Exploration Overview 2001
Northwest Territories
Minerals

EXPLORATION AND GEOLOGICAL INVESTIGATIONS

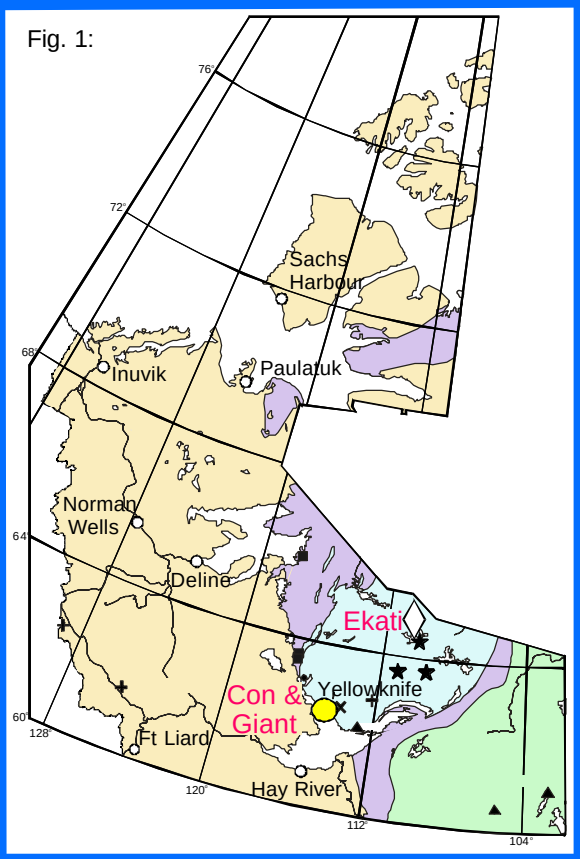
NOVEMBER, 2001

NORTHWEST TERRITORIES GEOLOGICAL FEATURES:

Slave Province	4.0-2.5 Ga
Churchill Province	2.8-1.2 Ga
Bear Province	2.0-1.8 Ga
Cordillera and Interior & Arctic Platforms	1.2-Recent

- Diamond Mines
- Gold Mines

Fig. 1:



NWT Geology Division
Box 1500, Yellowknife, NT
X1A 2R3 (867) 669-2636
email: nwtgeology@inac.gc.ca
web: www.inac.gc.ca/nt/gov_e.html

Indian and Northern Affairs Canada
Affaires indiennes et du Nord Canada
Canada

Government Geologists in the Northwest Territories

INAC, NT Geology Division, 4914 - 50th St., Bellanca Building, 9th Floor

P.O. Box 1500, Yellowknife, NT X1A 2R3 FAX: 867-669-2725

Chief Geologist:
Carolyn Relf 867-669-2635
relfc@inac.gc.ca

Administrative Coordinator:
Brendan Norman 867-669-2636
normanbpj@inac.gc.ca

Geological Data Management and Client Services:

Archives, Library, Publications
nwtgeology@inac.gc.ca

Joe Heimbach 867-669-2642
heimbachj@inac.gc.ca

Lorna Skinner 867-669-2643
skinnerl@inac.gc.ca

NORMIN.DB Staff:
www.inacnt.internorth.ca

Beth Sage 867-669-2646
sage@inac.gc.ca

Donna Schreiner 867-669-2414
schreinerd@inac.gc.ca

Karen MacFarlane 867-669-2645
macfarlanek@inac.gc.ca

Yana Preston 867-669-1632
prestony@inac.gc.ca

District Geologists:

Metallic Minerals:

Karen Gochnauer 867-669-2637
gochnauerk@inac.gc.ca

Velma Sterenberg 867-669-2641
sterenbergv@inac.gc.ca

Steve Goff 867-669-2638
goffs@inac.gc.ca

Diamonds:

John Armstrong 867-669-2644
armstrongj@inac.gc.ca

RWED, Minerals Oil & Gas Division, 5102 - 50th Ave., Scotia Centre, 9th Floor

P.O. Box 1320, Yellowknife, NT X1A 2L9 FAX: 873-0254

Petroleum Geologist:
Adrienne Jones 867-920-3344
adrienne_jones@gov.nt.ca

Community Minerals Advisor:
Diane Baldwin 867-920-3347
diane_baldwin@gov.nt.ca

C.S. Lord Northern Geoscience Centre, 3533 McDonald Dr., Yellowknife, NT X1A 2H2

P.O Box 1320, Yellowknife, NT X1A 2L9 FAX: 867-920-8100

Project Geologists:

Hendrik Falck 867-920-3122
hendrik_falck@gov.nt.ca

Len Gal 867- 920-3024
len_gal@gov.nt.ca

Doug Irwin 867-669-3124
doug_irwin@gov.nt.ca

Val Jackson 867-920-8101
valerie_jackson@gov.nt.ca

Ed Janicki 867-873-7451
ed_janicki@gov.nt.ca

Jamie Lariviere 867-873-7449
jamie_lariviere@gov.nt.ca

Steve Schwarz 867-920-3022
steve_schwarz@gov.nt.ca

Allan Turner 867-920 8102
allan_turner@gov.nt.ca

TABLE OF CONTENTS

FIGURES

TABLES

INTRODUCTION:

Diamonds continue to dominate mining and mineral exploration in the Northwest Territories in 2001, with production from BHP Billiton's ***Ekati*** mine, and mine construction work plus completion of a bankable feasibility study on Diavik Diamond Mines Inc. ***Diavik*** project. The latter project remains on schedule to commence diamond production in the first half of 2003. Gold exploration and production kept a low profile this year. There has been a resurgence of interest in previously advanced projects in the western NT, including the ***Prairie Creek*** zinc-lead-silver deposit and the ***CanTung*** tungsten mine. The high spot price of **tantalum**, which reached US $454 per pound in early 2001, led to an increase in exploration for this rare metal. Although interest was strong early in the year, declining prices of both **platinum** and **palladium** during the summer lead to the cancellation and/or budget reduction of several PGE projects.

The Department of Indian and Northern Affairs Canada, NT Geology Division continues to work in co-operation with industry, aboriginal groups and other government agencies to promote responsible northern resource development. This includes the administration of the Canada Mining Regulations, geological research, maintenance of the NORMIN minerals database, site visits and the publication of geoscience data. Several government geoscience projects, involving bedrock and surficial geology, data compilation, diamond-, mineral-,oil- and gas-related studies, and Phase I resource assessment moved toward completion or were initiated during 2001.

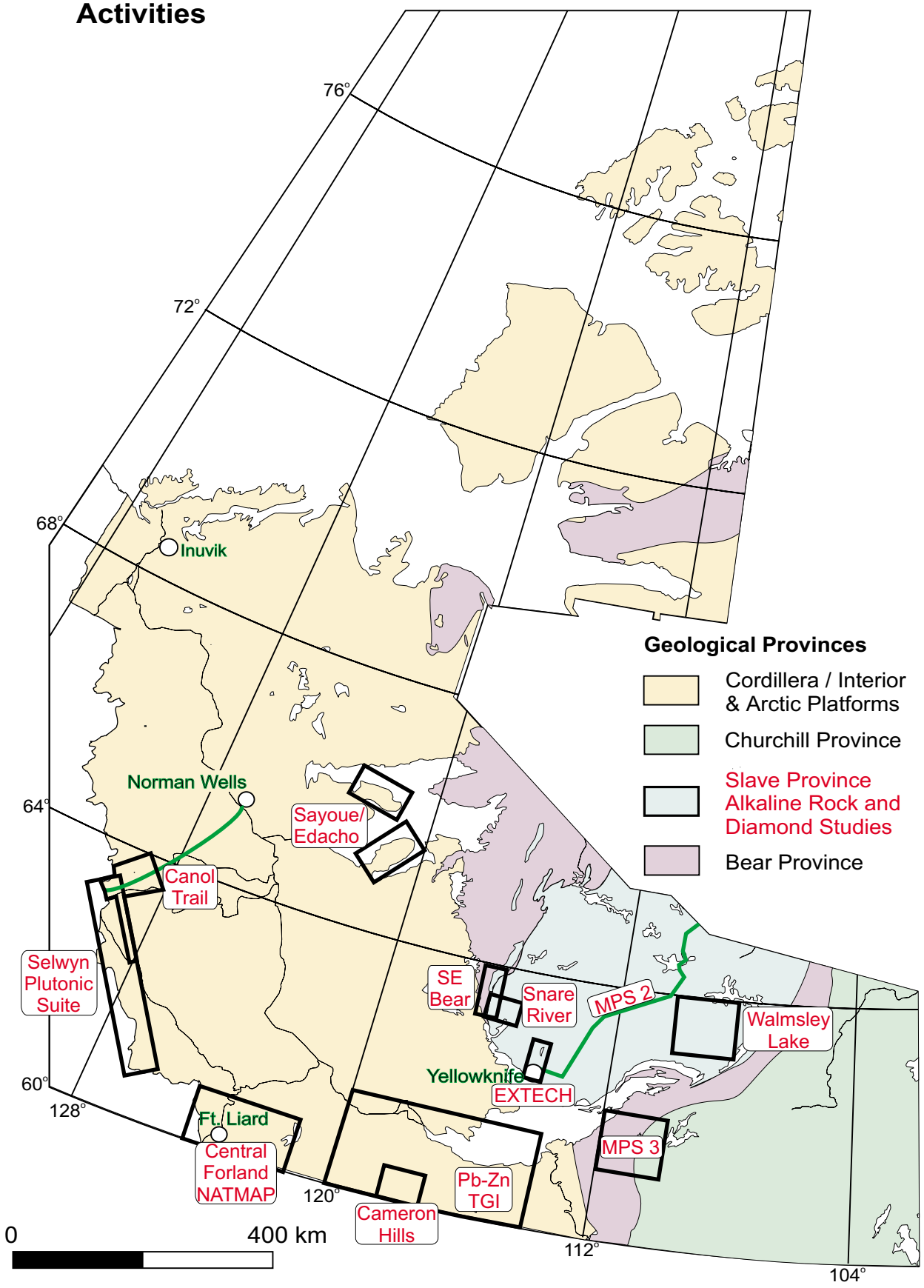
PART 1: SUMMARY OF GOVERNMENT ACTIVITIES, 2001

INAC NT Geology Division Activities:

The NORMIN database of mineral showings and exploration/geology references for NT and NU was upgraded this spring. A new references search tool was built to allow web users to search for assessment reports and publications, and to generate reports from this search. NORMIN will be the NT/NU node of the Canadian Geoscience Knowledge Network (CGKN) data catalogue, allowing search and discovery of distributed Canadian geoscience publications and datasets.

The division has also been scanning Assessment Reports and all reports released since August, 2000 are now available on CD, in .tif and .pdf formats.

Fig. 2: Northwest Territories Government Geoscience Activities



Federal and Territorial Geoscience Initiatives:

INAC, NT Geology Division and GNWT Department of Resources, Wildlife and Economic Development, Minerals, Oil & Gas Division jointly deliver a geoscience program in the Northwest Territories through the C.S. Lord Northern Geoscience Centre. A number of projects are under way this year, several of them in collaboration with the Geological Survey of Canada and/or Canadian Universities (see Figure 1.2). Products from these projects will be released in the coming months.

New Project Geologists at the C.S. Lord Centre are Al Turner (March, 2000), Jamie Lariviere (May, 2001) and Len Gal (October, 2001).

1) Val Jackson (INAC) carried out **bedrock mapping** in the **Snare River** area (southwestern Slave Province). This project is in its fourth of five years, and focuses on upgrading bedrock geology in a part of the Slave province that was last mapped in the mid 1900s. The absence of evidence for Mesoarchean basement in this area, and the presence of an enigmatic domain of high temperature granulites are features apparently unique to the Slave Province. Doctoral thesis research on peak metamorphic conditions and uplift history of the granulites is supported at Memorial University of Newfoundland. Results of this year's mapping will be released as an EGS File in spring 2002.

2) The multidisciplinary **Yellowknife EXTECH** project, jointly managed by GSC, C.S. Lord Centre and industry partners, is coordinated by Hendrik Falck (RWED). Now in its fourth year, EXTECH III consists of several integrated studies aimed at developing improved gold exploration models for of the Yellowknife Basin. This year, two sites were chosen for geophysical testing combined with mineral deposit studies, and the regional till sampling/quaternary geology program was continued. A successful field trip was held, promoting discussion and review of current studies. Uranium-lead age data, generated this winter, will provide new constraints on the timing of several mineralization events. The EXTECH III working group anticipates completion of two graduate theses; a petrogenetic study of selected gold showings in the Yellowknife belt; a GIS combining bedrock geology, metamorphism, metallogeny, remote sensing, digital elevation model data; and a 3-dimensional model of the Giant and Con ore bodies this fiscal year.

3) The **Walmsley Lake** project is in its second year of **bedrock mapping** in the southeastern Slave Province. It is a collaborative study between C.S. Lord Centre and GSC in Ottawa, who provide funding through the 2000-2003 Targeted Geoscience Initiative (TGI). Carolyn Relf (INAC) coordinates C.S. Lord's contribution to the first of two broad objectives, which involves upgrading bedrock and surficial maps for the area, and supporting metamorphic and igneous petrology studies (Universities of Québec, Alberta and Western Ontario). The second objective, coordinated by Kate MacLachlan at the GSC, has two subsets: 1) U-Pb dating and trace isotope studies to allow Slave-wide correlations of tectono-thermal and magmatic events; 2) Regional magnetotelluric and teleseismic surveys to characterize the nature of the underlying mantle, linking crust and mantle evolution in this part of the province. Products from this

year's work will be released through 3 GSC Current Research papers (January 2002), and 2 jointly-released (GSC-C.S. Lord) bedrock and surficial geology maps (Spring 2002).

4) A 2-year (2001-2003) collaborative Targeted Geoscience Initiative (TGI) between theC.S. Lord Centre, the GSC Calgary, and Alberta Geological Survey, is underway to delineate and describe the origin, distribution and potential for **carbonate-hosted Pb-Zn deposits** in the northern **Western Canadian Sedimentary Basin**. Included within the study area are the decommissioned Pine Point Mine and an area west of Buffalo River, both explored heavily by Westmin Resources Ltd. during the late 1970`s and early 1980`s. During the 2001 field season, Allan Turner collected and examined core from the Pine Point minesite and the seven Westmin deposits. A hydrographic study (Ed Janicki) and compilation of satellite data to identify basement structures in the area (Hendrik Falck) are being undertaken in support of this project. Anticipated products for this year include: 1) A paper examining differences in the reflectance spectra between mineralized and unmineralized core for distinct facies; 2) A digital compilation of all Westmin drill hole locations with associated geochemical data in ArcView format.

5) The **Oil and Gas Poster Series**, summarizing exploration and production activity in the NT and providing selected cross sections and a table of formations, was updated by Adrienne Jones and re-released this fall. Ed Janicki is updating the NT pool study book, focussing on the **Cameron Hills** area. C.S. Lord Centre and GSC Calgary staff plan to commence a joint northern basins study next fiscal year, in support of petroleum-related research.

6) Jaimie Lariviere and Len Gal are preparing a Phase I **mineral and petroleum resource appraisal** for the **Sayoue/Edacho** proposed park on Great Bear Lake, as part of the Protected Areas Strategy implementation process. The area, which is sponsored by Parks Canada, underwent a 5-year interim withdrawal in the spring of 2001. The Phase I assessment is based on geologic data compiled from pre-existing sources. It will provide a preliminary estimate of the resource potential of the area, and identify gaps requiring further work before a rigorous, semi-quantitative (Phase II) assessment can be made.

7) In contribution to the **Central Foreland NATMAP Project**, led by the GSC Calgary office, the C.S. Lord Centre provided financial support for doctoral level studies at Carleton University, of **Cretaceous sediments** in the Liard Basin. NATMAP project objectives are geological mapping and associated studies of an area in northern BC and adjacent Yukon and Northwest Territories, which displays a unique geological and tectonic transition from narrow southern Cordillera to broad northern Cordillera.

8) John Armstrong (INAC) is studying mineralogy and geochemistry of **alkaline rocks** in the **Slave Province**, including Archean lamprophyres and carbonatites, Proterozoic alkaline complexes, and selected kimberlites. Products of this project are expected to be released by fiscal year end. Recent digital data releases include a compilation of aeromagnetic data and images from the Slave Province and a database of holes drilled on kimberlite targets.

9) A multi-year study of **mineral showings** of the **Southeast Bear** structural province by Steve

Goff (INAC) continued this year, with field examinations and sampling of a number of mineral occurrences.

10) Velma Sterenberg (INAC) is summarizing a **geochemical sediment sampling** orientation project targeting drainage basins transected by the **Canol Trail**, between Macmillan Pass and Godlin Lakes. The report is to be released in spring 2002.

11) Velma Sterenberg has provided in kind support to M.Sc. studies at University of British Columbia on the **chemistry and metallogeny** of the **Selwyn Plutonic Suite**.

12) Donna Schreiner (INAC) has compiled a second **Mineral Potential Series** product, digitally layering bedrock geology, airborne magnetics, and **gold showings** proximal to all weather and seasonal roads in the Slave Province. The CD was released in November.

New Government Publications:

Mineral Potential Series 2 (1 CD $10.00)
Schreiner, D.(compiler), 2001. Roads to Resources: Selected gold deposits within 25 km of winter and all weather roads in the Slave Province, NT. MPS 002, NT Geology Division, INAC, Yellowknife. Data on 2 maps (scale 1:500,000) and CD in Arcview, .pdf and .dbf formats.

Mineral Potential Series 3 (1 CD $10.00)
Naeher, U.(compiler), 2001. Compilation of mineral occurrences in the Taltson Lake area, NT; NTS 75E. MPS 003, NT Geology Division, INAC, Yellowknife, NT. Data on 1 map (scale 1:250,000) and CD in Arcview, .pdf and .dbf formats.

Mineral Potential Series 4 (1 CD $10.00)
Bianchi, C.(compiler), 2001. Compilation of mineral occurrences in selected areas of the Western Churchill Province, NUN; Parts of NTS 55L/7, 55M, 56E/04 and 66H/01. MPS 004, NT Geology Division, INAC, Yellowknife, NT. Data on 3 maps (scale 1:50,000) and CD in Arcview, .pdf and .dbf formats

EGS Open Report 2001-001 (supersedes EGS Open File 2000-03) (1 CD $10.00)
Armstrong, J. P. and Chatman, J. Kimberlite Indicator and Diamond Database (KIDD): Update: A public data compilation of till sample locations and kimberlite indicator minerals picking results, Slave craton and environs, Northwest Territories and Nunavut, Canada; EGS Open Report 2001-001, NT Geology Division, INAC, Yellowknife, NT. Data on 1 CD in Arcview, .pdf, .dbf, and .xls formats.

EGS Open Report 2001-002 (1 CD $10.00)
Armstrong, J. P. A preliminary, digital, public data compilation of Kimberlite Indicator Mineral Chemistry (KIMC), Slave craton and environs, Northwest Territories and Nunavut, Canada; EGS Open Report 2001-002, NT Geology Division, INAC, Yellowknife, NT. Data on 1 CD in .dbf and .xls formats.

EGS Open Report 2001-003 ($10 for each of 8 CDs or $50 per set)
Armstrong, J.P. and Kenny, G. Slave Magnetics Compilation (SMAC): A digital image compilation of public total field magnetic data as filed in accordance to the Canada Mining Regulations, Northwest Territories and Nunavut; 75M,N; 76C,D; 76B,F,K,L; 76G; 76O,E; 85G,H,I,J,N,O,P; 86A,B,C,F,G; and 86H,I,J,K,N,O,P. EGS Open Report 2001-003, NT Geology Division, INAC, Yellowknife, NT. Data on 8 CD's in .tif, .pdf, .shp, and..dbf formats.

EGS Open Report 2001-004 (1 CD $10.00)
Fyson, W. K. Geology of the Archean Slave Province: a GIS-Compatible Map. A compilation of geology in Arc View and Arc Explorer formats. EGS Open Report 2001-004, NT Geology Division, INAC, Yellowknife, NT. Data on1 CD in Arc View and Arc Explorer formats.

EGS 2000-10 (supersedes EGS 2000-08) (3 paper maps $30.00 or 1 CD $10.00)
Jackson, V.A. Preliminary geology of part of the Snare River area; Parts of 85N/16 and 85O/5-7;10-13). EGS Open File 2000-10, NT Geology Division, INAC, Yellowknife, NT. Data on 3 maps and assay tables (scale 1:50,000) and CD in Autocad R14 and .pdf formats.

EGS 2000-13 (GSC Open File 3752) (paper map, $15.00; available from GSC Ottawa, 1-888-252-4301)
Aspler, L.B., Armitage, A.E., Hauseux, M., Surmacz, S. and Ryan, J.J. Precambrian geology, Victory and Mackenzie Lakes, Nunavut; Parts of NTS 55L/11,12. Geological Survey of Canada, Open File 3752. 1 map (scale 1:50,000).

EGS 2000-14 (GSC Open File 3753) (paper map $15.00; available from GSC Ottawa, 1-888-252-4301)
Aspler, L.B., Höfer, C. and Harvey, B.J.A. Geology, Sealhole and Fitzpatrick Lakes area, Nunavut. Geological Survey of Canada, Open File 3753. 1 map (scale 1:50,000).

EGS 2001-02 (1 paper map $10.00 or 1CD $10.00)
MacLachlan, K., Relf,C. and Cairns, S.R. Preliminary geology of the Back Lake area; Parts of NTS 75N/5 and 11-14. EGS Open File 2001-02, NT Geology Division, INAC, Yellowknife, NT. Data on 1 map (scale 1:100,000), and CD in Autocad R14.

EGS 2001-03 (Manuscript, paper $20.00 or CD $10.00)
Jackson, V.A. Report on the geology of the Northern Russell lake area (85O/4). EGS Open File 2001-03. NT Geology Division, INAC, Yellowknife, NT. Manuscript or on CD in .pdf format.

EGS 2001-04 (7 paper maps, tables included, for $10.00 each; or 1 CD $10.00 all inclusive)
Jackson, V.A. Geology of part of the Napaktulik Lake area; Parts of 86I/07-11, and 16. EGS Open File 2001-04. NT Geology Division, INAC, Yellowknife, NT. Data on 7 maps (scale 1:50,000) and CD in Autocad R14.

Northwest Territories and Nunavut Geological Websites:

INAC Geology Division . . . . . www.inac.gc.ca/nt/gov_e.html
NORMIN Northern Minerals Database . . . . . www.inacnt.internorth.ca
INAC Oil and Gas Directorate . . . . . www.ainc-inac.gc.ca/oil/index.html
CS Lord Northern Geoscience Centre . . . . . www.gov.nt.ca/RWED/mog/cslord.htm
GNWT RWED Minerals Oil and Gas Division . . . . . www.gov.nt.ca/RWED/mog/index.htm
Beaufort-Mackenzie Mineral Development Area . . . . . www.bmmda.nt.ca
NWT and Nunavut Chamber of Mines . . . . . www.miningnorth.com
CGKN Canadian Geoscience Knowledge Network . . . . . http://cgkn.net/index_e.html
GSC Geological Survey of Canada . . . . . www.nrcan.gc.ca/gsc/index_e.html

PART 2: NT MINERAL EXPLORATION AND DEVELOPMENT, 2001

Mining:

The Northwest Territories has three operating mines: the ***Ekati*** diamond mine, owned by BHP Billiton Limited Group, and the ***Con*** and ***Giant*** gold mines, owned by Miramar Mining Corporation (fig 1, cover). Production summaries are presented in Table 1. Reserves and resources were reported by companies according to, or reconciled with the Canadian Institute of Mining Standard Definitions. Effective June 29th, BHP merged with Billiton Plc. and on July 1, BHP Billiton acquired Diamet Minerals Ltd., increasing their ownership of Ekati to 80%. Miramar gave notice to the Department of Indian and Northern Affairs Canada (INAC) that it would return the Giant mine property to INAC effective December 14, 2001, but would extend operations at Giant until late 2002. Commencing December 14, 2001 and throughout extended operations, INAC has agreed to cover costs associated with environmental compliance and holding at the Giant mine that were previously the responsibility of Miramar.

The ***Diavik*** diamond project (Diavik Diamonds Inc. and Aber Diamond Corp.) is under construction and the ***Snap Lake*** (DeBeers Canada Mining) diamond project is undergoing environmental review. The ***CanTung*** (North American Tungsten Corp.) mine, which closed in 1986, is gearing up to re-open in December 2001.

Table 1. Northwest Territories Mine Production, 2001.

Mine	Production	Production Costs	Production to Date
Ekati (Diamonds)	3 601 000 carats in 16 months (to May 31 2001) 3 594 000 ct sold at $US165 /ct	Not Available	> 6 million carats
Con and Giant (Gold)	2 050.85 kg (65,937 oz) in first six months of 2001	$US 258 /oz	>350 000 kg

The ***Ekati*** mine produced 3,601,000 carats from the Panda pipe and sold 3,594,000 carats for an average price of US$165.00 per carat over a 16 month period ending in May 31, 2001.

Production from BHP Billiton's second open pit, the Misery pipe, began in late October, 2001. Drilling and modeling at Panda has resulted in the addition of 2.5 million tonnes of proven and probable underground reserves with an average grade of 0.8 carats per tonne. Sample processing was completed on four pipes bulk sampled in early 2000. Three of the four were characterized by low average grades. The exception was the Lynx pipe, where a total of 140.7 carats were recovered from 168.5 dry tonnes, for an average grade of 0.8 carats per tonne, valued on average at US$139 per carat. The Fox pipe was sampled in early 2001 and processing results are pending. Surface exploration continued on the mine property and the presence of 13 additional kimberlite pipes have been confirmed.

Miramar Mining reported production of 65,937 ounces of gold from the ***Con*** and ***Giant*** mines at a cash cost of US$258 per ounce for the first half of 2001. Increased production was largely due to performance of the autoclave, which resumed operation in late March. Miramar is proceeding with reclamation activities in anticipation of the Con mine's closure in 2004, including implementation of an accelerated arsenic treatment plan.

Estimated reserves and resources at both Con and Giant mines, as of December 31, 2000, based on a gold price of US$300 per ounce at Con Mine and US$280 per ounce at Giant Mine, are summarized in Tables 2 and 3.

Table 2. Proven and Probable Mineral Reserves for Con and Giant Mines.

Deposit	Quantity (tonnes)	Grade (g/t Au)	Contained Gold (oz)
Con	1 138 000	12	442 000
Giant /Supercrest	117 000	12.7	48 000
Total	1 255 000	12.1	490 000

Table 3. Measured and Indicated Mineral Resources for Con and Giant Mines.

Deposit	Quantity (tonnes)	Grade (g/t Au)	Contained Gold (oz)
Con	1 195 000	11.2	431 000
Giant/Supercrest	364 000	7.8	90 000
Total	1 559 000	10.4	521 000

Development of Diavik Diamonds Inc.'s mine at ***Lac de Gras*** was on schedule and over one third complete as of August 22, 2001. Production is planned to begin in the first half of 2003. Annual diamond production is estimated at just over 6 million carats, valued at an average of US$56 per carat, with a mine life of 20 years. The Diavik Project resource, from four pipes, to a depth of 420 metres, is estimated at 37 million tonnes containing 133 million carats, with average grade of 3.6 carats per tonne. Diluted minable reserves are estimated at 26 million tonnes containing 102 million carats for average reserve grade of 3.9 carats per tonne.

DeBeers Canada Mining Inc. has revised their estimated date for full production mining at ***Snap Lake*** to 2006. They expect to receive regulatory approvals in early 2003. Snap Lake has a mineable tonnage of 22.8 million tonnes at a grade of 1.57 carats per tonne, with a projected average rate of production of 3000 tonnes per day for 20+ years. Snap Lake diamonds have been valued at US$100.00 per carat. Surface exploration continued on the property during 2001.

Depletion of Chinese and Russian tungsten reserves and reduction of Chinese exports has prompted North American Tungsten to commence rehabilitation of the ***CanTung*** mine. Production is scheduled to begin in December 2001. The company secured contracts in early 2001 to supply tungsten to Sandvik AB and Osram Sylvania, and expect to deliver 9,000 tonnes over a 3 year period. CanTung, and the MacTung deposit, located roughly 161 kilometres to the north of the former, contain approximately 15% of the world's proven tungsten resource base and the Western world's largest high-grade proven reserve. All operating permits are in place for CanTung and the company appears to be on schedule with re-establishment of services, mine rehabilitation and development. Based on an April 2000 study the following resource base exists at these two deposits.

Table 4. Mineral Reserves and Resources, CanTung Mine.

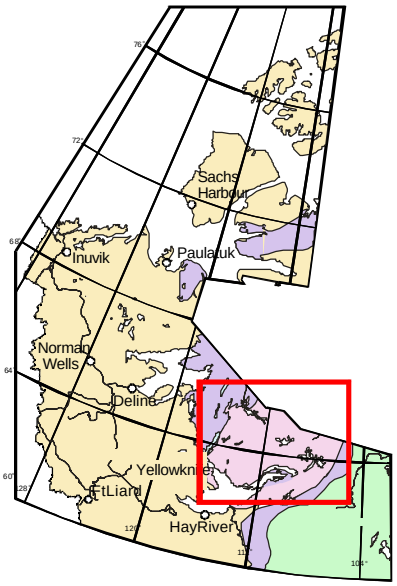
Category	**Cut Off Grade (%WO_3)**	**Quantity (thousand tonnes)**
Underground Minable	1.5	9
Underground Minable/Proven/Probable	0.8	15
Underground Minable/Proven/Probable	1.5	12
Geological	0.8	41
Open Pit Minable/Probable	0.4	6

Table 5. Mineral Reserves and Resources, MacTung Deposit.

Category	**Cut Off Grade (%WO_3)**	**Quantity (thousand tonnes)**
Geological	0.4	60 000
Measured/Indicated/Inferred	0.4	30 000

CanTung is a scheelite-bearing skarn deposit located 14 kilometres east of the Northwest Territories - Yukon border in the northern Cordillera. It is hosted by a sequence of Neo-Proterozoic to early Cambrian meta-pelite, limestone, marble and calc-silicate rock intruded by an Upper Cretaceous biotite monzogranite stock.

Fig. 3: Northwest Territories
Diamond Exploration
Southern Slave Province



Slave Archean Geology

- Plutonic rocks
- Metasediments, migmatite and plutonic rocks
- Metavolcanics
- ☆ Active Diamond Projects

Nunavut
NWT
66N
64N
62N
116W
112W
108W
ICE
Carat
Yamba
Ekati Mine / NWT Diamonds
Diavik
Lac deGras
Afridi L
LDG
Seahorse
CH
Thonokied
Nicholas Bay (Aylmer West)
Back L.
King
Mackay L
Kelsey
Snap L (Camsell).
Kennady L.(Gacho Kué)
Bear Head
Doyle L.
Star
Hilltop
Royce
Fishback L
Yellowknife
Drybones
Great Slave Lake
0
200 km

Table 6. NT Diamond Exploration Summary, 2001

Company/ Partner(s) Operator*	Property or Claims	Drilling holes (m)	Airborne Geophysics (line-km)	Sampling	Ground Geophysics (line-km)	New Results
Ashton Mining of Canada Inc* / Pure Gold Minerals Inc./ Tenajon Res. Corp.	Star	n/a	n/a	till; 126kg composite kimberlite float	unspec.	2 micro-diamonds from float
Ashton Mining of Canada Inc.*/ Pure Gold Minerals Inc.	Green	n/a	n/a	till; reconnaissance	n/a	
BHP Billiton Ltd.	NWT Diamonds	unspec.	n/a	5 bulk; unspec. till	n/a	13 new pipes confirmed
Dave Smith	Drybones Bay	unspec.	n/a	till	n/a	
Diamondex Resources Ltd.*/ Tyler Resources Inc.	Kesley	2dd (unspec.)	8 570 in 2000?	159 till	15 targets; mag, gravity, resistivity	
Diamondex Resources Ltd.*/ Tyler Resources Inc.	Carat	5 dd (~315)	n/a	203 till; 175kg dd core	unspec.	CT55 pipe
Diamondex Resources Ltd.	Hilltop (SW of Snap)	52 Sonic (unspec.)	n/a	60 drill	GPR Planned	
Diamondex Resources Ltd.	Bear Head (E of Hilltop)	n/a	4 700	602 till	n/a	1 diamond in till
Diamondex Resources Ltd.	King (Snap Lk)	5 dd (9 472)	n/a	60kg bulk composite dd core	n/a	kimberlite dykes <1.3m thick
Diamondex Resources Ltd.*/ DeBeers Canada Mining Inc./ UBC E&O Sci.Dept.	King (Snap Lk)	n/a	3 055 mag, EM	219 till	9.5 - 2D seismic reflection	
GGL Diamond Corporation	CH - Courageous	5dd (unspec.)	5 000	286 unspec.	unspec.	
GGL Diamond Corporation	CH - Seahorse	n/a	n/a	till	ground checking	
GGL Diamond Corporation	MACKAY claim	1 dd (327)	n/a	unspec.	n/a	
GGL Diamond Corporation	Fishback Lake	unspec.	n/a	n/a	n/a	
GGL Diamond Corporation/ De Beers Canada Exploration Inc.*	Doyle Lake	?9 dd (480)	n/a	136 till	4.2 HLEM; 52.5 GPR	
Intertech Minerals Corp.	Afridi L.(DA & DAA claims)	2dd (unspec.)	n/a	n/a	unspec. mag, HLEM	
Mountain Province Diamonds Inc./ De Beers Canada Exploration Inc.*	Hearne & 5034 pipes (AK claims) Kennady Lake	7 R. Circ. (unspec.)	n/a	334t (Hearne) & 635t (5034) bulk	n/a	Largest diamonds = 3.4 ct in Hearne & 9.5 ct in 5034
Mountain Province Diamonds Inc./ Camphor Ventures/ De Beers Canada Exploration Inc.*	Kennady Lake (AK claims)	12 dd (821)	n/a	385 unspec.; 225 geochem; 53 hydrogeochem; individual analyses of 56kg from 4 DDH	98 HLEM; 29.7 mag; 29.7 GPR	28 microdiamonds in 56kg from kimberlite sills
Navigator Exploration Corp./ De Beers Canada Exploration Inc.*	LDG/ DeBeers	3 dd (unspec.)	n/a	1 000 till	19 grids; unspec.	
Shear Minerals Ltd.*/ Diamondex Resources Ltd.	Alymer W. Nicholas Bay pipe	9 dd (unspec.)	n/a	4.85kg bulk & 127.7kg bulk comp dd core; 12 beach sands	60 mag, HLEM; unspec. gravity;	1 180 diamonds in 127.7kg from Nicholas Bay pipe
SouthernEra Resources Ltd.*/ Kalahari Resources Inc.	MacKay Lake	1 dd (1 601)	n/a	n/a	n/a	
SouthernEra Resources Ltd.*/ Kalahari Resources/ Island-Arc Resources	Back Lake	n/a	n/a	87 till	7 unspec. surveys	
SouthernEra Resources Ltd.*/ Tanqueray Resources/ Mill City International Inc./ Techsite Strategies	Yamba Lake	4 dd (unspec.)	n/a	n/a	15 targets; unspec.	

Diamond Exploration: (see fig. 3 and table 6)

Ashton Mining of Canada Inc. signed a deal with **Northern Geophysics** to earn a 75% interest in 41 mineral claims near ***Thonokied Lake*** (76C/4,5).

Ashton Mining of Canada Inc., in joint venture with **Tenajon Resources Corp.** and **Pure Gold Minerals Inc.**, prospected and hand trenched on the ***Star*** property (86A/3) where last year's work suggested that the source of abundant indicator minerals was coincident with a subtle sub-circular geophysical anomaly lying beneath a lake. A layer of till, containing abundant boulders of macrocrystic, olivine-rich, hematitic, hypabyssal kimberlite up to 0.5 metres in diameter, was uncovered. Till sampling on a detailed grid and a limited ground geophysical survey were completed in an effort to locate the source. Two microdiamonds were recovered by caustic fusion from 126 kilograms of kimberlite float. Further work to confirm the source of the kimberlite float is not currently planned.

Ashton Mining of Canada Inc. in joint venture with **Pure Gold Minerals Inc.** also collected till samples for heavy mineral analysis from the ***Green*** property as well as reconnaissance sampling. The Green property is located 165 kilometres north of Yellowknife.

BHP Diamonds Inc. and **Tahera Corp.** finalized a joint venture agreement relating to Tahera's ***Ranch Lake*** kimberlite and the ***ICE*** claims (76E/3,4,6; 86H/1,2,7,8). By completing various activities, BHP may earn up to a 55% interest in existing, discovered kimberlites and up to a 61% interest in any new discoveries.

Dave Smith continued exploration on the ***Drybones Bay*** kimberlite (85I/4). Drilling took place on the Mud Lake indicator train as well as further till sampling.

Diamondex Resources Ltd. drilled five holes (9,472 m) on 800 m centres on the ***King*** property (75M/10,) to test the potential of the down dip extension of the adjacent Snap Lake diamond deposit. Drill hole No. 3 intersected kimberlite in 3 separate zones. The Main Zone of 8 gently dipping, macrocrystic kimberlite dykes, ranging from 1.0 centimetres to 1.21 metres over a 7.76 metre interval, was intersected at a depth of 1,439 metres for a combined kimberlite thickness of 1.36 metres. Macrocrystic kimberlite was also intersected above the Main Zone from 875.24 - 875.67 metres, and from 1,070.00 - 1,070.19 metres. A wedge hole was completed to obtain a second intersection through the main kimberlite zone. A 60 kilogram composite bulk sample was submitted for caustic fusion analysis. The minimum strike length of the kimberlite dyke within the King Property is 1,600 metres.

Under terms of a joint venture with **De Beers Canada Mining Inc.** and the **Department of Earth and Ocean Sciences at the University of British Columbia**, a 9.5 line-kilometre, 2-D reflection seismic survey, and a 3,055 line-kilometre airborne EM-magnetic survey at 150 metre line spacing were also carried out by **Diamondex** on the ***King*** property. Following an analysis of the airborne geophysical survey data, 219 till samples were taken.

Diamondex Resources Ltd. completed detailed sonic drilling on the potential source of a 7 kilometre x 1.5 kilometre kimberlite mineral indicator train on the ***Hilltop*** property (75M/2-6), southwest of Snap Lake. Sixty samples collected from 52 drill locations were picked for kimberlite indicator minerals and a Ground Penetrating Radar (GPR) survey was planned.

Diamondex Resources Ltd., in joint venture with **Tyler Resources Inc.**, discovered a kimberlite pipe at the CT55 three-lobed, negative magnetic anomaly on the ***Carat*** property (76D/15,16; 76E1,2), north of Ekati mine. Three drill holes were all abandoned in kimberlite at approximate depths of 70 metres. The eastern lobe was penetrated by a larger drill during the summer, when drillhole CT-16 intersected granite at 60 metres followed by crater facies kimberlite from 89 metres to 164 metres. A vertical hole, drilled in the centre of the eastern lobe, intersected crater facies kimberlite immediately below overburden at 25 metres, continuing to 80 metres before it was terminated due to drilling difficulties. A total of 175 kilograms will be analysed by caustic fusion. Chemical analyses of chromites indicate this kimberlite has passed through the diamond stability field. Ground geophysics and till sampling evaluated other airborne geophysical anomalies. In addition to the drill program a total of 203 till samples were collected during the summer program.

Diamondex Resources Ltd. and **Tyler Resources Inc.** completed ground magnetic, resistivity and gravity surveys over 15 airborne geophysical anomalies generated from a previously conducted 8,570 line-kilometre survey on the ***Kelsey*** property (75N/7,8), in the Kennady Lake area. Two targets were drilled during a spring program, kimberlite was not intersected. A further 159 till samples were collected.

Diamondex Resources Ltd. collected 602 till samples from the ***Bear Head*** property (75M/6), south of De Beer's Camsell Lake claim block, following completion of a 4,700 line-kilometre, high resolution airborne geophysical survey. Till sampling results suggest the presence of potential indicator trains, and one diamond was recovered.

De Beers Canada Exploration Inc., in joint venture with **Mountain Province Diamonds Inc.** and **Camphor Ventures Inc.**, conducted a ground geophysics and sampling program on the ***AK*** claims near ***Kennady Lake***. Surveys performed were 98 line-kilometres of HLEM (Horizontal Loop Electromagnetic), 29.7 line-kilometres of magnetic and 29.7 line-kilometres of GPR. Prospecting fieldwork included collection of 385 indicator mineral samples, 225 geochemical soil samples and 53 hydrogeochemical samples.

Spring drilling at ***MZ Lake***, 20 kilometres northwest of Kennady Lake, resulted in the discovery of 4 kimberlite sills, 3 of which were diamondiferous. A total of 40 micro-diamonds were recovered from intersections in four out of six drill holes, from a total of 56 kilograms of kimberlite. The largest number of micro-diamonds were recovered from hole MPV-01-073: 28 diamonds from 5 kilograms with the largest diamond being 1 millimetre in diameter. The second largest number of micro-diamonds were recovered from hole MPV-01-070: nine diamonds from 4 kilograms. This hole is differs from the others in that

mainly ilmenites and only a few garnet grains were recovered. The thickest intersection of kimberlite drilled was 3.20 metres at a depth of 27 metres, and the distance between the most easterly and most westerly intersections of kimberlite was nearly four kilometres. Interpretation of GPR data produced 12 targets for drill testing. A total of 821 metres of NQ core were extracted from 12 drill holes. Positive results from the drill testing increased the sizes of both the ***Faraday*** and MZ sill complexes.

De Beers Canada Exploration Inc., in joint venture with **Mountain Province Diamonds Inc.**, recovered bulk samples from the ***Hearne*** and ***5034*** pipes using a 0.61 metre reverse circulation drill on the AK claims at ***Kennady Lake*** (75N/6,11). Three holes were drilled into the high grade, northern part of the Hearne pipe. A total of 334 tonnes of kimberlite was recovered yielding 751 carats, of which approximately 27 diamonds were greater than 1 carat and approximately 74 diamonds were 0.5 to 1 carat. The two largest diamonds weigh 3.4 and 3.1 carats. The grades of the three holes are very similar and based on the sampling figures alone, average 2.25 ct/tonne. This compares to a previously modeled grade of 2.05 ct/tonne in this phase of kimberlite. Four holes were drilled into the eastern lobe of the 5034 pipe. A total of 635 tonnes of kimberlite was recovered, yielding 914 carats, of which approximately 34 diamonds were greater than 1 carat and approximately 104 diamonds were 0.5 to 1 carat. The two largest diamonds weigh 9.9 and 4.5 carats. Two of the holes had grades in line with the previously modeled grade of 1.70 carats per tonne, while the other two holes had slightly lower sample grades.

De Beers Canada Exploration Inc., in joint venture with **GGL Diamond Corp.**, collected 136 till samples and performed ground geophysics at ***Doyle Lake*** (75N/2-7**)** on the **LA1 - 25** claims, which include the 40 kilometre long Ken Hicks indicator mineral train. Ground geophysics consisted of 4.2 line-kilometres of HLEM and 52.5 line-kilometres of GPR data collection. As a result of the GPR survey, nine anomalous geophysical targets were drilled, totaling 480 metres of drilling. No kimberlites were found.

GGL Diamond Corp. carried out 5,000 line-kilometres of airborne geophysical surveying as well as ground geophysical follow-up. A total of 286 indicator mineral samples were taken from selected areas in five of seven claim blocks that are part of the ***CH claim*** group (76D5,6) near ***Courageous Lake***. Mineral morphology analysis to determine location of their source was completed, and kimberlitic geochemical soil anomalies in a number of areas were identified. Spring drilling of three geophysical targets on the CH claims intersected metasediments with up to 15 per cent pyrrhotite and pyrite; selected samples were assayed for gold. Two summer drill holes did not intersect kimberlite.

GGL Diamond Corp. conducted till sampling and ground checking of geophysical anomalies on the ***Seahorse*** property (76D/6,11).

GGL Diamond Corp. drilled the Big Dipper target on the ***Fishback Lake Project*** area. Alteration and mafic dykes appear to be responsible for the anomalous signature.

GGL Diamond Corp. also drilled one 327 m hole in the ***MACKAY*** claim area, where numerous kimberlite indicator minerals line the shore of a bay and surrounding marsh, coincident with a geophysical anomaly. Kimberlite was not intersected, but additional indicator mineral sampling was done, and further drilling may take place after freeze-up.

GMD Resources Corp. reported that **De Beers Canada Exploration Inc.** had dropped their agreement with GMD for exploration of the ***ROYCE*** group of claims (85O/2,3,5-7,10-14). GMD planned a fall program to complete in-fill work on several kimberlite indicator trains. In September, GMD announced that they had signed a letter of intent with BHP Diamonds Inc. whereby the latter will fly a Falcon gravity gradiometer survey over portions of the ROYCE block where indicator trains were identified.

Intertech Minerals Corp. carried out ground magnetic and HLEM surveys on the ***DA*** and ***DAA*** claim block in the ***Afridi Lake*** area (76C/3,6). Two drill holes were completed on small, well defined magnetic lows. No kimberlite was intersected. The anomalies are attributed to a shear zone in metasediments and a small granitic intrusion.

Navigator Exploration Corp. reported on work carried out by joint venture partner **De Beers Canada Exploration** on the ***LDG/De Beers Option***, formerly known as the Thor Project, (76D/6), 12 kilometres south of the Diavik Diamonds Project. De Beers collected over 1,000 till samples, conducted ground geophysical surveys on 19 grids and completed three diamond drill holes. No kimberlite was intersected.

Shear Minerals Ltd., in an option agreement with **Diamondex Resources Ltd.,** completed 60 line-kilometres of ground magnetic and HLEM surveys on 11 targets on the ***Aylmer Lake West*** claims (76C/7), 95 kilometres southeast of Ekati mine. Gravity surveys were conducted at four of these targets and three were drilled. One hole, NIC-2, tested a coincident magnetic low and EM anomaly, 125 metres long and 50 metres wide, east of and sub-parallel to the Nicholas Bay kimberlite. A 1.6 metre width of olivine- macrocrystic kimberlite dyke was intersected. Two macro-diamonds and 25 micro-diamonds were recovered by caustic fusion of a 4.85 kilogram sample of kimberlite core. Caustic fusion results from the Nicholas Bay Pipe, on the same claim block, yielded a total of 1,180 diamonds, including 6 macro diamonds, recovered from a 127.7 kilogram composite sample of kimberlite obtained from six drill holes. A fall program included ground checking 22 geophysical targets and collecting a total of 12 beach sand samples from 10 of these target areas. A follow-up drill program tested several high priority targets and results are pending.

SouthernEra Resources (60.40%)**, Kalahari Resources** (26.82%) **and Island-Arc Resources** (12.78%) continued exploration on the ***Back Lake Project*** (75M/8; 75/N5). Seven ground geophysical surveys were conducted over the head of the North Margaret Lake indicator train. An additional 30 till samples were then taken to further evaluate targets in this area. A total of 57 till samples were taken in an area 1.5 kilometres south of the North Margaret Lake train.

SouthernEra Resources (70%) and **Kalahari Resources** (30%) continued exploration drilling on the ***MacKay Lake Project*** (75M/10). Two narrow kimberlite intersections were cut in the first completed hole. Company geologists believe that these intercepts are a north-east extension of the Snap Lake Deposit. A second deep hole (ML-002), collared 800 metres east of ML-001, was stopped at 1,601 metres. Kimberlite was not intersected, suggesting that the Snap Lake kimberlite dike pinches out to the east or is faulted.

SouthernEra Resources conducted ground geophysical surveys on 15 targets and drilled 4 holes on the ***Yamba Lake*** property (76E/2,3). SouthernEra may earn a 51% interest with **Tanqueray Resources Ltd.**(19.5%), **Mill City International Inc.**(19.5%), and **Techsite Strategies** (10%).

Fig. 4: Northwest Territories Metals Exploration

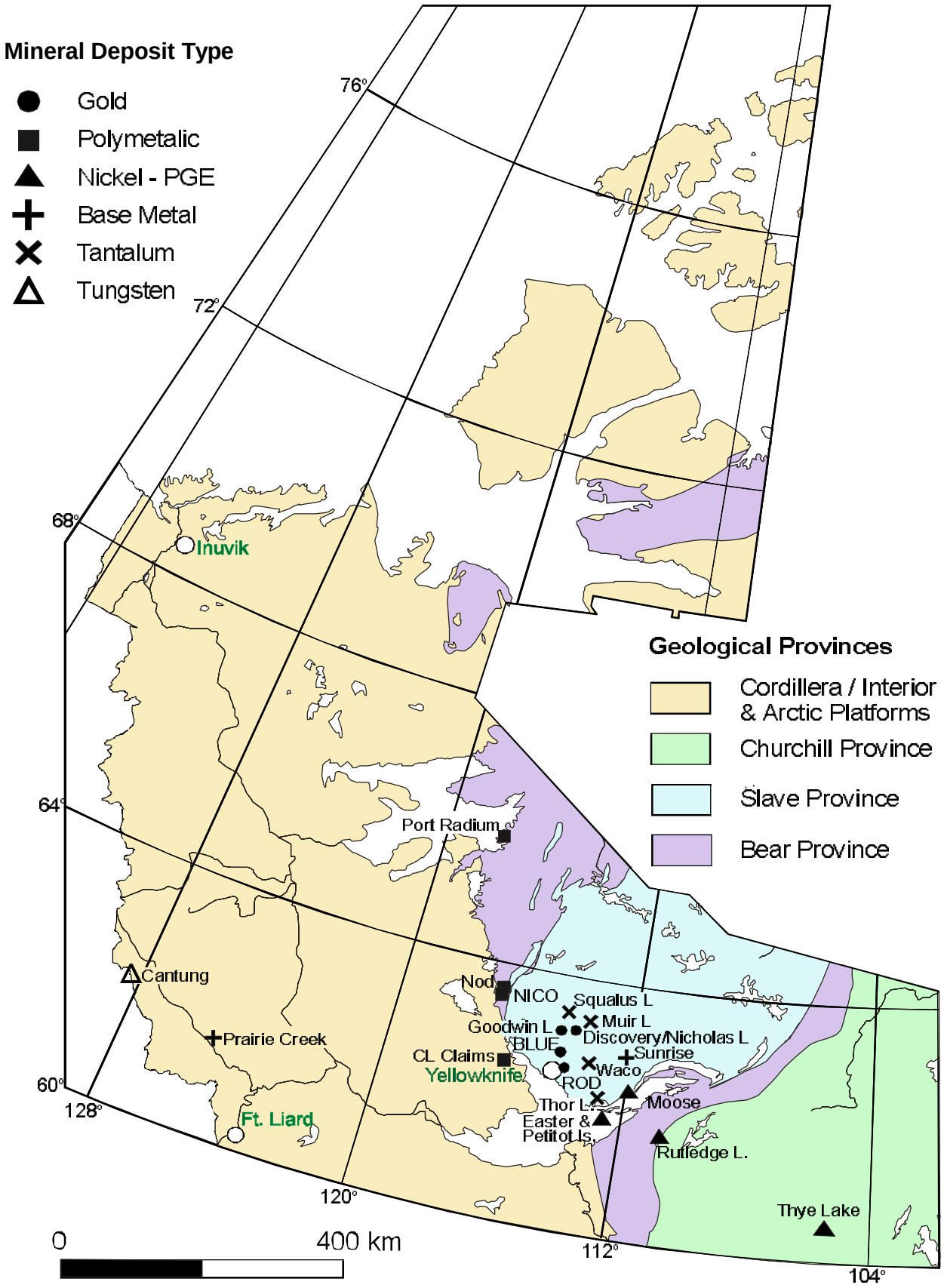


Table 7. NT Metals Exploration Summary, 2001

Company/ Partner(s) (*Operator)	Property or Claims	Target	Drilling holes/(m)	Airborne Geophysics (km)	Sampling	Ground Geophysics	Other Surveys	New Results
Canadian Zinc Corp.	Prairie Creek	Pb-Zn-Ag	5 (1 711)	n/a	unspec. geochem	n/a	enviornmental mitigation	
Lane Dewar	Goodwin Lake (NAK claims)	Gold	n/a	n/a	10 grab	unspec. mag	prospecting	best sample 14g/t Au
Lane Dewar	Homer Lake (BLUE claims)	Gold	n/a	n/a	21 grab	n/a	prospecting	
Lane Dewar	Squalus Lake	Tantalum	n/a	n/a	41 lithogeochem. grab	n/a	n/a	
Far West Mining Ltd.*/ BHP Billiton Ltd.	S of Edzo (CL claims)	Co-Cu-Au-Bi	18 (5 300)	unspec. FALCON	n/a	n/a	n/a	
Fortune Minerals Ltd.	NICO claim	Co-Au-Bi	n/a	n/a	n/a	n/a	flotation metallurgical test	improved recovery
Hemisphere Development Corp.	NORTH claim	Pb-Zn	1 (500)	n/a	n/a	n/a	n/a	
Wayne Kendrick & Darcy Arden	Easter Island	PGE	n/a	n/a	unspec.	n/a	prospecting	
Wayne Kendrick & Darcy Arden	Petitot Island	Zn-Cu	n/a	n/a	unspec.	n/a	prospecting	
Navigator Exploration Corp./ Falconbridge Ltd.*	Thye Lake (ANK claims)	Ni-PGE	n/a	n/a	unspec.	unspec.	n/a	
Navigator Exploration Corp.*/ G &S Trading Inc.	Hearne Channel (near Moose)	Tantalum	n/a	n/a	3 245 surficial geochem.	n/a	n/a	2 new Ta-bearing pegmatites
Navigator Exploration Corp./ Highwood Resources	Lake Zone, Thor Lake	Tantalum	n/a	n/a	300 kg composite drill core	n/a	metallurgical tests	
Navigator Exploration Corp.	Moose	Ni-PGE	n/a	n/a	unspec. lithogeochem., petrography	n/a	trenching	
Dave Nickerson	ROD claim (new mining lease)	Gold	na/	n/a	unspec. soil, biogeochem	n/a	prospecting	
Dave Nickerson	Muir Lake	Tantalum	n/a	n/a	unspec. whole rock, primary muscovite	n/a	prospecting	
North American Tungsten Corp. Ltd.	CanTung	Tungsten	n/a	n/a	n/a	n/a	mine rehabilitation	
Phelps Dodge Corp. of Canada	Port Radium	Copper	n/a	n/a	unspec.	n/a	reconnaissnce exploration	
Phelps Dodge Corp. of Canada	Mazenod Lake (Nod showing)	Cu-Co-Au	n/a	n/a	unspec. soil geochem.	unspec. mag 25 IP	mapping, prospecting	
Platinova Resources Ltd.	Waco Pegmatite	Tantalum	n/a	n/a	12- 22.7kg samples	n/a	trenching	
Platinum Group Metals Ltd.	Rutledge Lake	Ni-PGE	10 (1 070)	n/a	drill core	unspec., IP, mag, HLEM	n/a	
Solid Resources Ltd.	Hart (W of Sunrise)	Pb-Zn-Au	3 (1 605)	n/a	n/a	n/a	n/a	
Tyhee Development Corp.	Discovery	Gold	n/a	n/a	unspec. geochem.	n/a	prospecting	
Tyhee Development Corp.	Nicholas Lake	Gold	n/a	n/a	unspec. geochem.	n/a	prospecting	

Metals Exploration: (see fig. 4 and table 7)

Canadian Zinc Corp. drilled five holes on the ***Prairie Creek*** zinc-lead-silver deposit (95F/10) to infill and enhance the previously defined mineral resource of 3.6 million tonnes (measured and indicated) grading 11.8% zinc, 9.7% lead, 142g/t silver and 0.3% copper, and 8.3 million tonnes (inferred) grading 12.8% zinc, 10.3% lead, 169g/t silver and 0.4% copper. Hole PC-01-130 identified two potential mining zones with the following intersections: 14.2 m grading 8.34% zinc, 6.4% lead, 90.9g/t silver and 0.17% copper; and 31.9 m grading 5.38% zinc, 11.45% lead, 116.7g/t silver and 0.06% copper. Hole PC-01-131 intercepted a 5.6 metre thick extrapolated extension of the main stratabound deposit 40 metres from the last known mineralization. Grades from this intercept are 6.22% zinc, 3.14% lead and 25.8g/t silver. Hole PC-01-132, drilled 90 metres from PC-01-131, intersected a 7.4 metre thickness of stratabound mineralization, which graded 6.40% zinc, 3.18% lead and 28.1g/t silver. Fifteen metres above the stratabound zone, an intercept of the main vein returned grades of 4.84% zinc, 12.21% lead, 172.7g/t silver and 0.34% copper over a true vein width of 7.0 metres. A second vein was intersected 8 metres below the stratabound zone and ran 3.21% zinc, 20.25% lead, 194.8g/t silver and 0.14% copper over a true width of 2.1 metres.

An environmental mitigation program continued throughout 2001. The 2001 Phase II land use permit application for a 60-hole drill programme was assessed by the Mackenzie Valley Environmental Impact Review Board, which recommended approval. The application is now under statutory review by INAC. Elsewhere on the property, a geochemical survey on the ***SAN6*** claim indicated more anomalous zinc values along the extrapolated strike of the Prairie Creek vein system, 7.5 kilometres north of the minesite. Canadian Zinc is converting its scoping study of the deposit into a bankable feasibility study.

Lane Dewar prospected for gold and carried a ground magnetic survey on the Log showing on the ***NAK*** 1, 2 and 4 claims covering a folded rhyolite at ***Goodwin Lake*** (85O/1). Ten grab samples yielded up to 14 g/t Au. He also prospected for gold at the north end of ***Homer Lake*** on the ***BLUE*** claims (85J/9), where 21 grab samples were taken from an arsenopyrite-bearing shear zone, one kilometre in length, in volcanic rocks. Results are pending.
Lane Dewar prospected for tantalum at ***Squalus Lake*** (85P/14), collecting 41 lithogeochemical grab samples, which contained up to 37 ppm Ta.

Falconbridge Ltd., in option with **Navigator Exploration Corp.**, conducted mapping and prospecting for nickel and platinum group elements on the ***Thye Lake Project*** (75A/1, 2, 7, &8).

Far West Mining Ltd., as part of an earn-in agreement with the **BHP Diamonds Inc.**, drilled 18 holes (5,300 metres) on the ***CL*** claims, south of Edzo (85K/8 & 9), to explore for mineralization and alteration associated with iron oxide-hosted copper-gold deposits in the Great Bear Magmatic Zone. The Proterozoic targets in this area are overlain by up to 140 metres of Paleozoic sedimentary rocks. Drilling tested buried, coincident magnetic and gravity anomalies defined by a FALCON airborne survey completed in 2001.

Fortune Minerals Ltd. carried out flotation metallurgical test work at Lakefield Research Limited on composite core samples from the ***NICO*** cobalt-copper-gold-bismuth deposit (85N/10) and improved the predicted metal recoveries. NICO ore would be processed by conventional crushing and grinding, followed by flotation to generate auriferous cobalt and bismuth concentrates. Results of recent tests have increased the predicted cobalt recovery to 85%. Cobalt grades are expected to vary from 1.7% in the upper parts of the deposit, to nearly 5% cobalt for the lower parts, averaging 2.5 to 3%. The cobalt concentrate would be trucked to Yellowknife or other facilities and processed by acid pressure oxidation at 160^0 C, followed by solvent extraction to precipitate metal or higher value cobalt compounds. Gold would be recovered by cyanidation of the residue.

Hemisphere Development Corp. completed a deep drill hole (~ 500 metres) on the NORTH claim, south of their ***Sunrise*** volcanogenic massive sulphide (VMS) deposit (85I/16). They were testing the deposit's extent and stratigraphy previously drilled by Noranda in the late 1980's.

Wayne Kendrick and **Darcy Arden** prospected in the East Arm of Great Slave Lake for platinum group elements in the ***Easter Island*** area (85H/10), and for zinc and copper in the nearby ***Petitot Island*** area (85H/10).

Navigator Exploration Corp., in partnership with **G & S Trading Inc.** of Windham, New York, evaluated seven tantalum prospects north of their Moose property, in the ***Hearne Channel*** area (85 I). Selective grades from 0.07% to 1.3% Ta_2O_5, all in pegmatite dykes, had been reported from previous work. Two new tantalum-bearing pegmatite dykes were discovered on one property, one of which returned 726 ppm tantalum from a grab sample. A previously undocumented pegmatite on another property yielded tantalum concentrations ranging from 120 ppm to greater than 500 ppm. Navigator also collected 3,245 surficial geochemical samples, results from which suggest that the property may host other unexposed, highly evolved pegmatites with potential for tantalum mineralization.

Navigator Exploration Corp.,in an option agreement with **Highwood Resources Ltd.**, collected a 300 kg composite rock sample from archived drill core from the tantalum-bearing "Lake Zone" at ***Thor Lake***, 100 km southeast of Yellowknife (85I/02). The sample, which has a head grade of 0.047% Ta_2O_5, was used for preliminary metallurgical test work and investigation of newly developed mineral flotation processes. The Lake Zone has a drill indicated resource of 70 million tons, grading 0.03%Ta_2O_5 and 0.4% Nb_2O_5.

Navigator Exploration Corp. blasted trenches and took samples for lithogeochemistry and petrography on the ***Moose*** nickel property, east of Thor Lake (85I/01).

Dave Nickerson prospected for tantalum and tin in pegmatites in the ***Muir Lake*** area (85P/6), taking whole rock and primary muscovite samples for Nb, Ta and Sn analysis. Notable results from muscovite were 183 ppm Ta and 469 ppm Sn.

Dave Nikerson prospected for gold on a mining lease, formerly the ***ROD*** claims (85J/8), by collecting soil geochemical and bio-geochemical samples from an overburden-covered linear geochemical anomaly. Analytical results are awaited.

Phelps Dodge Corp. of Canada Ltd. mapped, prospected and performed geochemical and ground magnetometer surveys, plus a 25 line-kilometre IP survey on Cu-Co-Au-bearing breccia zones of the ***Nod*** occurrence at Mazenod Lake (85N/10 & 11).

Phelps Dodge Corp. of Canada Ltd. carried out reconnaissance exploration of copper showings in the ***Port Radium*** area (86K/04).

Platinova Resources Ltd. cut six trenches on the ***Waco Pegmatite*** (85I/11) and took twelve 20 kilogram samples for tantalum analysis.

Platinum Group Metals Ltd. explored for platinum group elements on claims at ***Rutledge Lake*** (75E/10). Ground HLEM, magnetometer and IP surveys preceded 1,070 m of drilling in 10 holes on three targets. Seven holes were drilled in the vicinity of a surface channel sample grading 55g/t Pt over 0.4 metres, coincident with “Conductor 10" from an airborne geophysical survey. One hole was drilled in a similar conductor 1.5 kilometres farther south. Two holes were drilled 15 kilometres south of Conductor 10, near a 1986 drill hole which returned 1,250 ppb Pt over 0.5 metres. All drill holes intersected sulphide mineralization associated with ultramafic to mafic intrusions, and samples returned anomalous platinum or palladium values (less than 0.4 g/t), plus anomalous values of copper (less than 5,000 ppm) and nickel (less than 3,000 ppm).

Solid Resources Ltd. drilled three holes totalling 1,605 m in the Hart VMS-gold project area (85I/16), west of the ***Sunrise*** VMS deposit. The first hole tested the northern extension of the VMS "M" Zone to 947 metres; the second hole tested the VMS potential of the gold-bearing "C" Zone; and the final hole tested a downhole geophysical anomaly, north of the "M" Zone.

Tyhee Development Corp. prospected and took geochemical samples on both the ***Discovery Mine*** (85P/04) and ***Nicholas Lake*** (85P/04) properties. Nicholas Lake is a partially developed, high grade gold deposit 90 kilometres north of Yellowknife, located northeast of the Discovery property. The combined mineral resource for the Discovery Mine Ormsby Zone and the Nicholas Lake Main Zone is 703,200 tonnes grading 17.87 g/t Au (indicated), and 553,000 tonnes grading 17.15 g/t Au (inferred).