field summary of deposit mineralization and alteration; CNGO.

Lebeau, L.E., Knox, B. and Guyot-Messier, L. 2023 (accepted): Izok Lake targeted volcanogenic massive-sulphide (VMS) mineralization in the Slave craton project, western Nunavut: a field summary of regional rock types; CNGO.

Shunxin Zhang, 2023 (accepted). Ordovician conodont biostratigraphy of northwestern Baffin Island, Nunavut, Canada, with new insights into the age and diachronism of the Ship Point Formation in the Foxe Basin. Canadian Journal of Earth Sciences.

CONTACTS

Canada-Nunavut Geoscience Office
1106 Ikaluktuutiak Drive
Iqaluit, NU X0A 3H0

Websites
https://cngo-bgcn.ca
https://nunavutgeoscience.ca

Danny Wright, A/Chief Geologist
Cell: 613-323-2504
E-mail: danny.wright@nrcan-rncan.gc.ca

Celine Gilbert, GIS Specialist
Cell: 867-222-2930
E-mail: celine.gilbert@nrcan-rncan.gc.ca

Lorraine Lebeau, Precambrian Bedrock Geology
Cell: 867-222-1232
E-mail: lorraine.lebeau@nrcan-rncan.gc.ca

Tommy Tremblay, Surficial Geology
Cell: 867-975-1453
E-mail: tommy.tremblay@nrcan-rncan.gc.ca

Dr. Shunxin Zhang, Paleozoic Geology
Cell: 867-222-2452
E-mail: shunxin.zhang@nrcan-rncan.gc.ca

Marble cliffs behind the Kimmirut airport runway, with a Twin Otter in the foreground. Courtesy of CIRNAC.

Kitikmeot Region

The Kitikmeot region is located in the western and northern portions of Nunavut's mainland, and includes the Boothia Peninsula, King William and Stefansson islands, and portions of Victoria, Prince of Wales, and Somerset islands. At 443,277 square kilometres (km^2), this region is the smallest of Nunavut's three regions and has an estimated total population of about 7,000 people in five communities. Cambridge Bay (Ikaluktuuttiaq), located on Victoria Island, is the largest community in the Kitikmeot. Gjoa Haven (Uqsuqtuuq) is located on King William Island, and Kugaaruk, Kugluktuk, and Taloyoak are located on the mainland. Yellowknife, the capital of the Northwest Territories, is the main logistical and supply center for this region.

The mainland portion of the Kitikmeot region is dominated by Archean and Proterozoic rocks of the Bear, Slave, and Churchill provinces, and the islands to the north by the Paleozoic Arctic Platform. This region has been explored historically for gold, base metals, uranium, platinum-group elements, and diamonds. As of October 2023, the Kitikmeot region had 978 mineral claims covering 1,184,621 hectares (ha), 16 prospecting permits covering 227,532 ha, and 270 mineral leases covering 219,205 ha, for a combined total of more than 1.6 million ha. Four past-producing mines are found in this region: the Roberts Bay and Ida Bay silver mines located in the Hope Bay area, and the Lupin gold mine and Jericho diamond mine located near Contwoyto Lake and the Northwest Territories border.

Mine operations at Agnico Eagle Mines Ltd.'s Hope Bay mine remain suspended, but underground exploration at the Doris deposit and regional exploration at the Doris and Madrid deposits continued throughout 2023, with a total of 119,771 metres drilled in 194 holes at the end of Q3. Drilling at Doris intersected mineralization outside the areas of historical drilling, and regional exploration at Madrid identified new high-grade mineralization between the Suluk and Patch 7 targets. Agnico is continuing to evaluate production scenarios at Hope Bay with a target of 350,000-400,000 ounces of gold per year.

In April 2023, B2Gold Corp. acquired Sabina Gold and Silver's Back River gold project. Construction at the Goose deposit remained on track for commercial production in Q1 2025. Following the acquisition of the project, B2Gold approved a $20 million exploration budget for 2023 for regional exploration and approximately 25,000 m of drilling aimed at extending mineral resources at Umwelt and Llama deposits down-plunge. Mine development continued at the project, including extending the airstrip, an earlier start to winter ice road construction, and mining out of the Echo pit for tailings storage capacity. B2Gold plans to continue work on the proposal submitted by Sabina to the Nunavut Planning Commission (NPC) and Nunavut Impact Review Board (NIRB) for a 59-megawatt renewable energy facility.

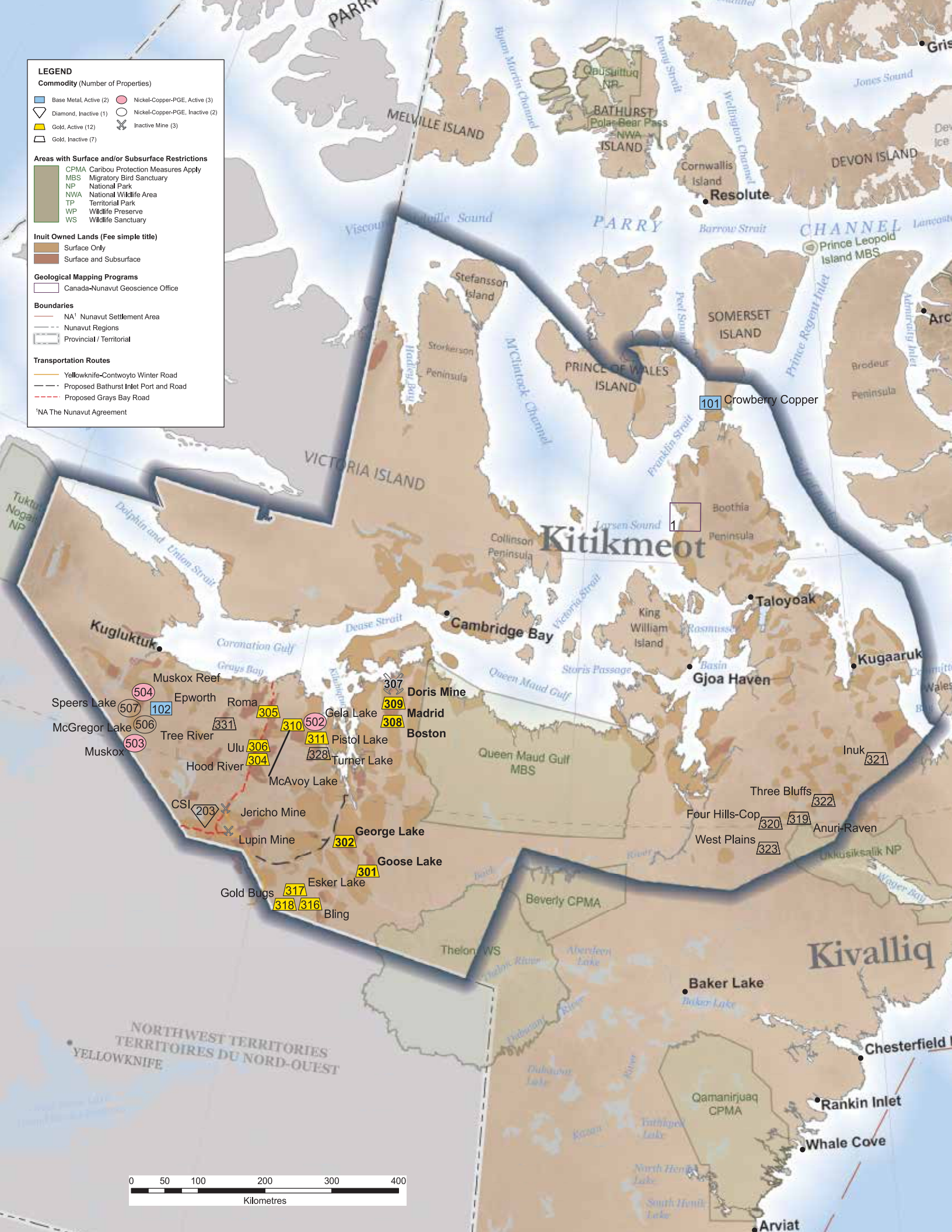
Blue Star Gold Corp. announced in April 2023 that its application for support through the Government of Nunavut's Discover Invest Grow (DIG) program had been approved, based on its successful exploration and drill program in 2022 on its Ulu and Hood River properties. The company's 2023 focus was on regional bedrock mapping and prospecting at Ulu, Hood River, and Roma. The Mikigon Zone is a new gold discovery at Hood River, hosted in metasedimentary rock, which returned 47.1 grams per tonne (g/t) gold in a surface grab sample. The Auma prospect, between Roma and Hood River, returned 47.6 g/t gold from a grab sample with visible gold, and sampling at Rhonda and Penthouse targets identified base metals potential in addition to gold.

Viridis Mining and Minerals Limited conducted an exploration program in 2023 at the Gold Bugs and Esker Lake properties, both part of the South Kitikmeot Gold project optioned from Silver Range Resources. The company completed a geophysical survey at Gold Bugs, Esker, and Thistle Lake in April, followed by a seven-hole diamond drill program in the summer. Results of the drilling at Esker Lake included identification of intervals of high-grade gold mineralization within an iron formation horizon. Regional exploration and prospecting, as well as resampling of historic Esker Lake drill core, is planned for future work.

In March of 2023, SPC Nickel announced that it had entered into an option agreement with Bathurst Metals Corp., through which SPC Nickel can acquire a 100 per cent interest in the McGregor and Speers Lake properties. As a result of this agreement, SPC Nickel now holds mineral tenure over 650 km^2 of the Muskox Layered Intrusive Complex. The company had intended to complete a summer program at Muskox in 2023, including over the newly optioned claims, but no work could be done this year due to the Northwest Territories' wildfire situation.

Bathurst Metals has several gold projects, McAvoy Lake, TED, and Turner Lake, and one copper-nickel project, Gela Lake, west of Bathurst Inlet. The company also owns the Muskox Reef nickel-copper-platinum group element (PGE) project in the Muskox Intrusion. Bathurst Metals optioned two other projects in the intrusion, McGregor Lake and Speers Lake, to SPC Nickel Corp. in March 2023. During the 2023 field exploration program, logistical problems resulting from the wildfires in the Northwest Territories limited this company's work to the Gela Lake property. Mapping work and rock and soil sampling surveys over the most prospective ground was done. Ten grab samples were also collected over a sub-vertical structure with visible copper mineralization, and analytical results for the samples included significant gold, copper, and bismuth concentrations.

Emerald Geological Services' Epworth Project was originally focused on gold exploration, but strong copper and zinc results resulted in a change in focus. Results from the 2022 program suggest that there are at least two parallel mineralized horizons along the property's main trend. Where exposed on surface, the mineralized horizons are up to 12 metres wide and host sulphide-rich quartz-carbonate veins. In 2023, further sampling was carried out 4.9 km along strike of the mineralized horizons, as well as sampling on a galena-rich horizon 2 km to the southeast.


LEGEND
Commodity (Number of Properties)
Base Metal, Active (2)
Diamond, Inactive (1)
Gold, Active (12)
Gold, Inactive (7)
Nickel-Copper-PGE, Active (3)
Nickel-Copper-PGE, Inactive (2)
Inactive Mine (3)
Areas with Surface and/or Subsurface Restrictions
CPMA Caribou Protection Measures Apply
MBS Migratory Bird Sanctuary
NP National Park
NWA National Wildlife Area
TP Territorial Park
WP Wildlife Preserve
WS Wildlife Sanctuary
Inuit Owned Lands (Fee simple title)
Surface Only
Surface and Subsurface
Geological Mapping Programs
Canada-Nunavut Geoscience Office
Boundaries
NA[1] Nunavut Settlement Area
Nunavut Regions
Provincial / Territorial
Transportation Routes
Yellowknife-Contwoyto Winter Road
Proposed Bathurst Inlet Port and Road
Proposed Grays Bay Road
[1]NA The Nunavut Agreement
MELVILLE ISLAND
BATHURST
Polar Bear Pass
NWA
ISLAND
DEVON ISLAND
Cornwallis Island
Resolute
PARRY CHANNEL
Prince Leopold Island MBS
Stefansson Island
SOMERSET ISLAND
PRINCE OF WALES ISLAND
101 Crowberry Copper
VICTORIA ISLAND
Boothia Peninsula
Kitikmeot
Collinson Peninsula
Taloyoak
Cambridge Bay
Kugluktuk
King William Island
Gjoa Haven
Kugaaruk
Muskox Reef
Speers Lake
Epworth
McGregor Lake
Tree River
Muskox
Roma
Ulu
Hood River
McAvoy Lake
Gela Lake
Pistol Lake
Turner Lake
Doris Mine
Madrid
Boston
Queen Maud Gulf MBS
Inuk
Three Bluffs
Four Hills-Cop
Anuri-Raven
West Plains
CSI
Jericho Mine
Lupin Mine
George Lake
Goose Lake
Esker Lake
Gold Bugs
Bling
Beverly CPMA
Kivalliq
Baker Lake
Chesterfield
Qamanirjuaq CPMA
Rankin Inlet
Whale Cove
Arviat
NORTHWEST TERRITORIES
TERRITOIRES DU NORD-OUEST
YELLOWKNIFE
0 50 100 200 300 400
Kilometres

Kivalliq Region

The 445,109 km² Kivalliq region includes most of the mainland portion of Nunavut and Southampton and Coats islands, and is bounded by Manitoba to the south, the Kitikmeot region and the Northwest Territories to the west, and Hudson Bay to the east. Exploration and mining in this region are mobilized out of Rankin Inlet (Kangiqliniq), the regional hub, and Baker Lake (Qamani'tuaq), the territory's only inland community. The other Kivalliq communities are Arviat, Whale Cove (Tikirarjuaq), Chesterfield Inlet (Igluligaarjuk), Coral Harbour (Salliq), and Naujaat. Mining in the Kivalliq region has a long history: the past-producing North Rankin nickel mine that operated from 1957-1962, and the Cullaton-Shear Lake gold mine west of Arviat were two of Canada's earliest mines above 60° latitude. The region's population was estimated at 11,045 in 2021, with more than half of those inhabitants in Rankin Inlet and Arviat.

The Kivalliq region's geology includes Archean and Proterozoic plutonic rocks, Paleoproterozoic sedimentary basins, and metasedimentary and greenstone belts of the Rae and Hearne domains of the Western Churchill Province. Paleozoic-age sedimentary strata of the Hudson Bay Lowlands are found in the east on Southampton and Coats islands. The Kivalliq's mineral potential is diverse and includes a number of significant mineral occurrences and known deposits of gold, uranium, diamonds, nickel, and platinum-group and rare earth elements. As of October 2023, the area held under mineral tenure in the region increased by 13% in comparison to 2022 to 1.89 million hectares from 1.67 million ha. There are 1,433 mineral claims, 187 mineral leases and 7 remaining prospecting permits. Gold continues to be the primary exploration target in the region, although 2022's significant increase in Ni-Cu-Co-PGE exploration has continued in 2023.

At the Meadowbank Complex, Agnico Eagle Mines Ltd. continued regional exploration drilling at the IVR and Whale Tail zones and the Amaruq underground, with the goal of extending operations at Amaruq past the mine's current expected end of life in 2026-27. At Meliadine, Agnico Eagle was able to extend mineralization at the Tiriganiaq deposit to the east and west, and also continued conversion drilling at Wesmeg and exploration and conversion drilling at the Pump zone.

Canadian North Resources Inc. completed a 20,000-metre drill program in October at its Ferguson Lake nickel-copper-cobalt-PGE project, and intersected sulphide mineralization in 69 of 75 holes. The program was aimed at testing the extension of the West and East zones along strike and down-dip, and to drill the Anomaly-51 and M-Zone near-surface targets. Initial results from the program identified new zones of nickel-copper-PGE massive sulphides up to 3 metres thick and disseminated sulphides up to 110 metres in width. Mineralization at the West Zone has been extended to 250 metres below surface and remains open at depth. Canadian North plans to incorporate the 2022 and 2023 results into a new NI 43-101 resource estimate for the deposit.

The uptick in uranium exploration in the Kivalliq noted in 2022 continued into 2023. The Angilak project was purchased from ValOre Metals by Latitude Uranium in June 2023, and the purchase was followed by an $8 million program including regional exploration and 5,600 metres of diamond drilling. Two new mineralized intercepts were discovered below the depth of historical drilling at Main Zone West, and initial assay results from the diamond drilling include a highlight of 7.54% U_3O_8 over 1.6 m from an infill hole on Main Zone East. In the Thelon Basin, Forum Energy Metals completed its initial diamond drill program at the Tatigaaq target on the Nunavut project to follow up on its 2022 geophysical work and desktop studies. Initial results of the program included 2.25% U_3O_8 over 11.1 metres, and 1.01% U_3O_8 over 6.2 metres, including 4.36% U_3O_8 over 1.3 metres.

A summer regional exploration program took place at the Pistol Bay gold project, now wholly owned by Whale Cove Gold Corp. The project includes the Vickers deposit, with an inferred resource from 2020 of 1.58 million ounces of gold at a grade of 2.2 g/t Au. Work at the property included regional mapping, sampling, and prospecting.

Above: Geologists discussing structural interpretations at the Pistol Bay project. Courtesy of Whale Cove Gold Corp.


Kitikmeot
Kivalliq
Collinson Peninsula
Larsen Sound
Victoria Strait
Cambridge Bay
King William Island
Taloyoak
Rasmussen Basin
Gjoa Haven
Queen Maud Gulf
Storis Passage
Queen Maud Gulf MBS
Fury and Hecla Strait
Igloolik
Sanirajak
Prince Charles Island
Kugaaruk
Committee Bay
Wales I.
MELVILLE PENINSULA
Nagvaak
505
FOXE BASIN
Naujaat
204
Naujaat
Ukkusiksalik NP
Wager Bay
Foxe Channel
Back River
Beverly CPMA
Amaruq Mine
312
325
Block A
313
Meadowbank Mine
Block B
326
Greyhound
303
Block C
327
Baker Lake
Thelon WS
Thelon River
Aberdeen Lake
Thelon Project
602
Baker Lake
Dubwant River
Roes Welcome Sound
SOUTHAMPTON ISLAND
Coral Harbour
East Bay MBS
Harry Gibbons MBS
Chesterfield Inlet
329
Qaiqtuq
Meliadine Mine
314
Rankin Inlet
3
Dubawnt Lake
Dubawnt River
Ferguson Lake
501
Qamanirjuaq CPMA
Coats Island
Mansel Island
Angilak
601
Yathkyed Lake
Pistol Bay
315
Whale Cove
North Henik Lake
South Henik Lake
Hard Cash
324
Arviat
McConnell River MBS
Thlewiaza River
HUDSON BAY
BAIE D' HUDSON
MANITOBA
Churchill
0 50 100 200 300 400
Kilometres
LEGEND
Commodity (Number of Properties)
Uranium, Active (2)
Diamond, Inactive (1)
Gold, Active (2)
Gold, Inactive (5)
Nickel-Copper-PGE, Active (2)
Mine, Active (3)
Areas with Surface and/or Subsurface Restrictions
CPMA Caribou Protection Measures Apply
MBS Migratory Bird Sanctuary
NP National Park
NWA National Wildlife Area
TP Territorial Park
WP Wildlife Preserve
WS Wildlife Sanctuary
Inuit Owned Lands (Fee simple title)
Surface Only
Surface and Subsurface
Geological Mapping Programs
Canada-Nunavut Geoscience Office
Boundaries
NA[1] Nunavut Settlement Area
Nunavut Regions
NILCA[2] Nunavik Settlement Area
Provincial / Territorial
Transportation Routes
Meadowbank / Amaruq Road
Meliadine Road
Proposed Nunavut to Manitoba Road
[1]NA The Nunavut Agreement
[2]NILCA The Nunavik Inuit Land Claims Agreement

Qikiqtani Region

The Qikiqtani region is the largest of Nunavut's three regions, at 1,040,418 km². The region is comprised primarily of islands of the Canadian Arctic Archipelago, and the Melville Peninsula and the Belcher Islands in Hudson Bay. There are six large islands – Axel Heiberg, Baffin, Bathurst, Devon, Ellesmere, and Somerset. Smaller notable islands include Amund Ringes, Bylot, Cornwallis, Ellef Ringes, and Prince Charles.

The region is underlain by Archean and Proterozoic-aged rocks of the Churchill Province, Paleozoic rocks of the Arctic Platform, and the Innuitian Belt. This region contains many known mineral deposits, including iron, diamonds, gold, base metals, platinum-group elements, and sapphires. The sole producing mine in the region is Baffinland's Mary River iron ore mine; the former Nanisivik and Polaris lead-zinc mines, located on northern Baffin Island and Little Cornwallis Island respectively, both closed in 2002 after over 20 years of production.

Having approximately 20,000 inhabitants, the Qikiqtani region is the most populous of the three regions in Nunavut. The territorial capital, Iqaluit, has a population of approximately 8,300 people and is located on southern Baffin Island. Iqaluit is the main logistical hub for the region's 12 communities: Arctic Bay (Ikpiarjuk), Kinngait (Cape Dorset), Clyde River (Kangiqtugaapik), Kimmirut, Pangnirtung, Pond Inlet (Mittimatalik), and Qikiqtarjuaq on Baffin Island; Sanikiluaq on Flaherty Island in the Belcher Island group in Hudson's Bay; Igloolik and Sanirajak (Hall Beach) on Melville Peninsula; and Resolute (Qausuittuq) and Grise Fiord (Aujuituuq) in the High Arctic. The communities of Pond Inlet, Igloolik, Sanirajak, and Iqaluit, as mostly government-led (federal and territorial) operations, provide employees, services, and supplies to the region's exploration and mining functions.

The Qikiqtani region saw activity from several mining and exploration companies in 2023. On Baffin Island, De Beers Canada Inc. was active at the Chidliak diamond project northeast of Iqaluit, as was Baffinland Iron Mines Corporation at its Mary River iron mine. On Somerset Island, American West Metals Limited carried out work at the Storm copper project, as did Bronzite Exploration at the Crowberry copper project. Mineral claims, prospecting permits and mining leases covering a total of 831,235 ha were held in the region as of October 2023, this being a significant drop from the tenure held in November 2022.

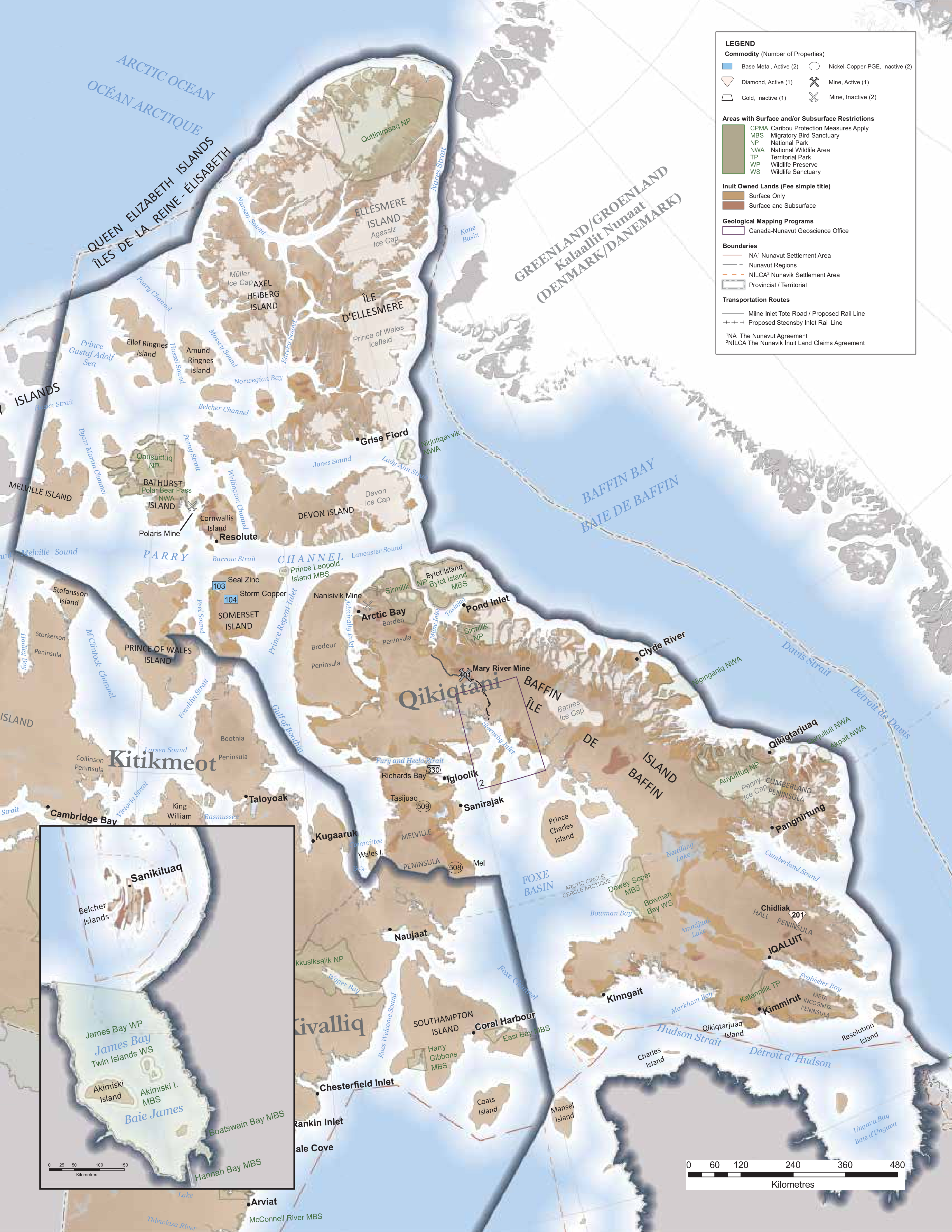
Baffinland announced in February 2023 that it would be revisiting its plans for an ore transport railway south to Steensby Inlet, a plan that had been shelved in 2012 due to low iron ore prices, in favour of an all-weather road to Milne Inlet north of the mine. In October, the company received its approval from the Nunavut Impact Review Board (NIRB) and the Minister of Northern Affairs to continue shipping 6 million tonnes (Mt) of iron ore per year for 2023 and 2024, and up to an additional 1.8 Mt of 'stranded' ore that had been unable to be shipped in 2022 due to early ice conditions. The last ore carrier for 2023 left Milne Inlet in late October, completing a shipping season totaling just over 6 Mt of ore in 75 shipments.

De Beers Canada's Chidliak project saw its first exploration program in 2023 since the company acquired the property in 2018. In 2023 the company completed a conceptual study evaluating mine designs for the site; positive results led De Beers to continue with environmental baseline work and permitting applications for a future mine. De Beers Canada's exploration work at Chidliak focused on resource definition drilling at the CH-6 kimberlite, as well as testing autonomous core scanning methods for remote work. Geotechnical logging and environmental baseline studies completed the program's activities. In October 2023 the company received its project-specific guidelines from the NIRB for its draft environmental impact statement submission.

Further north in the Qikiqtani, American West Metals Ltd. completed a summer program at the Storm Copper base metals project on Cornwallis Island, fulfilling its earn-in requirement on its option agreement with Aston Bay Holdings. American West also proceeded with its acquisition of 80 per cent of the project from Aston Bay. The summer program included reverse circulation (RC) drilling and diamond drilling and resulted in the identification of two previously unknown zones of near-surface copper mineralization. American West was also able to expand the known mineralized zone in the 4100N Zone to 1,300 metres, at an average width of the zone of 400 metres. The company planned to use the results of the 2023 program in a revised NI 43-101 resource estimate for Storm.

Bronzite Exploration Corp. planned a summer 2023 program on its recently acquired Crowberry property, at the southern tip of Somerset Island, that included sampling, mapping, and drone-based surveys. The company is a participant in BHP's Xplor initiative, an accelerator program that assists early-stage critical minerals exploration companies in getting their projects investment ready.

Above: Helicopter slinging in materials at De Beers Canada's Chidliak diamond project. Courtesy of De Beers Canada Inc.


LEGEND
Commodity (Number of Properties)
Base Metal, Active (2)
Nickel-Copper-PGE, Inactive (2)
Diamond, Active (1)
Mine, Active (1)
Gold, Inactive (1)
Mine, Inactive (2)
Areas with Surface and/or Subsurface Restrictions
CPMA Caribou Protection Measures Apply
MBS Migratory Bird Sanctuary
NP National Park
NWA National Wildlife Area
TP Territorial Park
WP Wildlife Preserve
WS Wildlife Sanctuary
Inuit Owned Lands (Fee simple title)
Surface Only
Surface and Subsurface
Geological Mapping Programs
Canada-Nunavut Geoscience Office
Boundaries
NA[1] Nunavut Settlement Area
Nunavut Regions
NILCA[2] Nunavik Settlement Area
Provincial / Territorial
Transportation Routes
Milne Inlet Tote Road / Proposed Rail Line
Proposed Steensby Inlet Rail Line
[1]NA The Nunavut Agreement
[2]NILCA The Nunavik Inuit Land Claims Agreement
ARCTIC OCEAN
OCÉAN ARCTIQUE
QUEEN ELIZABETH ISLANDS
ÎLES DE LA REINE - ÉLISABETH
GREENLAND/GROENLAND
Kalaallit Nunaat
(DENMARK/DANEMARK)
Quttinirpaaq NP
Nares Strait
Nansen Sound
ELLESMERE ISLAND
Agassiz Ice Cap
Kane Basin
Müller Ice Cap
AXEL HEIBERG ISLAND
ÎLE D'ELLESMERE
Prince of Wales Icefield
Peary Channel
Eureka Sound
Massey Sound
Prince Gustaf Adolf Sea
Ellef Ringnes Island
Hassel Sound
Amund Ringnes Island
Norwegian Bay
ISLANDS
Hazen Strait
Belcher Channel
Byam Martin Channel
Qausuittuq NP
Penny Strait
Grise Fiord
Nirjutiqavvik NWA
Jones Sound
Lady Ann Strait
MELVILLE ISLAND
BATHURST
Polar Bear Pass NWA
ISLAND
Wellington Channel
Devon Ice Cap
DEVON ISLAND
BAFFIN BAY
BAIE DE BAFFIN
Cornwallis Island
Polaris Mine
Resolute
Melville Sound
PARRY
Barrow Strait
CHANNEL
Lancaster Sound
Prince Leopold Island MBS
Bylot Island
NP Bylot Island MBS
Sirmilik
103
Seal Zinc
104
Storm Copper
Stefansson Island
SOMERSET ISLAND
Peel Sound
Prince Regent Inlet
Nanisivik Mine
Admiralty Inlet
Arctic Bay
Borden
Peninsula
Milne Inlet
Tasiujaq
Pond Inlet
Sirmilik NP
Storkerson Peninsula
Hadley Bay
M'Clintock Channel
PRINCE OF WALES ISLAND
Brodeur Peninsula
Clyde River
Davis Strait
Mary River Mine
401
Qikiqtani
BAFFIN
ÎLE
Barnes Ice Cap
Ninginganiq NWA
Détroit de Davis
ISLAND
Franklin Strait
Gulf of Boothia
Steensby Inlet
DE
ISLAND
BAFFIN
Qikiqtarjuaq
Qaqulluit NWA
Akpait NWA
Boothia Peninsula
Larsen Sound
Collinson Peninsula
Kitikmeot
Fury and Hecla Strait
330
Richards Bay
Igloolik
2
Auyuittuq NP
Penny Ice Cap
CUMBERLAND PENINSULA
Strait
Cambridge Bay
Victoria Strait
King William Island
Rasmussen
Taloyoak
Tasijuaq
509
Sanirajak
Prince Charles Island
Pangnirtung
Kugaaruk
MELVILLE
Wales I.
PENINSULA
508
Mel
Nettilling Lake
Cumberland Sound
FOXE BASIN
ARCTIC CIRCLE
CERCLE ARCTIQUE
Dewey Soper MBS
Bowman Bay
Bowman Bay WS
Chidliak
HALL
201
PENINSULA
Amadjuak Lake
IQALUIT
Sanikiluaq
Belcher Islands
Naujaat
Ukkusiksalik NP
Wager Bay
Foxe Channel
Frobisher Bay
Katannilik TP
META INCOGNITA PENINSULA
Kimmirut
Kinngait
Markham Bay
Kivalliq
Roes Welcome Sound
SOUTHAMPTON ISLAND
Coral Harbour
East Bay MBS
Qikiqtarjuaq Island
Resolution Island
Hudson Strait
Détroit d'Hudson
Charles Island
Harry Gibbons MBS
James Bay WP
James Bay
Twin Islands WS
Akimiski Island
Akimiski I. MBS
Baie James
Boatswain Bay MBS
Chesterfield Inlet
Coats Island
Mansel Island
Rankin Inlet
Whale Cove
Ungava Bay
Baie d'Ungava
0 25 50 100 150
Kilometres
Hannah Bay MBS
0 60 120 240 360 480
Kilometres
Lake
Arviat
Thlewiaza River
McConnell River MBS

Base Metals

101	Crowberry Copper
Operator/Owner	Bronzite Exploration Corp.
Commodity	Copper
NTS	057G13, 057G14, 058B03 – 058B05
Land Tenure	Crown
Location	283 km north of Taloyoak

Bronzite Exploration, a new entrant to exploration in Nunavut, acquired the initial five mineral claims making up its Crowberry property in 2022, and expanded the property further in February and August 2023 to its current extent of approximately 23,600 hectares (ha). The project is located north of Taloyoak, on the southernmost part of Somerset Island.

The company was a participant in the first year of BHP's Xplor initiative, a project accelerator program supporting early-stage critical mineral exploration projects in becoming ready for investment. Participants in the Xplor initiative can receive up to $500,000 for their exploration activities, as well as in-kind geological, operational, and business support from BHP.

Bronzite planned a short exploration program on the Crowberry claims for the summer of 2023, consisting of prospecting, sampling, and regional geological mapping, with possible drone-based geophysical data collection. No results from the program have been released.

102	Epworth
Operator/Owner	Emerald Geological Services
Commodity	Copper, Zinc
NTS	086J16, 086O01, 086O02
Land Tenure	Crown
Location	90 km south of Kugluktuk

The Epworth project was originally staked as a gold property, but strong base metals results led Emerald Geological Services to recharacterize the project as a copper-zinc property. Epworth is located approximately 80 km southeast of the hamlet of Kugluktuk and is 70 km from tidewater. The property consists of 15 claims totaling 8,320 ha of Crown land and was previously under an option agreement with Frontline Gold, signed in 2021, but reverted to Emerald's sole ownership as of November 2023.

The Epworth property is located over an early Proterozoic clastic-carbonate sequence of rocks in a sub-basin on the eastern flank of a rift environment that is part of the Coronation Supergroup. The sequence was deformed by basin closure, resulting in north-northwest-trending folds and thrust faulting. Mineralization on the property occurs on the redox boundary near the contact between the Rocknest and Odjick formations, along thrust faults and in carbonate breccias. This showing has been interpreted as analogous to sediment-hosted stratiform copper-silver-cobalt and Mississippi Valley-type zinc-lead-copper deposits. Parallel mineralization horizons on the property are attributed to folding and thrust fault stacking of the strata.

Exploration in 2022 included a rock and soil sampling program along the 1.1-km Metallic Trend in the north-central area of the property. Highlights from the grab sampling program included grades up to 37.8% Cu, 27.4% Zn, 16.7% Pb, 1100 parts per million (ppm) Ag, 3.01 grams per tonne (g/t) Au, and 1700 ppm Co.

The 2023 field program sampled dolomite with chalcopyrite, galena and sphalerite 4.9 km along strike to the south-southeast of the Extended Metallic Trend, as well as sampling a galena-rich horizon on the same trend 2 kilometres to the south-southeast. Assays for the 2023 program returned grades up to 16.2% Zn, 4.37% Cu and 6.73% Pb.

103 104	Nunavut Property (Seal Zinc[1], Storm Copper[2])
Operator/Partner	American West Metals Ltd., Aston Bay Holdings Inc.
Commodity	Zinc[1], Silver[1], Copper[2]
NTS	058C02[2], 058C03[2], 058C06[2], 058C07[2], 058C10[2], 058C11[1,2], 058C12[1], 058C13[1], 058C14[1,2]
Land Tenure	Crown[1,2], Surface IOL[2]
Location	99 km south of Resolute[1], 133 km south of Resolute[2]

American West Metals continued its exploration activities at the Storm copper project on Somerset Island in 2023. The company completed its earn-in requirement of $10 million in exploration expenditures, part of the 2021 option agreement signed with Aston Bay Holdings Inc. As a result, American West has acquired an 80 per cent interest in the project from Aston Bay.

Copper mineralization at Storm is strata-bound and hosted in brecciated zones within dolomitic sediments from the Allen Bay formation and is interpreted as a sediment-hosted copper deposit with mineralization similar to large-scale copper deposits in central Africa. Ore from Storm is believed to have direct-ship potential. Zinc mineralization at Seal occurs as massive sphalerite and pyrite and is hosted in permeable quartz sandstone interbedded with dolostone.

The Storm property had a total of approximately 7,100 metres of reverse circulation (RC) and diamond drilling in 2023. The 56-hole RC drilling program on the 4100N, 2750N, and 2200N zones returned highlighted results including 46 metres grading 2.2% copper at 64 m depth, and 29 metres grading 1.5% copper at 4.6 m depth. The zone of known near-surface mineralization at the 4100N target has been expanded, and now extends over 1.3 kilometres at an average 400 metres wide.

The RC drilling was followed by seven diamond drill holes, during which two previously unknown zones of near-surface copper mineralization, Lightning Ridge and Thunder, were identified. Highlights at Lightning Ridge include 15.2 metres grading 2.3% copper from 30.5 metres depth, and at Thunder include 48.6 metres grading 3% copper at 32.4 metres depth. All the diamond drill holes intersected copper mineralization below the near-surface zone at the same deeper stratigraphic level, indicating that the mineralized horizon at depth is extensive.

American West planned to use the results obtained from this season's program to contribute to a new NI 43-101 resource estimate for the Storm project.

Diamonds

201	**Chidliak**
Operator/Owner	De Beers Canada Inc.
Commodity	Diamonds
NTS	026B01, 026B02, 026B07, 026B08, 026B10
Land Tenure	Crown
Location	115 km northeast of Iqaluit

De Beers Canada Inc.'s Chidliak diamond project is located on the Hall Peninsula of southern Baffin Island. Seventy-four kimberlites have been identified to date on the property, of which at least 41 are diamond-bearing. According to a 2018 preliminary economic assessment by Peregrine Diamonds prior to its purchase by De Beers Canada, the CH-06 and CH-07 kimberlites have a combined inferred resource of 22.2 million carats of diamonds.

Limited exploration activities have been carried out at Chidliak since De Beers Canada acquired the project in 2018, apart from a 2019 drill program at CH-6 and continued environmental baseline work and other required monitoring. In 2023, De Beers completed a concept-level internal study for its proposed diamond mine at Chidliak. Positive results from the study led the company to continue its environmental baseline studies at the property, and to approve plans for moving forward with the regulatory processes for a future mine at the site.

A resource drilling program also took place in summer 2023 at CH-06, to test the kimberlite at depth. The two-rig program was successful, completing four drill holes for a total of 1,454 m of core. Geotechnical logging on the core was also completed and the company was able to successfully test its remote automated drill core scanning process.

De Beers Canada began in 2022 the NIRB's environmental impact review process for a mine at Chidliak. Specific guidelines for a draft environmental impact statement were issued to the company by the NIRB in October 2023, De Beers Canada planned to proceed with Inuit Qaujimamatuqangit (IQ) studies in Pangirtung and Iqaluit, as well a pre-feasibility study to evaluate various mine design options for the CH-6 kimberlite.

Aerial view looking east toward camp, De Beers Canada Inc.'s Chidliak diamond project. Courtesy of De Beers Canada Inc.

Gold

301 302	Back River (George Lake[1], Goose Lake[2])
Operator/Owner	B2Gold Corp.
Commodity	Gold
NTS	076G07[1] – 076G10[1], 076G13[2], 076G14[2], 076J03[2], 076J04[2]
Land Tenure	Crown[1,2], Subsurface IOL[1,2], Surface IOL[1]
Location	389 km south of Cambridge Bay[1], 361 km southwest of Cambridge Bay[2]

In April 2023, B2Gold acquired Sabina Gold & Silver Inc. and the 100 per cent owned Back River Gold project in the southwestern Kitikmeot. The Back River project consists of five blocks of mineral claims along an 80 km-long belt of banded iron formation. The Goose mine at Back River is currently under construction, with the initial gold pour expected from the mine in the first quarter of 2025. The Back River project is located in the central part of the Slave structural province and is underlain by metasedimentary rocks of the Beechey Lake Group. The regional geology of the property is made up of turbidite-hosted oxide and silicate banded iron formation (BIF) with lesser amounts of greywacke and mudstone, cut by gabbroic and felsic dykes, that all have collectively undergone several deformational events.

The bulk of gold mineralization at the Goose deposit is structurally controlled, with the gold occurring in quartz and quartz-carbonate shear veins accompanied by silicification of the BIF and interbedded sedimentary units. The mineralization is usually associated with pyrite, arsenopyrite and pyrrhotite, with free gold present in quartz and quartz-carbonate veining. Gold mineralization is also found in porphyritic quartz and quartz-feldspar dykes but is not found in the younger gabbro dykes as these dykes postdate the mineralization event(s). The regional geology at George is similar to that found at Goose, with gold mineralization occurring in sulphide minerals hosted in an oxide iron formation with a 20-km trend.

Aerial view of Goose camp, Back River property. Courtesy of B2Gold Corp.

B2Gold approved a $20 million, 27,000-metre exploration budget for Q3 and Q4 2023. As of September 2023, approximately 14,000 metres in 26 holes had been completed at Goose, focused on testing the potential for the down-plunge extensions of the Umwelt and Llama deposits. Regional exploration drilling followed up on targets identified at the George, Boulder, Boot, and Del prospects. At the George deposit, 26 drill holes were completed for approximately 6,000 m of drilling over a strike length of 10 kilometres. The five-rig drilling program was anticipated to run through December.

Infrastructure work continued at the site, with the expansion of the Back River property airstrip to 1,525 m to accommodate larger aircraft completed in September, the completion and opening of Phase 1 of new personnel accommodations at Goose, and the start of the construction of the 2024 winter ice road. Installation of the ball mill in the processing facility was expected to be completed ahead of schedule in December 2023, and work on other mine facilities and workshops were to continue through the winter.

Work on the mine plan for the Goose deposit has also progressed, and B2Gold planned to release an updated mine plan for the deposit in Q4. The underground mine design has been revised to increase annual gold production to over 300,000 oz gold per year for the first five years of operations by including the mining of the Umwelt crown pillar. Underground development has exceeded 1,300 m, and the first ventilation raise was expected to be completed in October 2023. The Echo open pit is being mined out prior to the start of underground operations at Goose; the Echo deposit ore will be stockpiled and the pit will be used to provide additional tailings storage capacity.

B2Gold is continuing to work on a proposal originally submitted to the NIRB by Sabina for wind power generation at the Back River site, to reduce the project's dependence on diesel fuel.

303	Greyhound
Operator/Partner	Agnico Eagle Mines Limited, Gold79 Mines Ltd.
Commodity	Gold, Silver, Zinc, Copper, Lead
NTS	066A07, 066A09, 066A10
Land Tenure	Crown, Surface IOL
Location	38 km north of Baker Lake

The Greyhound project is located along the all-season road connecting the community of Baker Lake to the Meadowbank Complex mine site, and consists of 13 mineral leases, covering 13,573 ha of Crown land and two mineral claims with an area of 2,334.87 ha. The mineral leases making up the core of the property are managed by a joint venture between Agnico Eagle

as the operator, with a 67.7 per cent interest, and Gold79 Mines with a 32.3 per cent interest. Gold79 retains 100 per cent ownership of the two claims.

Gold exploration at Greyhound is focused on the contact between a felsic sub-volcanic intrusion and the mafic metavolcanic rocks of a greenstone belt, both part of the Woodburn Lake Group. Exploration has focused on a strongly silicified zone that extends approximately 9 km along the western margin of the greenstone belt, and a banded iron formation southwest of Aura Lake that caps the greenstone belt and has a known strike length of about 10 km. The Outstanding Lake volcanogenic massive sulphide (VMS) target area includes numerous base metal anomalies and an isolated gold anomaly, identified during a 2020 till survey. A strong electromagnetic conductive anomaly in the area is interpreted as the source of glacially transported VMS-mineralized boulders found approximately 1 km away, which have returned assays of up to 9.2% Cu and 18.4% Zn.

Agnico Eagle drilled at the Aura, Dingo, and Outstanding Lake targets on the property in 2021. In 2022 Agnico Eagle completed a partial ground gravity survey of the project and surface prospecting. No work was planned for 2023, and no further information about the program has been released.

304 305 306	Hood River[1], Roma[2], Ulu[3]
Operator/Owner	Blue Star Gold Corp.
Commodity	Gold
NTS	076L14[1,3], 076L15[1,3], 076M02[2], , 076M03[2], 076M07[2], 076M10[2]
Land Tenure	Crown[2,3], Subsurface IOL[1], Surface IOL[3]
Location	202 km southeast of Kugluktuk[1], 184 km southeast of Kugluktuk[2], 198 km southeast of Kugluktuk[3]

Blue Star Gold Corp. operates the Roma, Ulu, and Hood River properties within the High Lake greenstone belt in the Slave structural province. The 947-ha Ulu mining lease, acquired by Blue Star in 2020 from Mandalay Resources, and the Hood River property are contiguous within a subsurface IOL parcel in the southern part of the belt, encompassing ~12,000 ha combined. Blue Star signed an expanded Mineral Exploration Agreement on the IOL subsurface portion of Hood River with NTI in 2022. Roma, acquired in 2021, covers 7,693 ha in the northern portion of the High Lake belt. In February 2023, Blue Star updated the historic NI 43-101 resource for Ulu: the resource currently totals 572,000 ounces of gold in measured and indicated resources and 303,000 ounces of gold in inferred resources: the deposit remains open at depth.

Five different gold mineralization styles have been identified on the Ulu property, with mineralization present in silicified sediments, strata-bound massive sulphides, and in three different styles of polymetallic quartz veining. The Roma property is structurally complex, with gold mineralization in the southwestern portion of the property found in an anticline made up of gabbro, intermediate tuff, and biotite schist units. The western limb of the anticline is cut off by the north-trending Kennarctic shear zone that separates the High Lake-area volcanic rocks from younger rocks to the east.

Geologists at Blue Star's Ulu project check their maps while on traverse. Courtesy of Blue Star Gold Corp.

Blue Star's 2022 field program ran from June through September and was designed to follow up on the results from the 2021 drilling and airborne magnetic survey. Oriented core was drilled across 28 holes and an airborne magnetics survey was conducted across the property. A till geochemistry program on the Roma claims using the detectORE™ rapid low-level gold analysis process identified several under- or un-explored target areas in the vicinity of the Flood deposit: the Zebra-Dagg corridor, the Gravy arsenopyrite-mineralized structural trend, and the Bouncer zone. The company also made further progress in remediating the Ulu site in general.

Blue Star Gold announced in April 2023 that the company's application to participate in the Government of Nunavut's Discover, Invest, Grow (DIG) program had been approved, and the company would be able to apply the contribution to its 2022 program. The DIG program aims to support exploration activities in Nunavut by contributing up to 25% of a company's eligible expenses, to a maximum of $250,000 per calendar year, and a project lifetime maximum of $500,000.

The 2023 field program included regional mapping and geochemical sampling at both the Ulu and Roma properties, as well as infill and exploration drilling through July and August. The program resulted in the identification of the Mikigon prospect at Hood River, an approximately 500-metre-long gold-mineralized metasedimentary unit ranging from 1 to 4 meters wide that is open to the north. Grab sample highlights from Mikigon include 47.1 g/t, 29.6 g/t and 22.7 g/t gold. Two other prospects, Rhonda and Penthouse, were also revisited to follow up on previous work, with both returning assay results confirming base metals potential as well as gold potential. A grab sample with visible gold

was collected from the Auma prospect, which was acquired in 2022 as part of the Roma project and returned 47.6 grams per ton gold. Ground geophysical surveys were also conducted on various targets.

Blue Star intended to use the results of this season's program to prepare drill-ready targets for the 2024 field season.

307 308 309	**Hope Bay (Doris Mine[1], Boston[2], Madrid[3])**
Operator/Owner	Agnico Eagle Mines Limited
Commodity	Gold
NTS	076O08[2], 076O09[2,3], 076O10[2,3], 076O15[3], 076O16[3], 077A03[1,3]
Land Tenure	Crown, Subsurface IOL, Surface IOL
Location	128 km southwest of Cambridge Bay[1], 175 km southwest of Cambridge Bay[2], 152 km southwest of Cambridge Bay[3]

Agnico Eagle Mines' Hope Bay project, including the Doris gold mine, is located in the Slave structural province on the 80 km-long north-south trending Hope Bay greenstone belt. This belt of rocks is primarily Archean mafic metavolcanic rocks and intermediate to felsic metavolcanic rocks with interbedded metasedimentary units and minor ultramafic units. Felsic intrusions along the eastern flank of the Hope Bay belt separate it from the adjacent Elu greenstone belt, over which Agnico Eagle also holds mineral tenure. The company updated the mineral resources at Hope Bay in 2022, for a total of 3.4 million ounces of gold in proven and probable reserves, 1.1 million ounces of gold in indicated resources, and 2.0 million ounces of gold in inferred resources.

Archean lode gold-type mineralization is found along the entire length of the Hope Bay belt. At the Doris mine, located near the northern end of the belt, mineralization occurs in a system of steeply dipping quartz veins hosted in a sequence of folded and metamorphosed pillow basalts. At the centrally located Madrid Trend, gold mineralization is associated with structural breaks and brecciation, while at the Boston deposit, located in the southern end of the belt, gold is found within deformed quartz-carbonate veins hosted in a complex series of altered sedimentary volcanic sequences.

Production activities have remained suspended at Doris, due to logistical issues, but both surface and underground exploration across the property continued. The camp at the Boston deposit to the south was refurbished in 2022 and supported exploration activities in 2023.

After receiving positive results in 2023 from the Q1 and Q2 drilling programs at Hope Bay, Agnico Eagle increased the exploration budget for the property from $30.6 million to $45.1 million for 113,000 metres. At the end of Q3, a total of 119,771 m had been drilled in 194 holes. Underground exploration drilling with three rigs continued at the Doris deposit in the BTD Zone to the north and in the BCO, BCN and West Valley zones below the dike. Gold mineralization was intersected in holes outside the extents of historical drilling, indicating the potential for the Doris deposit to be expanded along strike. Highlights from this drilling included 15.0 g/t Au over 6.4 metres at 422 metres depth and 17.1 g/t Au over 4.8 metres at 607 metres depth, both from drilling at the BCO Zone.

Regional exploration drilling on the Madrid deposit at Agnico Eagle's Hope Bay project. Courtesy of Agnico Eagle Mines Ltd.

Drilling in the West Valley zone also confirmed the presence of mineralization to the south and above the dike, with results up to 19.1 g/t Au over 8 m. At the BCN zone, exploration was focused on delineation drilling and confirming thicknesses and grades; highlights include 12.9 g/t Au over 12.6 m.

At Madrid, drilling focused on step-out holes over the Suluk Gap, a two kilometre-long, previously untested target between the Suluk and Patch 7 zones, at 400 to 700 m depth. Assay results from this new zone returned highlight intercepts

of 10.0 g/t gold over 14.0 metres at 677 metres depth and 13.7 g/t gold over 4.6 metres at 697 metres depth; these results included some presence of visible gold in core. The results extend the area of high-grade mineralization by 300 m to the south and 500 m to the north, and the three mineralized zones remain open at depth.

Logging geotechnical information on drill core at Hope Bay. Courtesy of Agnico Eagle Mines Ltd.

Regional exploration drilling at Madrid was decreased for the seasonal transition but was expected to return to full capacity once the snow and ice conditions were suitable for winter drilling on the Suluk Gap showing and the area south of Patch 7. Concurrent with the drilling activity, Agnico Eagle is continuing work on various technical and project studies to evaluate future production scenarios for Hope Bay.

310 311	McAvoy Lake[1], Turner Lake[2]
Operator/Owner	Bathurst Metals Corp.
Commodity	Gold
NTS	076N02[1], 076N03[1], 076N06[2]
Land Tenure	Crown, Surface IOL
Location	239 km southeast of Kugluktuk[1], 270 km southeast of Kugluktuk[2]

Bathurst Metals Corp. is the 100 per cent owner of two gold properties west of Bathurst Inlet. The Turner Lake project consists of three claims with an area of 4,428 ha featuring classic Archean lode gold mineralization, concentrated at the contact between greywacke units and iron and magnesium tholeiite units. The project includes the Main Gold Zone, discovered in the 1960s, the East Gold Zone, and the Nickel Knob massive sulphide copper-nickel deposit.

Northwest of Turner Lake, the McAvoy Lake gold project includes three mineral claims with an area of 3,662 ha that covers a known 4 km-long north-south trend of gold mineralization that was sampled in the 1980s. No further systematic exploration is known. In 2021, the company carried out geological mapping and structural analysis of the shear zone and the intrusive rock, as well as sampling along the intrusive-shear zone contact.

Field work in 2023 at McAvoy Lake and Turner Lake was operated out of Kugluktuk and included regional mapping and sampling. No results from the program have been released to date.

312 313	**Meadowbank Complex (Amaruq Mine[1], Meadowbank Mine[2])**
Operator/Owner	Agnico Eagle Mines Limited
Commodity	Gold
NTS	056E04[2], 066A16[2], 066H01[1,2], 066H02[1], 066H06[1], 066H07[1], 066H08[1,2], 066H09[1], 066H10[1], 066H11[1]
Land Tenure	Crown, Subsurface IOL
Location	122 km north of Baker Lake[1], 84 km north of Baker Lake[2]

Agnico Eagle's Amaruq mine is located 84 km north of Baker Lake on Inuit Owned Land and grandfathered Crown mining leases, for a total of 100,775 ha of tenure. Operations at the Amaruq mine are supported by the mill and other existing infrastructure at the past-producing Meadowbank mine site; the two sites are connected by a 64-km all-weather road. Commercial production began at the deposit's open pit mine in 2019, with underground operations beginning in August 2022; production from Amaruq is currently estimated to continue until 2026-27.

The Amaruq deposit is underlain by Archean volcanic and sedimentary rocks of the Woodburn Lake Group deposited in a continental rift setting. Mafic to ultramafic volcanic rocks are

Geologist inspecting a grab sample during regional exploration at Agnico Eagle's Amaruq mine site, part of the Meadowbank Complex. Courtesy of Agnico Eagle Mines Ltd.

interlayered with carbon-rich sedimentary rocks intruded by granitoids and lamprophyres. All these formations have been affected by various deformational phases and are generally metamorphosed to greenschist facies. Gold mineralization is found in quartz-pyrite-arsenopyrite veins in metavolcanic and metasedimentary rocks, similar to mineralization found at the Goose and Portage deposits at Meadowbank. Nine mineralized zones have been identified at Amaruq to date: Whale Tail, Whale Tail North, I, V, R, Mammoth 1 and 2, Buffalo, and Tugak. Whale Tail, the largest deposit, has a strike length of 2.3 km and a known depth of 915 m, and remains open at depth and along strike.

Aerial view of the mill complex at the Meadowbank mine site, where ore from the Amaruq mine is processed. Courtesy of Agnico Eagle Mines Ltd.

A total of 322,440 oz Au was produced from 2.905 Mt of ore mined at the Amaruq deposit as of the end of Q3 2023, a 15.4% increase over the same period in 2022 and a quarterly record for ore production at the mine. Agnico Eagle attributed the record results to improved equipment availability and the successful ramp-up of underground operations at Amaruq that also mitigated the impact of a mill operation shutdown related to a longer-than-average caribou migration period in Q2.

Agnico Eagle's Meliadine mine site north of Rankin Inlet, Nunavut. Courtesy of Agnico Eagle Mines Ltd.

Gold production from the mine is expected to peak between 470,000 and 505,000 ounces of gold by 2025. Both regional and underground exploration are continuing at the property with the goal of identifying further mineralized zones at Amaruq, Whale Tale, and IVR to extend the mine life past 2027.

314	**Meliadine Mine**
Operator/Owner	Agnico Eagle Mines Limited
Commodity	Gold
NTS	055J13, 055J14, 055K15, 055K16, 055N01, 055N02, 055O04
Land Tenure	Crown, Subsurface IOL
Location	20 km north of Rankin Inlet

The Meliadine mine, operated by Agnico Eagle, is connected to the hamlet of Rankin Inlet by an all-weather road, and is located 290 km southeast of the Meadowbank Complex site. The Meliadine property consists of 111,358 ha of Crown mineral claims and grandfathered Crown mineral leases on IOL and a Mineral Exploration Agreement (MEA) with NTI. Open pit production began at the mine site in 2019 and is expected to remain in operation until 2032. Meliadine's current resource estimates include proven and probable reserves of 3.7 million ounces of gold at an average grade of 5.93 g/t Au, with an additional 2.2 million ounces of gold in measured and indicated mineral resources and 2.3 million ounces of gold in inferred mineral resources. Many of the seven known deposits on the property remain open at depth, and new targets have been identified for further evaluation are considered likely to increase the mine's lifespan.

The Meliadine mine is located in the northern portion of the west-northwest-trending Archean-age Rankin Inlet greenstone belt. The belt is made up of deformed mafic volcanic rocks, felsic pyroclastic rocks, sedimentary rocks, and gabbro sills, and is locally metamorphosed from lower to middle greenschist grade. Mineralization on the Meliadine trend is mainly located along the Pyke Fault, a high strain shear zone several kilometres wide and over 80 km long. Gold mineralization occurs in association with quartz-carbonate shear zones and/or laminated quartz vein systems. The highest-grade ore zones are found in structurally controlled and multiply-deformed sulphidized iron formation units of the Tiriganiaq and Upper Oxide zones. Five of the major deposits at Meliadine – Normeg, Wesmeg, Wolf, Pump, and F Zone – occur within a five-kilometre radius of the main Tiriganiaq deposit. All the deposits have open-pit potential, with mineralization occurring within 120 m of the surface.

Implementation of Agnico Eagle's Phase 2 production plan for Meliadine continues, with completion of the mill expansion

expected in mid-2024, and the resulting processing increase to 6,000 tonnes per day of ore expected to be fully implemented by year-end 2024. Installation of the new water line from Meliadine is underway and is expected to be completed by the summer of 2025.

The final public hearings for the company's proposed expansion of the Meliadine mine, to add underground mining operations, a new runway, and a wind farm for energy generation, were held in September 2023. The proposed expansion would allow the mine's life to be extended to 2043. In early October, NIRB indicated that it would be removing the wind farm from consideration during the process, due to a lack of information submitted on the relocation of the wind farm's proposed site. In November, NIRB announced that it was recommending to the Minister of Northern Affairs that the expansion not be approved due to concerns related to the habitat of the Qamanirjuaq caribou herd, and air and water quality impacts on Meliadine Lake and Itivia Harbour.

Agnico Eagle has continued with implementation of automated mucking and haulage operations, reaching an uptime of 84% of planned usage in Q3, and was able to fully automate those operations on crew shift change days. A new fleet management system was expected to be fully deployed by the end of 2023.

Exploration continued at Meliadine throughout 2023 that was focused on the vertical extension of the Tiriganiaq, Wesmeg, and Wesmeg North deposits and on regional exploration drilling. At Tiriganiaq's underground exploration drift, drilling on the eastern portion identified new gold mineralization including a highlight interval of 11.4 g/t Au over 3.1 metres at 757 metres depth.

Surface drilling at the F-Zone deposit, southwest of Tiriganiaq, yielded an interval of 6.4 g/t Au over 16.0 metres at 167 metres depth. Conversion drilling on Wesmeg North and conversion and exploration drilling on Pump North and South targets also occurred.

Helicopter parked next to a drill collar stake at Pistol Bay. Courtesy of Whale Cove Gold Corp.

315	Pistol Bay
Operator/Owner	Whale Cove Gold Corp.
Commodity	Gold
NTS	055K05 – 055K07, 055K12, 055L08, 055L09
Land Tenure	Crown, Subsurface IOL, Surface IOL
Location	50 km northwest of Whale Cove

The Pistol Bay gold project covers an area of over 78,000 ha west of the community of Whale Cove. In January 2023, Nordgold SE announced that it had transferred ownership of the Pistol Bay project to BG Gold Capital II Corp. and the project is currently operated by its subsidiary Whale Cove Gold Ltd. A 2020 NI 43-101-compliant inferred resource estimates the Vickers deposit at Pistol Bay to contain 1.58 million ounces of gold, with an average grade of 2.2 g/t Au.

The Vickers deposit and the rest of the property are underlain primarily by volcanic and volcaniclastic rocks, iron formations, mudstones, and siltstones of the Kaminak Group, part of the Rankin-Ennadai greenstone belt in the Hearne Domain of the Churchill Province, and minor amounts of Paleoproterozoic rocks of the Hurwitz Group. The regional geology is interpreted as the closure of an ocean basin, resulting in the accretion of a series of back-arc islands to the Rae Craton. Numerous syn-volcanic to late tectonic igneous intrusions, dated at approximately 2.7 Ga, occur on the property.

Gold mineralization at the Vickers deposit is found within and adjacent to the Gereghty Plug quartz diorite-gabbro intrusion that intrudes into sub-vertical felsic and intermediate metavolcanic and meta-volcaniclastic rock to at least 300 metres depth below surface. The mineralization occurs primarily along the southeast-plunging northeastern contact between Kaminak Group bedrock and the intrusion, and the deposit remains open at depth. Most of the work at Pistol Bay has focused on the Vickers gold deposit. The 2021 program following the 2020 resource estimate, focused on drilling to expand the depth of the Vickers deposit and to test near-surface mineralization west of the current open pit model. In March 2022, Nordgold announced that the planned 2022 season was on hold to allow for more time to process the 2021 drilling results.

A short 2023 field program at Pistol Bay took place in July and August and was focused on regional mapping and till sampling. No results of the program have been released to date.

316 317 318	South Kitikmeot Gold (Bling[1], Esker Lake[2], Gold Bugs[3])
Operator/Partner	Viridis Mining and Minerals Limited, Silver Range Resources Ltd.
Commodity	Gold
NTS	076C14[3], 076C15[3], 076C16[1], 076F01[2], 076F02[2]
Land Tenure	Crown[1,2,3], Surface IOL[1]
Location	425 km southeast of Kugluktuk[1], 414 km southeast of Kugluktuk[2], 412 km southeast of Kugluktuk[3]

Viridis Mining and Minerals Limited optioned the South Kitikmeot Gold project from Silver Range Resources in August 2021. The 11,448-ha project includes seven properties along the Back River-Contwoyto greenstone belt, which also includes the past-producing Lupin gold mine and B2Gold's Back River project. Hiqiniq and Ujaraq showings are located about 10 km south of the Lupin mine site; the Qannituq property is 8 km northwest of the Llama deposit at the Back River project, and the Park Place properties – Esker Lake, Gold Bugs, and Bling – and the Uist property are approximately 100 km and 80 km southwest, respectively, of Back River. Work has taken place intermittently on the properties since the discovery of the Esker Lake showing in 1986.

Gold mineralization at the property is hosted in iron-formation metasedimentary rocks, and high grade surface samples have been collected from each of the properties. Highlighted results include 61 g/t Au from the Brandon Hill showing, 19.9 g/t Au from the Wasp Lake showing at Esker Lake, and 64.3 g/t Au from the Uist property. Esker Lake is the only property that has been drilled. In 2022, Viridis completed a ground geophysical survey at the Brandon Hill prospect at Esker Lake. This survey identified a magnetic high which was interpreted as extending the iron formation by an additional 2.7 km.

A geophysical program was conducted in April 2023 as part of the exploration program at Gold Bugs, Esker Lake and Thistle Lake. The ground magnetic and resistivity surveys at Gold Bugs successfully mapped the iron formation under the overburden and these surveys will be used to delineate sulphide-bearing phases in the iron formations. Results suggest that bands of iron formation up to 100 m thick may be present. Three new gold-bearing zones were identified within an iron formation horizon extending over 7 km, and two previously unrecognized linear magnetic anomalies were mapped at the Bling property.

Additionally, Viridis completed a seven-hole diamond drill program at Esker Lake in April 2023 that was intended to confirm and expand the historic gold mineralization known on the property. The results from the diamond drilling program returned high-grade intervals of gold that are comparable to results from other parts of Esker Lake. Assay results from the analyses have not been released.

Helicopter at a drill site during regional exploration at the Meliadine property. Courtesy of Agnico Eagle Mines Ltd.

Iron

401	Mary River Mine
Operator/Owner	Baffinland Iron Mines Corporation
Commodity	Iron
NTS	037C10, 037C15, 037E05, 037E06, 037E10 – 037E12, 037E14, 037E15, 037F01, 037F10, 037F13 – 037F16, 037G01 – 037G03, 037G05, 037G06, 037G11, 037G14
Land Tenure	Crown, Subsurface IOL, Surface IOL
Location	154 km south of Pond Inlet

Baffinland Iron Mines Corporation (BIMC) operates the Mary River iron mine on northern Baffin Island. Mineral tenure on the property consists of 363,323 ha of Crown mineral claims and 48,625 ha in three Mineral Exploration Agreements with NTI. Mary River's iron ore deposit was first discovered in the 1960s; further exploration work was not undertaken until BIMC acquired the property in 2004. Commercial production from Deposit No. 1 at the mine site began in late 2014.

Exploration and resource work have identified nine iron ore deposits at Mary River to date, all are hosted in metasedimentary and metavolcanic rocks of the late Archean (2.76–2.71 Ga) Mary River Group. The region (northern Baffin Island) has undergone three major tectonic events, the most significant being the Trans-Hudson Orogeny that peaked at 1.8 Ga. The lithological units of relevance to the project are a sequence of stratigraphically lower metavolcanic rocks and stratigraphically higher metasedimentary rocks, with a banded iron formation unit forming a prominent marker.

High grade iron mineralization at Mary River is associated with large-scale folds along structural boundaries. The Mary River synform hosts Deposits 1 through 3, and the McOuat synform hosts Deposits 4 and 5. Deposit No. 1 is currently being mined and averages 64% Fe, with relatively low deleterious elements, including silica and alumina. The high grade iron ore is spatially associated with the footwall chlorite schist, and occurs as hematite, magnetite, or specularite in the banded iron formation rocks.

During the 2022 field season, Baffinland completed infill and exploration drilling in 22 holes at Deposits 1 and 3, a structural mapping program on Deposits 2 through 5 and at the Glacier Lake prospect, and surface sampling on Deposit 3 East and Deposit 5. Ground gravity surveys covering the area between Deposits 1 and 2 also occurred to follow up anomalies detected during regional airborne surveys. A multi-year slope stability study on Deposit 1 also began and will continue into future field seasons. Results from these programs were intended to contribute to an updated NI 43-101 resource estimate and feasibility study for Mary River. Core from the geotechnical drilling was logged for its geology, but no specific exploration work took place in 2023.

The four-year regulatory process related to Baffinland's proposal to increase the quantity of ore shipped from Milne Inlet to 12 million tonnes (Mt) per year, and to construct a 110-kilometre railway parallel to the existing tote road, concluded with a series of meetings in Iqaluit in November 2021. In May 2022, the NIRB recommended to the Minister of Northern Affairs that the Phase 2 proposal should not proceed due to the potential for significant adverse ecosystemic effects.

Geotechnical drilling on the north limb of Deposit No. 1 at the Mary River Mine. Courtesy of Baffinland Iron Mines Corp.

Following this decision, BIMC announced in February 2023 that the company would begin working to implement its plan for an ore transport railway and port at Steensby Inlet on the south coast of Baffin Island. This proposal had received regulatory approval in 2012 but this proposal had been shelved when the Early Revenue Phase proposal for the Milne Inlet route was submitted to the NIRB. In April 2023, the company submitted its Sustaining Operations Proposal to the NIRB, requesting that the 6 Mt ore shipping limit be reinstated for 2023 and 2024 to maintain mine operations at their current levels. Baffinland has requested approval from the NIRB to ship up to 1.8 million tonnes of 'stranded' ore, in case of early sea ice formation shortened the planned 2023 and 2024 shipping seasons.

In September 2023, NIRB recommended to the Minister of Northern Affairs that the Sustained Operations Proposal be approved. The Minister accepted the Board's recommendation and approved the proposal in October. The company's last ore carrier of the season left the Milne Inlet port in late October, completing a shipping season totaling 6.075 Mt of iron ore in 75 shipments.

Nickel-Copper-PGE

501	Ferguson Lake
Operator/Owner	Canadian North Resources Inc.
Commodity	Palladium, Platinum, Copper, Nickel, Cobalt
NTS	065I14, 065I15
Land Tenure	Crown, Surface IOL
Location	159 km south of Baker Lake

The Ferguson Lake property covers a total area of 25,380 ha and is comprised of 11 contiguous claims and 10 mineral leases. Access to the project is by air from Baker Lake or Rankin Inlet.

The Ferguson Lake deposit is located in the northwestern portion of the Hearne Domain of the Churchill Province, overlying the northerly extension of the Yathkyed greenstone belt. The deposit was discovered in the 1950s and has been explored intermittently by several companies. Starfield Resources completed the majority of the historical work on the deposit between 1999 and 2011, and the company released the first NI 43-101 resource estimate for the property. Canadian North Resources Inc. (CNRI) acquired the property from Starfield in 2013, and since then has carried out several exploration programs with activity ramping up significantly in 2022 and 2023.

Two types of nickel-copper-platinum group element (Ni-Cu-PGE) mineralization are known at Ferguson Lake: magmatic copper-nickel-cobalt mineralization with palladium, platinum, and rhodium, and low-grade base metal sulphides with disseminated stringers of high grade platinum-group elements situated along and beneath the footwall of massive sulphide lenses within the intrusions. Both styles of mineralization are spatially related to mafic and ultramafic intrusions that are mostly coarse-grained gabbros. The main Ferguson Lake deposit is the magmatic style and is divided into the East, Centre, and West zones that are related to this same gabbro unit; the deposit extends over a known strike length of 15 km.

Geologists at a gossan outcrop at Canadian North Resources Inc.'s Ferguson Lake project. Courtesy of CIRNAC.

In July 2022, CNRI released an updated NI 43-101 resource for the deposit that included indicated resources of 24.3 Mt of ore grading 0.07% Co, 0.85% Cu, 0.60% Ni, 1.38 grams per tonne (g/t) Pd, and 0.23 g/t Pt, and inferred resources of 47.2 Mt at average grades of 0.06% Co, 0.91% Cu, 0.530% Ni, 1.4 g/t Pd, and 0.25 g/t Pt. The deposit is considered to have both open-pit and underground potential.

The 2022 program for Ferguson Lake was initially budgeted for 15,000 m of drilling focused on infill and step-out drilling on the East Zone and West Zone targets. CNRI added a third drill rig to the program in August, and by October had drilled a total of 18,144 m over 68 holes, four of which tested satellite mineralized zones around the East Zone target.

The 2023 spring and summer drill programs consisted of 21,126 m of drilling from 78 holes. This drilling extended the West and East zones along strike and down dip. Interval highlights included 10.0 m at 0.89% Cu, 0.53% Ni, 0.08% Co, 1.05g/t Pd, 0.12g/t Pt, and 0.02 g/t Rh. In October 2023, CNRI announced that it had begun work on an updated NI 43-101 resource estimate and deposit model for Ferguson Lake, incorporating the more than 39,000 metres of core drilled in 2022 and 2023, and geophysical survey data and metallurgical testing of ore.

502	Gela Lake
Operator/Owner	Bathurst Metals Corp.
Commodity	Copper, Nickel, Cobalt
NTS	076N06
Land Tenure	Crown, Surface IOL
Location	248 km southwest of Cambridge Bay

Bathurst Metals carried out a summer exploration program at its 100 per cent-owned 3,116 ha Gela Lake project in 2023. The property has nickel, copper, cobalt, gold and silver potential and this mineralization is interpreted as being hydrothermal in origin. Previous work at the property indicates that the mineralization is likely related to the Bathurst Fault that cuts through both Archean metasediments and metavolcanics and a large monzogabbro intrusion in the area.

Ten grab samples were collected from sub-vertical quartz±carbonate veins on the property that are exposed at surface over a strike length of 300 metres and up to 4 metres in width. Eighty till geochemistry samples were also collected across the monzogabbro unit that is projected as the surface expression of the Bathurst Fault. Assay results indicate that

anomalous concentrations of gold, copper and bismuth are present in both rock and till samples along a 2-kilometre trend aligned with the interpreted surface trace of this fault.

Highlight results from the grab samples include 28.2 g/t Ag, 9.79 g/t Au, 169 ppm Bi, 901 ppm Co, and 0.9% Cu from sample H619355, and 134 g/t Ag, 442 ppm Bi, 64.3 ppm Co, and 12.1% Cu from sample H619359. Analysis of these results indicated that the high bismuth values in a sample are correlated with high copper, gold, and silver values, and that samples with high cobalt values also showed visible copper mineralization in the forms of bornite and chalcopyrite.

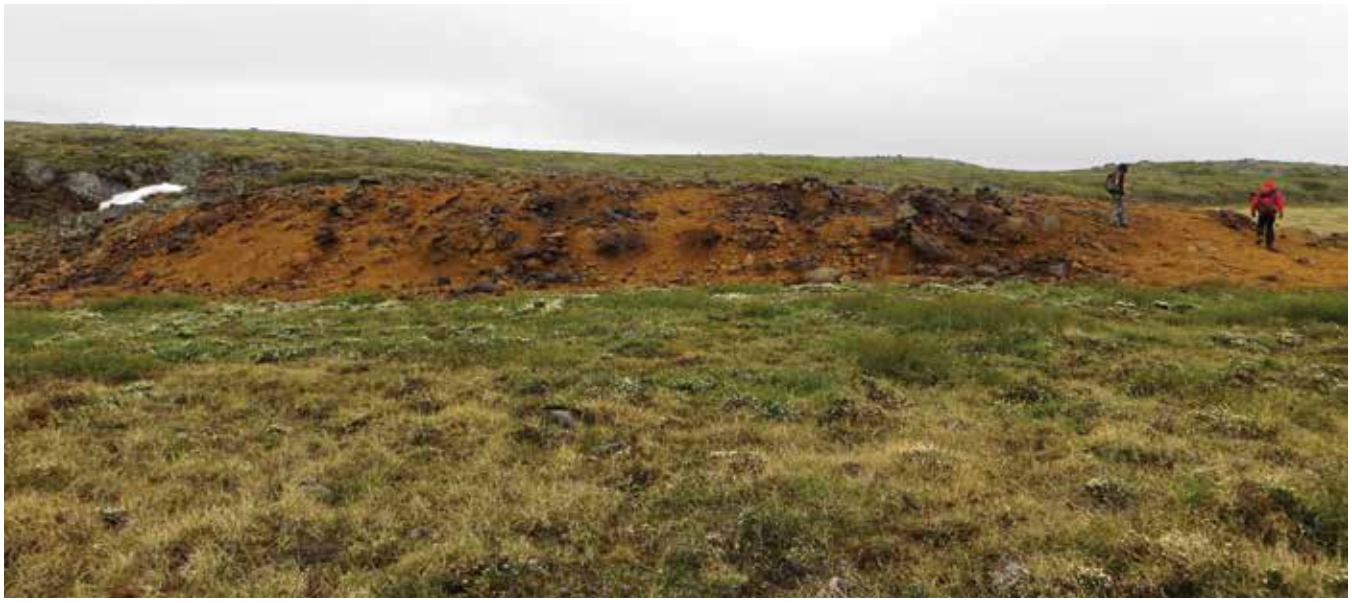
503	Muskox
Operator/Owner	SPC Nickel Corp.
Commodity	Copper, Nickel, Palladium, Platinum
NTS	086J02, 086J06, 086J07, 086J10, 086J11, 086J14, 086O03
Land Tenure	Crown, Subsurface IOL, Surface IOL
Location	131 km south of Kugluktuk

SPC Nickel's Muskox project in the western Kitikmeot is comprised of 26 mineral claims and two prospecting permits, covering a total of 65,340 ha of tenure within the Muskox Intrusion. The Muskox intrusion occurs at the western margin of the Slave Province, along a crustal-scale structural boundary between early Proterozoic metamorphic rocks of the Wopmay Orogen and undeformed strata of the Mesoproterozoic Dismal Lake and Hornby Bay groups. Regional gravity data suggests that the intrusion may extend a further 250 km to the north under surficial cover, and it is estimated to be up to 1,900 m thick. Ni-Cu-PGE mineralization was first identified at the Muskox intrusion in gossans located during an aerial survey of the region by Inco in the 1950s, and since then the area has seen intermittent exploration.

SPC had planned a summer exploration program for the 2023 field season; however, the program had to be cancelled due to the wildfire situation in the Northwest Territories.

504	Muskox Reef
Operator/Owner	Bathurst Metals Corp.
Commodity	Palladium, Platinum, Copper, Nickel, Cobalt
NTS	086O03
Land Tenure	Crown, Subsurface IOL, Surface IOL
Location	81 km southwest of Kugluktuk

Bathurst Metals signed a Mineral Exploration Agreement with Nunavut Tunngavik Inc. in late 2022 for the 10,433-ha Muskox Reef property, located over the Muskox layered ultramafic intrusive complex. The Muskox complex is made up of four main geological units – the Feeder Dyke, the Marginal Zone, the Layered Series, and the Roof Zone – and is estimated to be up to 1,900 metres thick. Historical results from work on the complex suggest that the "upper reef" layers of the complex host anomalous PGE concentrations, which in some areas have been remobilized by the intrusion of cross-cutting diabase dykes. These dikes can be identified in geophysical datasets and are being prioritized as areas of interest for exploration



Prospecting on a gossan at the Muskox Intrusion. Courtesy of SPC Nickel Corp.

on the property. Additionally, other geophysical anomalies, interpreted as PGE-mineralized sulphides, are being prioritized along the down-dip extension of the reef structure.

The company had planned a 2023 exploration program of prospecting, mapping, and sampling at Muskox Reef, but had to postpone the work due to the wildfire situation in the Northwest Territories.

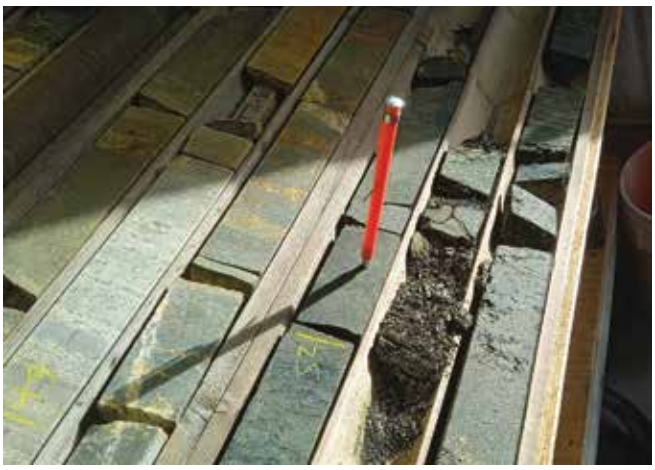
505	Nagvaak
Operator/Owner	StrategX Elements Corp.
Commodity	Nickel, Vanadium, Silver, Molybdenum, Palladium, Platinum
NTS	046O06, 046O11
Land Tenure	Subsurface IOL
Location	158 km south of Sanirajak

StrategX Elements Corp.'s Nagvaak project is located on an IOL subsurface parcel about 20 km to the west of the Mel mineral claims on the Melville Peninsula. In February 2022, StrategX signed a 20-year Mineral Exploration Agreement with NTI for the 2,665-ha property, that is prospective for nickel-copper-PGE mineralization. Historic exploration for zinc by BHP and Aquitaine has taken place in the area, but there has been no prior exploration for Ni-Cu-PGE. StrategX received a grant from the Government of Nunavut's Discover, Invest, Dig (DIG) program to support its 2023 work.

The Nagvaak project consists mainly of Penrhyn Group metasedimentary rocks which are part of an early Proterozoic rifted sedimentary basin in the Rae Craton. The basin experienced two deformation events and reached granulite-facies metamorphic conditions. Mineralization on the property is polymetallic, including nickel, vanadium, cobalt, molybdenum, copper, zinc, silver, and PGEs. The mineralized trend has been identified in a 400-metre-wide surface exposure stretching over six kilometres of strike length. Modeling of existing data estimates that the mineralized trend extends to a depth of 150 m below surface, with geophysical anomalies indicating an east-west-trending anticlinal structure.

StrategX completed a 62 line-kilometre high resolution electromagnetic and ground magnetic survey during the 2022 season, as well as logging, sampling, and analysis of historical core drilled by BHP which was located during the program. In December 2022 the company announced that a previously unknown mineralized interval had been identified in the historic drill core, and interpreted the results as indicating the area of interest was open along strike and at depth.

In March 2023 StrategX announced that high-grade large flake graphite, considered to be a host for nickel, vanadium, molybdenum, zinc, copper, and silver mineralization, had been identified in historic core and in new surface grab samples from Nagvaak. The re-analysis of historic drill core also identified continuous intervals of polymetallic mineralization, including 36 m in hole #1 and 38 m in hole #2 showing significant concentrations of nickel, vanadium oxide, copper, molybdenum, zinc, silver, and PGEs.



Historic core with nickel mineralization from the Nagvaak property. The core is also iron-rich, making it magnetic. Courtesy of StrategX Elements Corp.

StrategX planned a 2023 drill program to follow up on these results, focused on Target Areas 1 and 4 and including 12 high priority drill targets identified by the 2022 geophysical surveys. Target Area 4 includes a 200-metre-wide electromagnetic anomaly which extends over approximately one kilometre. No results from the drilling program have been released.

Analyzing grab samples with a portable X-ray fluorescence detector at StrategX's Nagvaak project. Courtesy of StrategX Elements Corp.

Uranium

601	Angilak
Operator/Owner	Latitude Uranium Inc.
Commodity	Uranium
NTS	065J06 – 065J11, 065J15
Land Tenure	Crown, Subsurface IOL
Location	235 km southwest of Baker Lake

In June 2023 Latitude Uranium Inc., formerly Labrador Uranium, announced its acquisition of the Angilak uranium property from ValOre Metals Corp. The property covers 68,552 ha of mineral tenure. The focus of work on the project continues to be the Lac 50 deposit, which has a historic NI 43-101 resource from 2013 of 2.38 million tonnes (Mt) of ore at an average grade of 0.69% U_3O_8. Mineralization at Angilak is structurally controlled and is hosted in graphitic tuff units of Archean metavolcanic rock.

Low uranium prices, and more recently the COVID-19 pandemic, resulted in several years of dormancy for the project. In 2021, ValOre undertook a full desktop review of existing geophysical and geochemical data from the Angilak property from 2008 on, in combination with 466 km² of satellite imagery and spectral data of the property to assist with the review and with target generation.

Following that review, ValOre conducted a 2022 exploration program at Angilak consisting of a winter reverse-circulation (RC) drill program and a summer diamond drilling program. Results from the RC drilling on the Dipole, Yat, and J4 targets were used to target a 26-hole summer drill program on areas with significant U_3O_8 intercepts; radioactive zones were intercepted in 23 of 26 holes drilled. Notable zones of Ag-Mo-Cu mineralization were also identified at the Dipole target. The program also included ground electromagnetic geophysics and till samples collected for enzyme leach analysis.

Latitude's 2023 Angilak drill program on the Lac 50 Trend's Main Zone was completed in two phases. Phase 1 drilling identified a potential new lens just south of the Main Zone in three holes, and continuity of mineralization to the west and east sides of the Main Zone, with anomalous radioactivity up to 11,000 counts per second (cps). Main Zone East drilling returned one hole with intervals of mineralization in which radioactivity was greater than 65,535 cps, the maximum value which can be recorded by the scintillometer. The Main Zone South area remains open along strike to the east and west, and down-dip to the south.

The Phase 2 drill program consisted of three additional drill holes totaling 889 metres and focused on the western side of the Main Zone of the Lac 50 Trend. These Main Zone West holes show lateral continuity and down-dip extension of mineralization, and anomalous radioactivity of up to 21,000 cps. Assay results from Phase 2 are pending.

Results from the 2023 program will contribute to a revised NI 43-101 mineral resource estimate for Angilak. Latitude has indicated that 2024's drill program will follow up on the mineralized 200-metre interval identified in hole 23-LC-018 and on the potential new lens south of the Main Zone: further work will include extending mineralization outside the Main Zone along the Lac 50 trend.

Aurora borealis above the camp at Latitude Uranium's Angilak project. Courtesy of Latitude Uranium Inc.

602	Thelon Project
Operator/Owner	Forum Energy Metals Corp.
Commodity	Uranium
NTS	066A04 – 066A06, 066A12, 066B01, 066B08, 066B09
Land Tenure	Crown, Subsurface IOL, Surface IOL
Location	93 km west of Baker Lake

Forum Energy Metals, formerly Forum Uranium Ltd., has acquired 95,518 ha of mineral tenure over the Tatiggaq and Qavvik prospects formerly held by Cameco Corp. and by Forum as that company's North Thelon project. The project is located in the Thelon Basin, which hosts several known unconformity-style uranium deposits that are geologically similar to those found in northern Saskatchewan's Athabasca Basin. Forum's claims are located along the same east-west and northeast-southwest structural trends in the Basin that host Orano Canada Inc.'s Kiggavik deposit.

Closeup of core from Forum Energy Metals' initial drill program at the Thelon project. Courtesy of CIRNAC.

The Tatiggaq prospect consists of two zones, Main and West, which average 30 m in thickness at a depth of 80 to 100 m and strike lengths of 80 m and 60 m, respectively. Grades of up to 24% U_3O_8 have been reported from these zones over 10 to 30 cm widths, with average grades of approximately 1% U_3O_8. Tatiggaq is located within a large gravity anomaly that remains open at depth along 1.5 km of strike. The Qavvik prospect consists of four steeply dipping lenses between 5 and 20 m wide, to a depth of 350 m, over a strike length of 250 m. The highest-grade mineralization from previous work at Qavvik was 5.69% U_3O_8 over 0.3 m. Two other prospects have been identified on the property: the Ayra showing, interpreted from the results of 15 historical drill holes as unconformity-style uranium mineralization occurring along reactivated fault zones, and the Ned anomaly, which has only seen limited historic drilling into the Thelon sandstone. Work on the Ned anomaly returned elevated levels of uranium, boron, nickel, and silver in bleached and clay-altered sandstone.

Forum completed a preliminary program in October 2022 including a 110 line-km ground gravity survey to define targets for a follow-up drill program that took place in July and August 2023 on the property. This program, totaling 991 metres of drilling in five holes, was focused on expanding known areas of shallow high-grade uranium mineralization at the primary Tatiggaq discovery and drilling on the Ned anomaly. A drill hole in Tatiggaq's Main Zone intersected 2.25% U_3O_8 over 11.1 m, 3.32% U_3O_8 over 3.1 m, and 7.27% U_3O_8 over 1.5 m in zones as deep as 160 m.

A 200-metre step-out hole drilled in the southwestern part of the West Zone intersected 0.40% U_3O_8 over 12.8 m, 1.10% U_3O_8 over 0.8 m and 1.08% U_3O_8 over 1.3 m, interpreted as multiple lenses of uranium mineralization in a wide fault zone. The West Zone is open along strike to both the southwest and northeast towards the Main Zone, also open along strike. Forum is planning a 2024 program of follow-up drilling focused on expanding uranium mineralization along strike and at depth, and for the construction of a new exploration camp to support that program.

Preparing for takeoff at Forum Energy Metals' Thelon project. Courtesy of CIRNAC.

Inactive projects

North Arrow Minerals Inc. owns the **CSI** diamond project in the Kitikmeot region, west of the diamondiferous Muskox and Jericho kimberlites. A till sampling program was carried out in 2021 on the property, with the intent of reinterpreting surficial geology based on the results of analyses, and of identifying the bedrock source for the anomalous indicator minerals. No further work has been reported.

North Arrow is also the operator of the **Naujaat** diamond project, owned under a joint venture with Burgundy Diamond Mines Ltd. The project has an inferred NI 43-101 resource for the Q1-4 kimberlite complex of 26.1 million carats in 48.8 million tonnes of kimberlite. An 1,823 dry tonne bulk sample was collected from the kimberlite complex in 2021 and recoveries of 268 diamonds greater than +9 DTC sieve size (1.05 mm), totaling 117.98 carats, were reported in 2022. Just over 20% of the diamonds by carat weight were graded as "fancy coloured", with intense or vivid orange colouration.

Fury Gold Mines Ltd. owns the **Committee Bay** gold project in the eastern Kitikmeot. The project consists of five properties spread across the Committee Bay greenstone belt. The focus of work has been the Three Bluffs deposit, which has a NI 43-101 indicated resource of 524,000 ounces of gold at 7.85 g/t Au and an inferred resource of 720,000 ounces of gold grading 7.64 g/t Au. A 2021 program was carried out at the Raven prospect and to test potential mineralization below the resource at Three Bluffs.

The **Hard Cash** gold project is owned by Silver Range Resources Ltd. and consists of two mineral claims on the shores of Ennadai Lake, in the Ennadai Greenstone Belt. The claims include the 1.4 km long Swamp Trend, from which high-grade gold and silver analyses have been returned. Canarc Resources carried out a reverse circulation (RC) drill program on the property in 2020 under an option agreement, but terminated that agreement based on the results. No work has been reported since 2020. Silver Range also owns the **Tree River** gold project that also may have diamond potential. The project is located in the northern Anialik greenstone belt in the Kitikmeot region. Panel samples were collected from the Main Zone and West Zone of the Tree River Conglomerate in 2020, returning high-grade gold values from the Main Zone.

Western Atlas Resources Inc. owns the **Meadowbank** gold project, consisting of three non-contiguous blocks of claims adjacent to the all-weather road connecting Agnico Eagle's Amaruq gold mine and Meadowbank Complex to the community of Baker Lake. A drill program was carried out in 2020, with follow-up logging and sampling of drill core as well as structural and geological mapping in 2021. No further work has been reported.

The **Pistol Lake** gold project is owned by Leeward Capital Corp. and comprises two grandfathered Crown mineral leases within a subsurface IOL parcel. Work on the project was sporadic from 1965 through 2000. Leeward Capital carried out a sampling program in 2020 and flew a LIDAR survey of the property in 2022. An exploration program was being developed for 2023, but no further work has been reported.

Solstice Gold Corp. owns the **Qaiqtuq** gold project, formerly known as 'Kahuna Gold Project' or 'KGP', located near Rankin Inlet. The last work on the property consisted of regional surface mapping and boulder sampling in 2020, and three areas of gold-bearing boulders were identified.

Prospector Moshi Kotierk owns the polymetallic **Richards Bay** project northwest of Igloolik. It is located within a metavolcanic belt which the Geological Survey of Canada identified by the belt's magnetic geophysical anomalies. Soil and grab samples collected from the property have returned high-grade gold values.

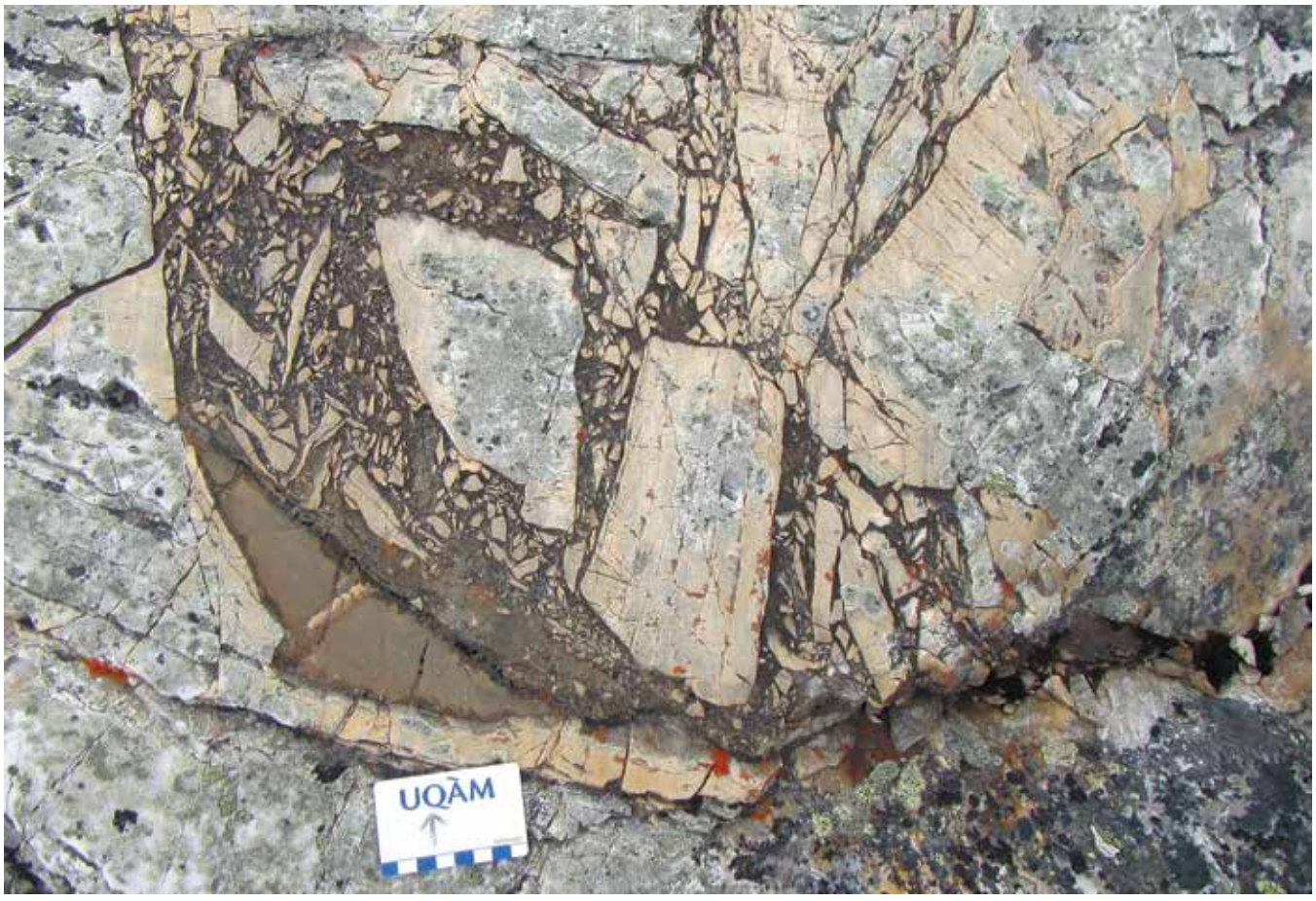
Bathurst Metals Corp. optioned the **McGregor Lake** and **Speers Lake** nickel-copper-platinum group elements projects to SPC Nickel Corp. in 2023. These projects overlie the Muskox ultramafic intrusion and are contiguous with SPC's Muskox project (page 39). Bathurst Metals carried out geological mapping, rock sampling, and a structural analysis of both properties in 2021, with high-grade results returned from the East Pump Lake target within the McGregor Lake project.

StrategX Elements Corp. owns the **Mel** and **Tasijuaq** nickel-copper-platinum group elements projects on the Melville Peninsula. Tasijuaq is on the northern part of the peninsula, west of Sanirajak. The project focus is on gossans within a gabbroic intrusive system. Grab sample results were released in 2022 with anomalous nickel, copper, and cobalt values. The Mel project is adjacent to North Arrow Minerals' Mel diamond project, and the companies signed an agreement giving non-diamond mineral rights to StrategX within North Arrows' claims, and diamond rights to North Arrow within StrategX's claims. No information concerning work done at Mel has been released.

Crew change day at the Ulu project. Courtesy of Blue Star Gold.

Inactive projects

Number	Project	Owner
▽	**Diamonds**	
203	CSI	North Arrow Minerals Inc.
204	Naujaat	North Arrow Minerals Inc., Burgundy Diamond Mines Ltd.
▱	**Gold**	
319 - 323	Committee Bay	Fury Gold Mines Ltd.
324	Hard Cash	Silver Range Resources Ltd.
325 - 327	Meadowbank	Western Atlas Resources Inc.
328	Pistol Lake	Leeward Capital Corp.
329	Qaiqtuq	Solstice Gold Corp.
330	Richards Bay	Moshi Kotierk
331	Tree River	Silver Range Resources Ltd.
⬭	**Ni-Cu-PGE**	
506, 507	McGregor Lake, Speers Lake	SPC Nickel Corp., Bathurst Metals Corp.
508, 509	Mel, Tasijuaq	StrategX Elements Corp.



A geopedal structure showing way-up indicators - fine carbonate mud laminations infilling the bottom of a breccia cavity created by tectonic activity. Courtesy of CNGO.

Glossary

base metal a metal that corrodes or oxidizes easily, such as iron, nickel, copper, or zinc. Some base metals, including nickel and copper, are **critical minerals**.

breccia a rock texture resulting from the fracturing of rock units into pieces by **tectonic activity**, and then being cemented back together. Breccias can be good hosts for mineral deposits because the fractures in the rock provide spaces for mineralization to occur.

bulk sample a large amount of rock material collected from a mineral deposit to determine its average metal or mineral content (see **grade**). Bulk samples are usually between several hundred kilograms and several tonnes in size.

carat a unit of weight used for diamonds and other gemstones. One carat is equivalent to 0.2 grams.

critical mineral minerals or metals which are essential for Canada's national transition to a low-carbon economy. They are often found in limited quantities and are difficult or impossible to substitute. At least 21 minerals from Canada's critical mineral list are found in Nunavut, including lithium, graphite, nickel, cobalt, and copper.

deposit a natural concentration of a metal, gemstone or other mineral substance, which may be economic but which needs detailed study to be classified as a resource. Also called a mineral deposit.

drilling the use of a drill to remove cylindrical samples of bedrock or other surface material such as glacial till or clay, in order to examine of rock types, understand an area's geological structure, or verify the presence or absence of **ore** minerals. Drills can be large diesel-powered machines or small portable rigs.

element a pure substance that contains only one type of atom. Gold, copper, iron, and other metals are elements.

feasibility study a report prepared by a mining company to evaluate the most suitable plan for a proposed mine, based on options in the **pre-feasibility study**. It includes a project budget, mine designs, and construction plans, and demonstrates that the project can be accomplished in an environmentally and technically sound way.

fee simple a type of private land ownership in which the owner has the right to use, control access to, and transfer the land. Inuit hold fee simple title to Inuit Owned Land.

felsic a descriptive term for igneous rock made of light-coloured minerals such as quartz and feldspar. Felsic rocks are less dense than mafic rocks. Granite is a common felsic rock found in many parts of Nunavut.

geochemical survey the collection of rock, soil, or water samples from a defined area and their subsequent chemical analysis in a laboratory, to identify anomalous concentrations of elements or minerals that can indicate the presence of metals or gemstones.

geophysical survey the collection of information about bedrock in a defined area using sensing instruments. These surveys can be conducted from the air or the ground to detect physical properties of rocks such as magnetism, gravity or conductivity.

grab sample a rock sample, collected by hand, that is examined for its physical characteristics and chemically analyzed to determine whether economic minerals or metals are present.

grade the average quantity of a metal or other mineral in the **ore** of a mineral deposit. Precious metal grades are generally measured in grams per tonne, base metals are measured in pounds or kilograms per tonne, and gemstones are measured in **carats** per tonne.

greenstone belt a linear zone or "belt" of metamorphosed volcanic rocks that often host deposits of gold and other economic metals. Their characteristic colour comes from several green minerals that are found in the volcanic rocks. These belts can be tens to hundreds of kilometres in length and are found in several places in Nunavut.

kimberlite a type of igneous rock in which diamonds can be found. Minerals from kimberlites that are found in glacial or other sediments and their locations can be mapped to potentially trace back to the kimberlite they came from.

mafic a descriptive term for an igneous rock made up of dark-coloured minerals such as biotite, amphibolite, or olivine. Mafic rocks have a higher density than **felsic** rocks. Ultramafic rocks are more than 90 per cent mafic minerals, and some can be used as carving stone.

Mineral Exploration Agreement an agreement signed between Nunavut Tunngavik Incorporated and an exploration company, which allows exploration on Inuit Owned Lands.

National Instrument 43-101 (NI 43-101) a set of rules and guidelines for reporting information related to mineral exploration projects that are listed on Canadian stock exchanges.

ore a rock or mineral that can be mined and processed to produce an economically important metal.

platinum-group elements (PGE) a group of metals including iridium, osmium, palladium, platinum, rhenium, rhodium, and ruthenium, that are highly resistant to tarnishing and corrosion. They are used in both industrial applications and in jewellery. Some platinum-group elements are **critical minerals**.

precious metal a metal such as gold or silver, which has high economic value and does not corrode.

preliminary economic assessment an initial economic study done on a mineral deposit to determine whether or not the project can be profitable under current market conditions.

Glossary

pre-feasibility study the evaluation of an advanced exploration project's potential to become a mine, prior to proceeding with infrastructure development, underground expansion, or other large-scale activities. It includes various mine design options, initial technical studies, permitting requirements, and ore processing test results, budget estimates for those options, and analysis of the costs and benefits of moving forward with mine development.

reserve an estimate, published by a mining company, of the amount of naturally occurring metal, gemstone, or other substance in a mineral deposit that can be economically extracted at the time of publication of the estimate. Classifying a mineral deposit as a reserve indicates that a company has strong confidence in the quantity and grade of **ore** in that deposit. Mineral deposits must meet specific legal criteria to be classified as reserves.

resource an estimate, published by a mining or exploration company, of the amount of naturally occurring metal, gemstone, or other substance in a mineral deposit, which could be economic to extract in the future. Classifying a mineral deposit as a resource indicates that a company has moderate confidence in the quantity and quality of **ore** in that deposit, but that more exploration is needed to consider it a **reserve**. Mineral deposits must meet specific legal criteria to be classified as resources.

shear a type of deformation resulting from **tectonic activity** that cause parts of a rock mass to stretch, compress, or fracture. This deformation can form shear zones, bodies of rock with many parallel fractures that can be good hosts for hydrothermal mineral deposits.

sulphide a group of minerals that contain the **element** sulphur, including a large number of metal-bearing minerals that are sources for metals such as gold, zinc, and copper. Sulphide deposits can be described as massive, in which the minerals are concentrated in small areas, or disseminated, in which the minerals are distributed over large areas.

tectonic activity the gradual movement of the rocks that makes up the earth's crust, caused by heat generated in the mantle. Tectonic activity can cause rock units to be sheared (see **shear**), stretched, folded, or fractured (see **breccia**).

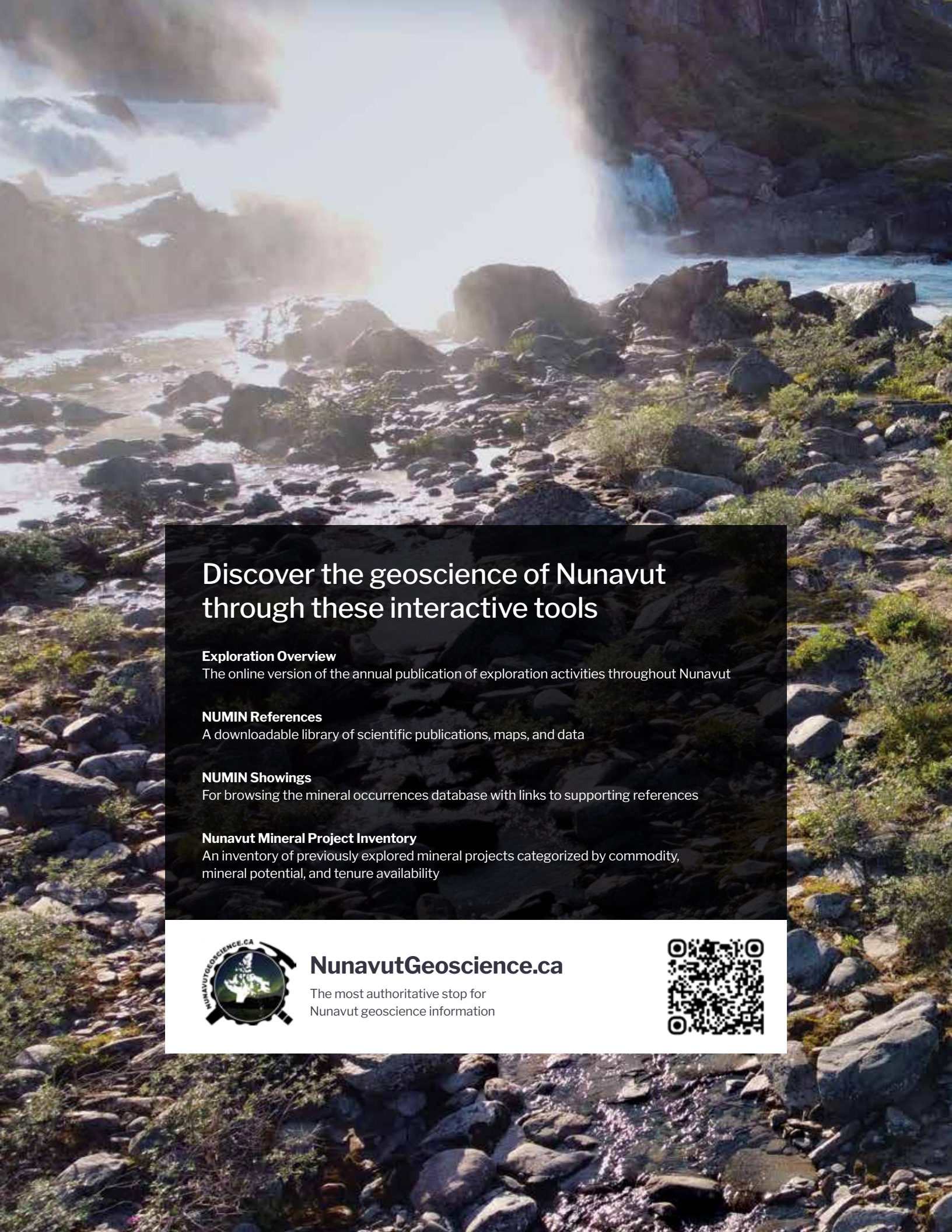
GUIDE TO ABBREVIATIONS

CIRNAC	Crown-Indigenous Relations and Northern Affairs Canada
CNGO	Canada-Nunavut Geoscience Office
EDT	Department of Economic Development and Transportation, Government of Nunavut
GN	Government of Nunavut
IOL	Inuit Owned Land
MEA	Mineral Exploration Agreement
MPR	Minerals and Petroleum Resources Division, Department of Economic Development and Transportation, Government of Nunavut
NIRB	Nunavut Impact Review Board
NTI	Nunavut Tunngavik Incorporated
PGE	platinum-group elements
SEDAR	System for Electronic Document Analysis and Retrieval

Elders visiting Chidliak camp. Courtesy of De Beers Canada Inc.

Index

Bold project number and name signifies an advanced or major project.



Discover the geoscience of Nunavut through these interactive tools

Exploration Overview
The online version of the annual publication of exploration activities throughout Nunavut

NUMIN References
A downloadable library of scientific publications, maps, and data

NUMIN Showings
For browsing the mineral occurrences database with links to supporting references

Nunavut Mineral Project Inventory
An inventory of previously explored mineral projects categorized by commodity, mineral potential, and tenure availability

NunavutGeoscience.ca

The most authoritative stop for Nunavut geoscience information